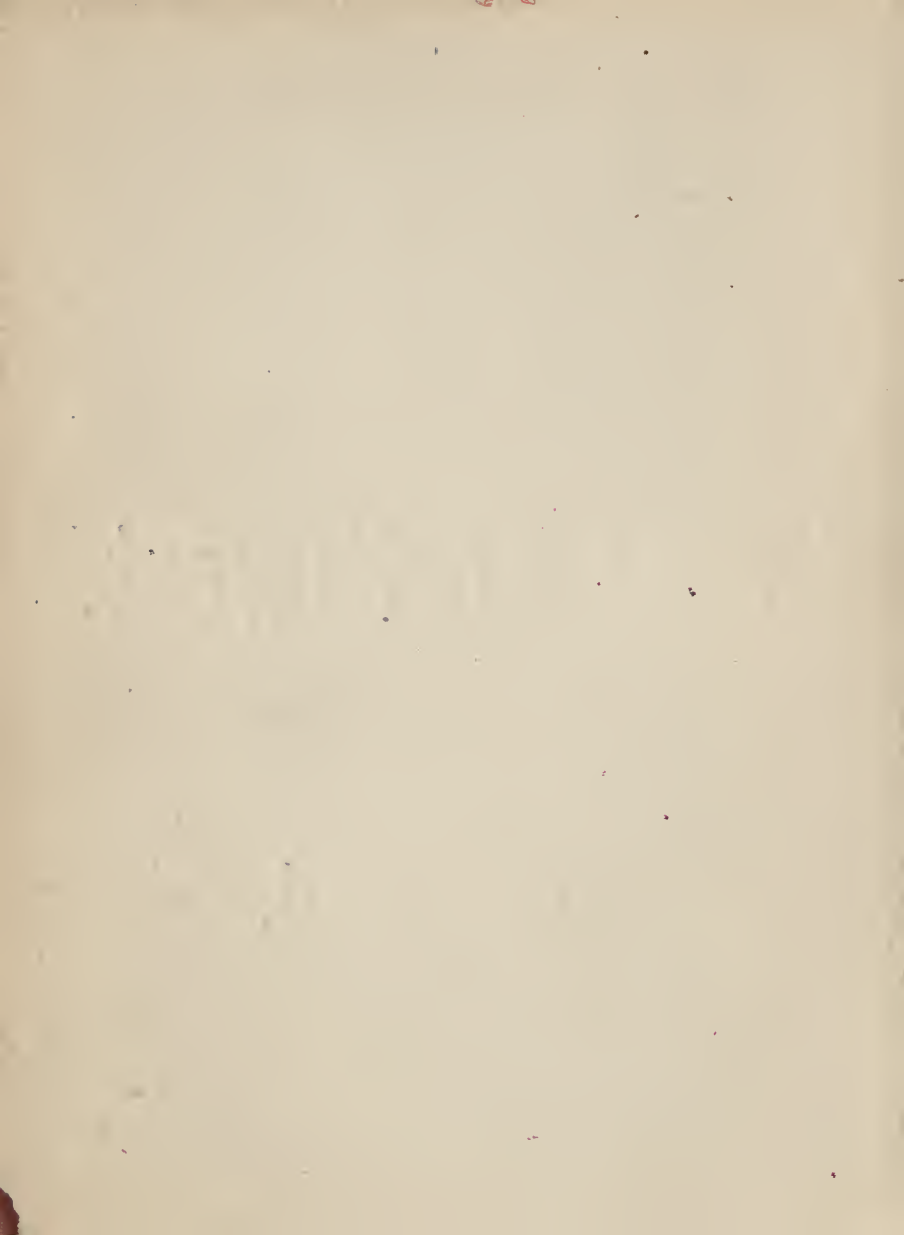


The
Great Northwest.

Illustrated.



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THE "DACTOAH'S" FAREWELL TO THE BUFFALO.

"Wanagi tamakoóe ekta yáwo unkish écádan nihakam unyanpikta."—(Go to the land of spirits, we shall soon follow you.)

THE GREAT NORTHWEST

A GUIDE-BOOK AND ITINERARY

FOR THE USE OF

TOURISTS AND TRAVELERS

OVER THE LINES OF THE

NORTHERN PACIFIC RAILROAD,

ITS BRANCHES AND ALLIED LINES.

CONTAINING DESCRIPTIONS OF STATES, TERRITORIES, CITIES, TOWNS AND
PLACES ALONG THE ROUTES OF THESE ALLIED SYSTEMS OF TRANS-
PORTATION, AND EMBRACING FACTS RELATING TO THE
HISTORY, RESOURCES, POPULATION, PRODUCTS AND
NATURAL FEATURES OF THE GREAT
NORTHWEST.

WITH

MAPS AND MANY ILLUSTRATIONS.

ST. PAUL:

W. C. RILEY, PUBLISHER.

1889.

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CHICAGO, ILLINOIS.



Pictured Rocks on the Nachess River Washington.

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INTRODUCTORY.



THE region which is in process of development by the Northern Pacific Railroad, and the railroad systems with which it is in direct connection, embraces, in whole or in part, no less than seven of the largest States and Territories; viz., Wisconsin, Minnesota, Dakota, Montana, Idaho, Washington and Oregon; or, at a rough estimate, one-sixth of the area of the United States.

The distance between the extreme eastern and western termini of the main line, on Lake Superior and Puget Sound, Ashland, Wis., and Tacoma, Wash., is 1,983 miles.

The Northern Pacific Railroad is connected with the cities of St. Paul and Minneapolis by a lateral line 138 miles in length. It has also various other branches, including one to the Yellowstone National Park, which represent a total of nearly 1,500 miles of track. In addition to these branches, the trunk line has for its immediate tributaries the extensive system of the Oregon Railway & Navigation Company, in Oregon and Washington.

This great Northern Pacific system of railroads has opened to settlement, during the past few years, one of the fairest sections of the country—a region exceeded by no other part of the

United States in its wealth of natural resources, and not surpassed in any of the conditions of climate or of soil which are best adapted to the well-being of the human race.

The Great Northwest has already become famous for the prodigality of its cereal productions; the salubrity of its climate is an accepted fact; the extent and variety of its mineral deposits, and the value of its grand forests, are everywhere acknowledged, while the marked diversity and extraordinary attraction of its scenery are recognized as not the least prominent of its features.

Now that the Northern Pacific Railroad is finished, the inviting regions of the Great Northwest, hitherto remote, are made easy of access. The tide of travel and immigration flows naturally with a strong current through this new and pleasant channel, and to pilot the wayfarer this Guide Book has been written.

The aim has been to furnish the tourist, traveler and settler with precisely that information which would seem requisite through the successive stages of the journey. The book embraces facts with reference to the history, present population, productions, resources and natural features of the country traversed by the Northern Pacific Railroad and its branch lines, and by its Western connection, the Oregon Railway & Navigation Company, with some account of the ocean and river routes of the Pacific Northwest.

The salient features of the States, cities, towns, and all places of interest along the lines of these vast systems of railroad and water transportation, are described, and such material of local character is interspersed among the pages as may serve to interest the traveler in the course of his journey. In collating the facts which are here given to the public, the author has spared no effort to secure the utmost freshness and accuracy. The growth of the Great Northwest—

its cities and towns—in population and material prosperity, is, however, so rapid that the figures of to-day may seem far short of the truth a few months afterward.

Outline of the Northern Pacific Railroad's History.

—The charter and organization of the Northern Pacific Railroad Company date from 1864 ; but the project to build the railroad over substantially the same route now traversed by the company's main line is much older. Indeed, it is the oldest of all projects to open railway communication with the Pacific coast. A railroad from the upper Mississippi to the mouth of the Columbia river was advocated as long ago as 1835, soon after the railway system was introduced in this country. About ten years later, an enterprising New York merchant, named Asa Whitney, who had made a fortune in China, urged upon Congress, session after session, a plan for building a railroad from the head of Lake Michigan, or from Prairie du Chien, on the Mississippi river, to the mouth of the Columbia river, in Oregon. He asked a land grant of sixty miles in width along the whole line of his proposed route. Many State legislatures passed resolutions in favor of Whitney's project, and Congress gave it much serious consideration. At one time Whitney's bill was within one vote of passing the Senate.

After the Mexican war came the annexation of California, followed by the gold discoveries and the rapid growth of population in that State. Then the general opinion in Congress and the country naturally favored the building of the first transcontinental line of railroad on a route ending at the Bay of San Francisco. Accordingly, the Union and Central Pacific Companies were chartered in 1862, with a grant of public lands, and a large subsidy of government bonds. Among the projectors of a line to California, was Josiah Perham, of Maine, then living in Boston, who had a charter from the State of Maine for the People's Pacific Railroad Company, and who,

in vain, attempted to get Congress to adopt his company, and give it the grants subsequently given to the Union and Central Companies. Failing in this effort, Mr. Perham turned to the northern road, which had been long and ably advocated as the best line to the Pacific coast by the eminent engineer Edward F. Johnson, and by Governor Stevens, of Washington Territory, who had been in command of the government expedition that surveyed the northern line in 1853. Stevens' surveys had shown the northern road was not only feasible, but was a better line in respect to grades and in regard to the character of the country traversed than any other.

In 1864, Congress passed a bill chartering the Northern Pacific Railroad Company, and naming as incorporators, among others, the men concerned with Perham in the old abortive People's Pacific Company. Under this charter, the company was organized in Boston, with Mr. Perham as its President, and an attempt was made to raise money for the construction of the road by a popular subscription to shares of stock at \$100 each. This attempt was an absolute failure, and after a year's futile effort Mr. Perham and his associates turned over the charter of the company to an organization of New England capitalists and railroad men, who proposed to make the road tributary to Boston. They elected J. Gregory Smith, of the Vermont Central Railroad, President of the Northern Pacific Company. Smith and his associates tried in vain for several years to obtain legislation from Congress guaranteeing the interest on the company's stock. The original charter did not allow the issue of bonds. Attempts in this direction were abandoned in 1869, and amendments to the charter were procured allowing the company to mortgage its road and land grant. A contract was then made with the banking house of Jay Cooke & Co., of Philadelphia, to sell the company's bonds. Mr. Cooke had negotiated the great war loans of the government, and was regarded as the most successful financier in the

country. In the short period of about two years, his firm disposed of over thirty millions of dollars of Northern Pacific bonds, bearing interest at $7\frac{3}{10}$ per cent. With the money thus obtained, the work of construction was begun in the spring of 1870; and by the fall of 1873 the road had been completed from Duluth, at the head of Lake Superior, to Bismarck, on the Missouri river, and from Kalama, on the Columbia river, in Washington Territory, to Tacoma, on Puget Sound, the total number of miles completed being about 600.

The great financial panic of 1873 prostrated the house of Jay Cooke & Co., wholly stopped the sale of Northern Pacific bonds, and made it impossible to go on with the road. The company was insolvent, and, after a time, its directors threw it into bankruptcy, and, with the cordial assent of its bondholders, reorganized its affairs so as to free it from debt, by converting its outstanding bonds into preferred stock. When the effects of the panic and the succeeding hard times had begun to pass by, the managers of the Northern Pacific recommenced the work of building its long line across the continent. The construction began with the Cascade branch, from Tacoma to the newly discovered coal fields at the base of the Cascade Mountains. Then a loan was negotiated for building the Missouri Division, from the Missouri to the Yellowstone river; and shortly afterward another loan for the construction of the Pend d'Oreille Division, from the mouth of the Columbia river to Lake Pend d'Oreille, in Idaho. In the meantime, several changes had occurred in the presidency of the road. President Smith had been succeeded, in 1874, by General Cass, and he by Charles B. Wright, of Philadelphia. Mr. Wright's resignation, in 1879, was followed by the election of Frederick Billings, under whose management the work of construction was carried on until 1881. A general first mortgage loan was negotiated to provide the means for completing and equipping the entire line. The credit of the company had by this time

become so good that its bonds were readily sold above par by a syndicate of the leading bankers of New York City.

In 1881, Henry Villard, who had previously obtained control of all the transportation lines, both rail, sea and river, in Oregon and Washington, purchased for himself and friends a controlling interest in the stock of the Northern Pacific Company, and was elected its President. His purpose was to ally to the Continental Trunk Line, as feeders and extensions, the lines under his management on the Pacific coast. To accomplish this and to secure an identity of interest, he organized the Oregon & Transcontinental Company, which holds a large portion of the stock of the Northern Pacific, the Oregon Railway & Navigation Company, and the Oregon & California Railway Company, and which builds branches for the Northern Pacific under an arrangement by which the latter company operates them and in time becomes the owner of their stock. Under the efficient management of President Villard and Vice-President Thomas F. Oakes, the work on both ends of the Northern Pacific was prosecuted with great vigor during the years 1881, 1882 and 1883, until the ends of track, advancing from both sides of the continent, met near the summit of the Rocky Mountains.

The last rail on the Northern Pacific Railroad was laid with impressive ceremonies on September 23d, 1883, at a point in the valley of the Hellgate river, near the mouth of Gold creek. Four trains of invited guests came over the road from the East, and one train from the Pacific coast. Among the distinguished guests were a number of members of the English and German Parliaments, all the British and American ambassadors at Washington, and members of the American Congress, General U. S. Grant, the Governors of all the States and Territories traversed by the line, and the former Presidents of the Northern Pacific Company; also a number of distinguished engineers and scientists from both sides of the Atlantic, and

many representatives of leading newspapers in America and Europe. An oration was delivered by Hon. W. M. Evarts. The last spike was driven by Henry Villard, then President of the company, and the road was immediately opened for traffic.

The extraordinary decline in the market value of railroad securities which began in the fall of 1883, prevented a full realization of the plans formed by Mr. Villard. He resigned the Presidency of the Northern Pacific Railroad the following winter, and also that of the Oregon Railway & Navigation Company and the Oregon & Transcontinental Company, and later of the Oregon & California Company, so that there was no longer a community of interests between these corporations. He was succeeded in the presidency of the Northern Pacific Company by Robert Harris, long a Director in the company, and formerly Vice-President of the New York, Lake Erie & Western Railway, and the general management of the road was undertaken by Vice-President Thomas F. Oakes, who removed from New York to St. Paul for that purpose. Elijah Smith, of Boston, became President of the Oregon Railway & Navigation Company. The Oregon & Transcontinental Company suffered serious financial embarrassment, and ceased to be an important factor in connection with Northern Pacific affairs. Meanwhile the Union Pacific Railway Company had extended its Oregon Short Line branch from Granger, on its main line, to Huntington, on the Snake river, where it was met by the Mountain Division of the Oregon Railway & Navigation Company, thus forming a new line from the East to Portland. The Union Pacific, under the Presidency of Charles Francis Adams, leased the entire system of the Oregon Railway & Navigation Company.

The Northern Pacific proceeded with great energy to build its short line up the Yakima Valley, from Pasco, at the junction of the Columbia and Snake rivers, and across the Cascade Mountains to Tacoma, on Puget Sound, in order to secure ac-

cess to tide-water on the Pacific Coast without being dependent on the line of the Oregon Railway & Navigation Company, down the Columbia to Portland. The new road was opened to travel in the summer of 1887, using a high-grade switchback line across the Stampede Pass of the Cascade Mountains pending the completion of a great tunnel, nearly two miles long.

The switchback was a daring piece of engineering skill, and was successfully operated for nearly a year without accident. In the summer of 1888 the tunnel was pierced, and one of the finest mountain roads in America, from both an engineering and a picturesque point of view, was completed. The grades are no higher than those in the Rocky Mountain passes on the Northern Pacific, being only two feet in the hundred.

In 1887 Henry Villard returned to the directory of the Northern Pacific Company, having fully recovered his former financial strength, and acting as the representative of a very large amount of German capital. He was elected President of the Oregon Transcontinental Company in June, 1888, and in September of that year he declined an election to the presidency of the Northern Pacific. Thereupon, Vice-President Oakes was chosen President and General Manager; and a new office, entitled Chairman of the Board of Directors, was created, and Robert Harris elected to fill it.

The policy of building branches, through allied companies, to increase the traffic of the Northern Pacific, has been steadily pursued in recent years, until the branches now aggregate a mileage of nearly 1,500 miles. The finances of the Northern Pacific Company have been steadily improving, with the increase of traffic, growing out of the settlement and general business development of all the regions tributary to the road. The company is, at the present time, one of the strongest railway corporations in the United States.

Routes from the East to St. Paul.—The distances from New York, *via* Chicago to St. Paul, Minn., by the several trunk lines, are as follows :

NEW YORK TO CHICAGO.		MILES.
<i>Via</i> Pennsylvania Railroad.....		912
“ Erie Railway.....		958
“ West Shore Railroad.....		976
“ New York Central Railroad.....		977
“ Baltimore & Ohio Railroad.....		1,041
CHICAGO TO ST. PAUL.		MILES.
<i>Via</i> Chicago, Milwaukee & St. Paul Railway.....		410
“ Chicago & North-Western Railway.....		410
“ Chicago, St. Paul & Kansas City Railway.....		420
“ Chicago, Burlington & Quincy Railroad.....		432
“ Wisconsin Central Line.....		462
“ Chicago, Rock Island & Pacific Railway.....		529

Tourists from Philadelphia usually go by way of the Pennsylvania Central. From Baltimore and Washington there is a choice of either the Northern Central, with Pennsylvania Central connections, or the Baltimore & Ohio Railroad. From Boston, the most direct route is that of the Boston & Albany Railroad to its connection with the New York Central.

Via the Lakes.—In summer, tourists may take a comfortable and agreeable method of reaching the Northern Pacific Railroad at Duluth, on Lake Superior, by way of the great lakes. The Lake Superior Transit Company runs lines of fine passenger steamers from Buffalo, Cleveland, Detroit and other ports, through Lake Erie, Lake Huron, and by way of the great Government Canal of Sault Ste. Marie, passing through the whole length of Lake Superior, and touching many of its interesting ports.

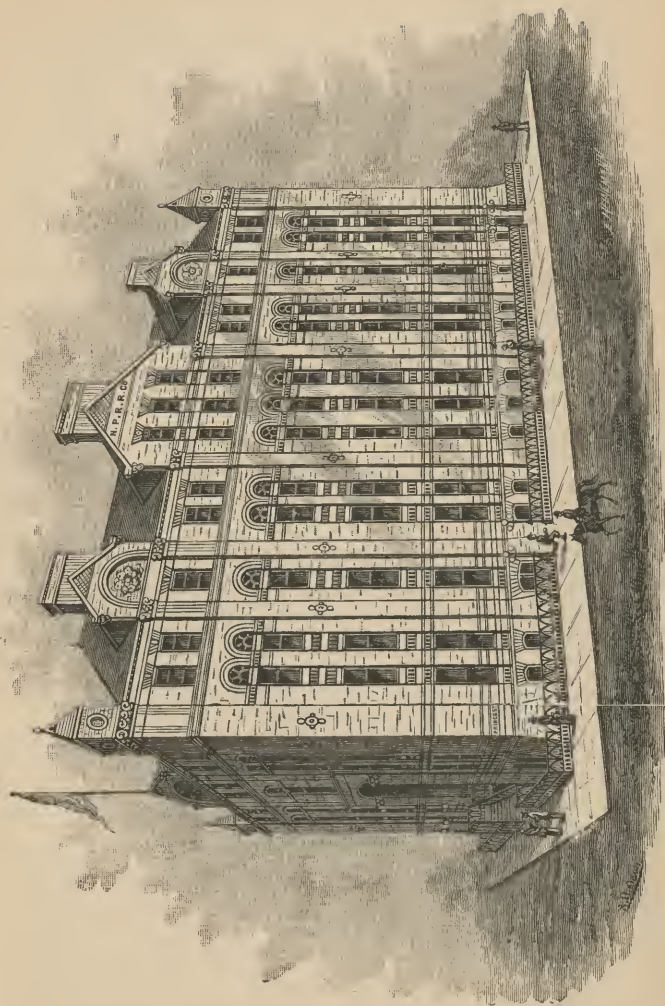
Sleeping Car Expenses.—Pullman, or other palace cars, run on the through trains of all the aforementioned railroads. The cost of sleeping car accommodation is the same on all the routes, and the tariff is as follows :

	HALF SECTION.	SECTION.
From New York to Chicago	\$ 5 00	\$10 00
“ Chicago to St. Paul	2 00	4 00
“ St. Paul to Portland	13 50	27 00

The Northern Pacific Railroad is equipped with Pullman Palace Cars of the latest construction, the appointments of which combine the newest inventions for the perfect accommodation and absolute comfort of passengers.

Dining Cars.—Dining cars, built expressly to meet the needs of the long journey, are attached to all through trains of the Northern Pacific Railroad. In these cars sumptuous meals are served at the uniform rate of seventy-five cents. This adds greatly to the luxury of traveling, entirely obviating the discomfort which is too often experienced where dependence for food is placed upon wayside dining stations.

Transfer Coaches.—In all the Western cities there are lines of transfer coaches ready on the arrival of the train to take the traveler and his baggage direct to any hotel, or transfer him across the city to any depot. The transfer agent passes through the cars before the arrival of the train, selling transfer checks and tickets. The service is trustworthy and convenient, and the charge is uniformly fifty cents.



Headquarters and Offices, Northern Pacific Railroad Company, St. Paul

MINNESOTA.

Minnesota is situated in a high northern latitude, elevated from 1,000 to 1,800 feet above the ocean, and has a peculiarly dry and salubrious climate. The most rugged portions of the State are about Lake Superior, along the Mississippi river, and on the heights of land which divide the sources of the great river systems. The area of Minnesota embraces 83,530 square miles, or 53,459,840 acres, about two-thirds of which is undulating and well adapted to cultivation. Within the limits of the State three great river and lake systems have their sources: viz., the Mississippi and its northern tributaries; the St. Louis river and its numerous branches, forming the head of those waters which find their way through the great lakes into the St. Lawrence; and lastly, the affluents of the Red River of the North, Rainy Lake and Lake of the Woods, which discharge their waters into Hudson's Bay. Wood-girt lakes, more than 7,000 in number, most of which are quite deep and full of fish, having shores generally firm and dry, bottoms sandy or pebbly, and waters clear, cool and pure, dimple in every direction the undulating lands. The average area of these lakes is about three hundred acres; but many are very large. For example: Red Lake is estimated to equal 340,000 acres; Mille Lacs, 130,000; Leech Lake, 114,000; Winnebagoishish, 56,000; Minnetonka, 16,000; and a number of others exceed 5,000 acres.

The Mississippi, rising in Lake Itasca, 826 feet above the mouth of Lake Minnesota, lends the State a shore line of one thousand miles. In its descent, the river is broken at intervals by numerous falls and rapids, which afford valuable water-

powers. Among the more important of those which have been utilized are the Falls of St. Anthony, at Minneapolis, one of the largest water-powers in the known world; St. Cloud, with 30,000 horse-power; Sauk Rapids, 30,000; Little Falls, 35,000; Pike Rapids, 12,000; Prairie Rapids, 6,000; Olmstead's Bar, 9,000; Brainerd, 20,000; and French Rapids, above Brainerd, 670. Nineteen of Minnesota's streams pour their waters into the Mississippi, each of which affords water-power of more or less capacity.

The St. Louis river, rising in the northern part of St. Louis county, flows through a vast pine region, and, after receiving the waters of many tributary streams, descends to the level of Lake Superior. There is an immense water-power afforded by the numerous rapids in this river. Its fall is estimated at over 500 feet during a course of fifteen miles, and the power is believed to be equal to that of the Mississippi at Minneapolis.

Fergus Falls, on the Red river, Red Lake Falls, on the Red Lake and Clearwater rivers, and several other falls and rapids on the Knife, Cloquet, Moose, Kettle, St. Croix, and a score of other fine streams, exhibit the distribution of water-power throughout the State.

Only a small fraction of this power has been developed or is now in use; but, considering its magnitude and diffusion, the capacity of the surrounding country for supplying the raw material, and the widespread field for the consumption of manufactured products, it is impossible to limit the industrial progress which this bounteous water-power makes possible.

No Western State has made more progress in railroad construction than Minnesota, and none possess greater facilities for travel and transportation. At the end of 1862 there were only ten miles of railroad in operation; but twenty years afterward, at the close of 1888, a network of over 5,000 miles of railroad covered the State, bringing every town and village

except those in the great unorganized counties of the northern section, within twenty miles of a railroad station. As to navigable waters, there are not less than 2,796 miles of shore line within the limits of the State, or about one mile of coast line to every thirty square miles of surface.

The soil of Minnesota is very fertile, and the increase of agricultural production has kept pace with the development of railways and other means of transportation. The manufacturing interests of the State are already very large,—flour and lumber being the leading commodities, although there are a great variety of other important industries. The products of the mills alone were estimated in round numbers at \$150,000,000 in value in 1888. The population, at present about 1,500,000, is largely increased every year, and the steady advance in the taxable valuations of property shows that the commonwealth is rapidly growing in material prosperity.

Although Minnesota is generally classed as a prairie State, in reality its surface is about one-third wooded. The timber lands of Minnesota extend over a large part of the northern and eastern sections of the State. The hard-wood belt alone covers an area of 5,000 square miles, and consists of white and black oak, maple, hickory, elm, with varieties of soft woods, such as spruce, tamarack and cottonwood.

The pine lands stretch over an immense territory, clothing the headwaters of the great river and lake systems which have their sources in Minnesota, and forming a continuation of the great pine belt which extends across northern Wisconsin. This great tract of timber is traversed by the waters of the St. Croix, Mississippi, St. Louis, and their myriad of tributaries, thus furnishing convenient channels for floating the logs which are cut during the winter, at high water in the spring, to points where saw mills convert them into lumber.

From the head of Lake Superior west 150 miles, and east from Superior City along the Wisconsin Division of the North-

ern Pacific Railroad to Ashland, the railroad traverses a country of great wealth in timber, consisting of densely wooded and magnificent pine forests interspersed with occasional tracts of hard-wood timber. The pine lands in Minnesota extend north of the line of the Northern Pacific Railroad a distance of over one hundred miles, covering an area of more than twenty thousand square miles, and afford a veritable gold mine to the lumberman and manufacturer.

The climate of Minnesota possesses those characteristics which are peculiar to the northern belt of the temperate zone at a considerable distance from the seaboard. The range of the thermometer is great at all seasons, frequently exceeding 50° during the winter and spring months, and showing variations of 40° in the summer season. For six years the mean winter temperature, as given by the United States Signal Service at St. Paul, was $18^{\circ} 45'$ in winter, $45^{\circ} 50'$ in spring, $70^{\circ} 49'$ in summer, and $44^{\circ} 14'$ in autumn, and this included two remarkably cold seasons. The bright sunshine of summer forces vegetation with great rapidity and luxuriance. The thermometer in winter often drops under zero, sometimes registering 30° below; but the stillness and dryness of the air make the cold far from disagreeable. An ordinary still day in Minnesota, with the thermometer ranging from zero to 10° or 12° below, is really enjoyable, and mechanics are able to work out of doors at this temperature without inconvenience. Spring does not linger in the lap of winter, but bursts forth on the approach of May; and the Indian summer, late in November, is a season of almost magical beauty and softness. The climate, indeed, is considered one of the most healthy in the world. Persons afflicted with pulmonary diseases are sent to Minnesota to recover their strength and vigor, and thousands of consumptive patients bless the dry and balmy qualities in the atmosphere, which are potent enough to rescue such sufferers from untimely death.

ST. PAUL.

This city, the capital of Minnesota, is picturesquely situated at the head of steamboat navigation on the Mississippi river, over two thousand miles from its mouth. In 1848, when Congress gave the State its Territorial organization, fixing the seat of government at St. Paul, the name of the place appeared on no map, and geographers only knew that it was a very small settlement, somewhere near the Falls of St. Anthony, in that indefinite region called the Far West. To-day St. Paul has about 200,000 inhabitants, and its wonderful growth and prosperity fairly class it among the remarkable cities of the great Northwest. Many of its people, now scarcely beyond middle age, remember well its appearance on the advent of the white man's civilization. It was at that time a favorite resort of the Indians, to whom it was known as Im-mi-gas-ka, or White Rock, on account of the towering bluffs of sandstone which mark the course of the river. A succession of undulating and beautiful hills, clothed with forest, overlooked the Father of Waters, whose banks were bordered by graceful elms. The valleys between the heights were little more than deep ravines, through which numbers of rivulets flowed down to the great river. The site of St. Paul has been recently described by one of the pioneers, who reached the place in 1853, "as showing here and there a log shanty inhabited by the white men who had ventured to the headwaters of the Mississippi river in search of adventure or gain; but by far the bulk of the population was represented by the untutored savage, whose tepees and wigwams occupied the hills and valleys that now constitute the city. Since that time a generation has not passed away,

and behold what man hath wrought ! The writer, who still claims to be a young man, *crawled* into the embryo city in 1853, being landed at the lower levee, near what is now the foot of Jackson Street. The only means then provided for getting into the city proper were a number of steps cut into the bluff, the top of which at that time would enable a person to step into the third-story window of the present St. Paul Fire and Marine Insurance building, on the corner of Third and Jackson Streets. A few feet distant from the top of the bluff was a log hotel, a story and a half high, which was then known as the Merchants' Hotel, the building now on its site still retaining that name. A little further up, at the present crossing of Fourth and Jackson Streets, was a rude bridge which spanned a ravine some twenty-five or thirty feet deep, through which during certain seasons of the year a rushing torrent of water found its way to an outlet in the Mississippi river near Dayton's Bluff. This stream had its rise in and was the outlet of what was then a lake or marsh at the foot of St. Anthony Hill, upon the bosom of which it was not an unusual sight to see all kinds of water fowl, and there are persons still living in St. Paul who have shot wild geese and ducks there. At that time, during the season of high water, steamboats of the largest size would enter the outlet of this stream near Dayton's Bluff, and land within a few hundred feet of the Merchants' Hotel, sailing over the space that is now occupied by solid stone and brick blocks, where almost the entire wholesale business of St. Paul is at present conducted. The rushing torrent has given place to paved streets, and the lake, with fifteen to twenty feet depth of water, is now covered with four and five story business blocks of buildings. It is within the memory of the comparatively new comers to St. Paul when a traveling circus company spread its canvas upon Baptist Hill, fully twenty feet above the highest chimney of the substantial block on the corner of Fourth and Sibley Streets. Third Street was but a sort of

straggling highway. The locality now occupied by the fine block running from Third to Fourth Street on Minnesota Street was the burial place of the dead. The old Capitol building, which was destroyed by fire in 1881, was then in course of erection, and to reach it the pedestrian had to wade through mud nearly knee-deep, without a sign of a sidewalk, or any attempt at street grading. St. Paul proper, as it is now designated upon the maps, was about all there was of any attempts made toward laying out even a village."

St. Paul is built upon a succession of four distinct terraces, which rise in gradation from the river. The first is the low bottom which forms the levee. This was formerly subject to overflow; but it has been raised above high-water mark, and is now a very valuable property, occupied by warehouses, railroad tracks, the Union Depot and business offices. On the second and third terraces the principal part of the city is established. The second terrace, which is about ninety feet above the level of the river, is also devoted to business, and is thickly studded with fine blocks of buildings. Some of these are so commandingly situated on the high bluffs which overhang the Mississippi as to be visible a long distance up and down the stream, giving the city an imposing architectural appearance as it is approached by rail or river. The third terrace, very little higher than the second, widens out into a broad plateau, upon which stands much of the residence portion of the city. These upper terraces are on a foundation of blue limestone rock, from twelve to twenty feet in thickness, forming an excellent building material. Beneath this stratum is a bed of friable white quartzose sandstone of unknown depth, which is easily tunneled, and through which all the sewers have been excavated. The fourth, or highest terrace, is a semicircular range of hills, inclosing the main portion of St. Paul as in an amphitheatre. The picturesque sweep of these heights, conforming to the curve of the river, with their growth of native

forests, and the stately residences which are scattered over their slopes, is a characteristic charm of St. Paul. Fine avenues have been laid out over many of the hills, leading away into the prairie lands beyond, or to some of the beautiful lakes in the neighborhood, and the residence part of the city is rapidly extending in every direction.

It can not be denied that the site of St. Paul was a costly one upon which to build a city. Its hills had to be leveled, its valleys filled up and its crookedness made straight, at great expense of labor and money. But the street improvements are carried on regardless of the necessary expense, and the result already is eminently satisfactory. The capital of Minnesota is likely always to be noted as much for its beauty and salubrity as for its enterprise and commercial prosperity. The inconveniences and discomforts of frontier life have long since disappeared. The streets are paved and sewered, and lighted with gas and electricity. Pure water, in ample supply, is brought to every house through miles of pipe from distant lakes; horse and cable cars traverse the city in all directions; frequent local trains give easy access to the charming suburbs; the rough log chapel of 1849 has been superseded by nearly a hundred places of worship, many of which are beautiful in architecture; the primitive log school-house has given place to eighteen massive public school buildings of brick and stone, in which are educated more than 15,000 pupils. There are three hospitals, two orphan asylums, a dozen banks, many imposing public and private buildings, several charitable and social institutions, excellent vocal and instrumental musical organizations, a boating club, numerous tobogganing and snowshoe clubs, lodges of secret and mutual benefit associations, military organizations, an opera house and three minor theatres.

The most conspicuous building in the city is the new county court house, built of stone at a cost of about one million dol-

lars. It is the most imposing public structure in the entire Northwest. Other noteworthy buildings are the State Capitol, the United States Postoffice and Custom House, the Union Depot, the city market, the Ryan Hotel, the German-American National Bank, the New York Life Insurance Building, the Germania Life Insurance building, the Bank of Minnesota, the great apartment houses known as "The Aberdeen," "The Albion," "The Colonnade," and "The Barto," the St. Paul Club House, the Catholic cathedral, and numerous handsome churches, the Northern Pacific building, and the Chamber of Commerce building. The principal hotels are the Ryan, Merchants', Metropolitan and Windsor. The Ryan compares, in size, elegance and comfort, with the great hotels of Chicago and New York. The wholesale trade of St. Paul amounted, in 1888, to \$130,000,000, and is constantly increasing. The manufacturing establishments produced, in 1888, about fifty millions' worth of goods. The new buildings erected during 1888 aggregated in value over fourteen millions of dollars. The city is the principal monetary centre of the Northwest, having six National and five State banks, with an aggregate capital of \$7,624,000. St. Paul is a port of entry, and her merchants are enabled to import goods directly from foreign countries.

The railroad system of which St. Paul is the focus, has lines radiating to every point of the compass, and is constantly increasing in importance. The city is connected with Chicago by six trunk lines of road; namely, the Chicago, Milwaukee & St. Paul; the Chicago & North-Western, with the affiliated lines of the Chicago, St. Paul, Minneapolis & Omaha; the Chicago, Burlington & Quincy; the Wisconsin Central; the Chicago, St. Paul & Kansas City, and the Albert Lea route, by way of the Minneapolis & St. Louis, and the Chicago, Rock Island & Pacific. In a northeastern direction runs the Minneapolis, St. Paul & Sault Ste. Marie, which connects with the Canadian roads at the Sault. The same road extends in a northwestern direction into North Dakota. In a northern direction, the St. Paul & Duluth unites the city with Duluth, at the head of Lake Superior. The great transcontinental trunk line of the Northern Pacific places the city in direct communication with the entire belt of country extending westward to the Pacific coast. The St. Paul, Minneapolis & Mani-

toba Railroad Company operates two main lines and numerous branches and feeders, which occupy a great part of Northern Minnesota and of the Red river valley in Dakota, and reaches as far as Manitoba. The numerous lines of the Omaha system bring to St. Paul business of extensive regions in Wisconsin, Minnesota, Iowa and Nebraska. The Chicago, Milwaukee & St. Paul and the Chicago & North-Western have also numerous local lines tributary to St. Paul, and their western extensions reach as far as the Missouri river, in Dakota.

The navigation of the Mississippi river is an important feature of the business of St. Paul. Two lines of large passenger steamers ply between St. Paul and St. Louis, connecting at the latter place with boats for all points on the lower Mississippi. Navigation usually opens in April, and closes about the middle of November.

The Mississippi is spanned at St. Paul by four great iron bridges, one giving access to the trains of the Chicago, St. Paul & Kansas City Railroad, and the other three being viaducts for ordinary travel, connecting West St. Paul with the eastern part of the city by way of Wabasha, Smith, and Robert Streets.

West St. Paul occupies the low plain on the west shore of the river, and climbs the high, picturesque bluff beyond. It had in 1888 a population of about 40,000, and is the seat of considerable manufacturing and local trade. It is included in the municipality of St. Paul.

The best views of St. Paul are obtained from the Indian mounds on Dayton's Bluff; from Merriam Hill, near the State Capitol; from the lookout on Summit Avenue, and from the bluffs in West St. Paul. Tourists should not fail to drive on Summit Avenue, which is one of the most beautiful residence streets in the world. They should also cross the new Mohawk Avenue bridge, one of the highest viaducts in the world, from which a superb view of the city and of the river may be enjoyed; and should return through West St. Paul by way of the Robert Street bridge.

There are many beautiful drives in the city and its suburbs, and a large number of resorts in the neighborhood, which may be reached by river and rail. The drive to *Lake Como*, four miles distant, is over a fine, hard gravel road, and the jaunt thither on a cool summer evening is delightful. In Dayton's Bluff, near the river, on the east side of the city, is the natural

curiosity known as *Carver's Cave*, named after Jonathan Carver, of Connecticut, who, in 1763, under a commission from the King of England, led an exploring expedition into this region, and made a treaty with the Indians, by which the title to an immense tract of land was ceded to him. Carver described the country as being beautiful, the soil fertile, and the climate agreeable, and proposed founding a colony; but his designs were frustrated by the breaking out of the war of American Independence. *White Bear Lake*, twelve miles distant, on the St. Paul & Duluth Railroad, is about nine miles in circumference. Its picturesque shores are lined with summer hotels and beautiful villas, and a large wooded island, recently connected with the mainland by a causeway and bridge, has been laid out by the wealthy residents of St. Paul into plats for summer residences. The lake affords excellent fishing, boating and bathing. *Bald Eagle Lake*, a mile beyond, noted for its scenery and good opportunities for fishing, is quite popular as a resort for picnic parties. *Lake Elmo*, on the Chicago, St. Paul, Minneapolis & Omaha Railroad, twelve miles eastward of St. Paul, is also a much frequented summer resort, offering great attractions for boating, bathing and fishing. The water of these lakes is very bright and pure, and the shores are forested with oak, maple, elm, hickory, and other deciduous trees.

Fort Snelling.—This military post, the headquarters of the Department of Dakota, was established in 1819, with the view of protecting the few settlers who, at so early a date, were brave enough to penetrate the great wilderness west of the Mississippi. The fort is massively built on the northern bank of the Minnesota river, just at its junction with the Father of Waters. The situation of the fort is strikingly picturesque, its white walls reared upon the brink of a jutting bluff with an almost vertical face, its base being washed by the flood one hundred feet below. Fort Snelling was finished

in 1822. Its form was circular, and its high walls were broken at intervals by embrasures for cannon to sweep the approaches. It has since undergone some alterations; but the original structure still remains. This fort has had an eventful history, having witnessed many scenes of savage warfare. It is still one of the most important posts in the West. Fort Snelling is about half way between St. Paul and Minneapolis, being connected with the main road by a long iron bridge which airily spans the Mississippi.

The Falls of Minnehaha.—This beautiful water-fall, made immortal by Longfellow in his poem "Hiawatha," is to be seen on the road toward Minneapolis, two miles beyond Fort Snelling. It is formed by an abrupt break in the bed of Little Minnehaha creek, one of the outlets of Lake Minnetonka. This stream babbles along through miles of verdant meadows in the most quiet and commonplace way, to make an unexpected leap at last into a deep gorge, and find itself famous and beautiful. In a recent issue of *Harper's Magazine* the Falls of Minnehaha are aptly characterized by Ernest Ingersoll in this wise:

"The outlet of Lake Minnetonka is a sparkling little brook that encircles the city, steals through the wheat fields, races under a dark culvert where the phœbe birds breed, and then, with most gleeful abandon, leaps off a precipice sixty feet straight down into a maple-shadowed, brier-choked cañon, and prattles on as though nothing had happened but a bit of childish gymnastics.

"It is very charming, this rough and rock-hemmed little gorge through the woods and fern-brakes, and this fraudulent little beauty of a cascade; and it laughs without a prick of conscience, laughs in the most feminine and silvery tones from a rainbow-tinted and smiling face, when you remind it that it is a bewitching little thief of credit,—for the true Minnehaha is over on the brimming river, a slave to the mills. But, right or wrong, little stream, thou art a princess among all the cascades of the world. Thy beauty grows upon us, and

lingers in our minds like that of a lovely child, whether we wade into the brown water at thy feet, scaring the happy fishes clustered there, and gaze upward at the snowy festoons that, with a soft, hissing murmur of delight, chase each other down the swift slope; or creep to thy grassy margin above, and try to count the wavelets crowding to glide so glibly over the round, transparent brink; or walk behind thy veil, and view the green valley as thou seest it, through the silvery and iridescent haze of thy mist drapery. Thou hast no need of a poet's pen to sing thy praise; but had not the poet helped thy fraud, enchanting Minnehaha, not half this daily crowd would come to see thee, and to drink beer on thy banks, and murmur maudlin nonsense about Hiawatha and his mystical maiden. Nevertheless, thou art the loveliest of cascades, and an enchantress whose sins can be forgiven because of thy beauty."

The Inter-urban District.—St. Paul and Minneapolis are connected by three lines of railroad owned by the Chicago, Milwaukee & St. Paul, the St. Paul, Minneapolis & Manitoba, and St. Paul & Northern Pacific Companies. Numerous suburban villages have sprung up along the lines of these roads, and the whole territory between the well-built portions of the two cities is fast building up with residences and manufacturing concerns. The corporate limits of the two municipalities touch each other, and the distance between the thickly built districts is only about six miles. St. Paul and Minneapolis are plainly destined to become a single commercial centre, rivaling Chicago in population and volume of business. The distance from the western limits of Minneapolis to the eastern limits of St. Paul is not as great as that from the extreme northern portion of Chicago to its southern boundary. By the time the present population of these two cities shall have doubled, the whole territory between them will be covered with buildings.

The principal suburban towns in the Inter-urban District are now *Merriam Park* and *Union Park*; *Minnesota Transfer*, with

its elevators and stock yards ; *Macalaster Park*, with its college; *Hamline*, with its university; *St. Anthony's Park*; *Como*, with its beautiful lake; and the suburb surrounding the great Northern Pacific shops.

MINNEAPOLIS.

This beautiful city is the twin sister of St. Paul, distant about eight miles westward on the Mississippi, although the suburbs of both are so rapidly nearing one another that the twain are likely soon to merge into a single metropolis. Thirty years ago the site upon which Minneapolis stands was a part of the Fort Snelling military reservation, and no foot save that of the red man had pressed the soil. At this point further navigation of the Mississippi river was barred by the Falls of St. Anthony, and one of the finest of water-powers awaited the genius of the Anglo-Saxon race to render it useful. To-day, 1889, Minneapolis numbers about 200,000 inhabitants. Surely, even in this era of rapid growth in Western cities, to which the mind is somewhat accustomed, the development of Minneapolis into a place of its present importance is surprising.

The topography of the city is greatly in its favor. Situated on a broad plateau, high above the upper level of the river at the falls, there is no danger from overflow ; and yet the level of the place is so near that of the surrounding country, that the grades to and from the city admit the construction of rail and wagon roads with comparative ease, while the subsoil affords a foundation upon which the most massive buildings may be safely erected. The relation of Minneapolis to the surrounding country is everything that could be desired. The city lies on the eastern border of the great wheat belt of the

Golden Northwest, and on the southern border of the pine and hard-wood timber region of Minnesota. Here the wealth of raw material naturally finds its way to be conveniently converted into flour and lumber by the use of the grand water-power, estimated at a capacity of 120,000 horses, within the city, and the product of the mills is afterward forwarded to the markets of the world.

The Falls of St. Anthony, upon which the prosperity of Minneapolis is mainly founded, have a perpendicular height of eighteen feet, and the Mississippi has a rapid descent of eighty-two feet within the limits of the city. The view of the rapids above the cataract is very fine; but the picturesqueness of the water-fall has been sacrificed to purposes of utility. To prevent the wearing away of the ledge of rocks, a broad, smooth wooden apron has been constructed entirely across the river, sloping from the edge of the fall to a point far beyond its base, and, on reaching this, the water slips over, calmly and unvexed. The best view of the scene is from the magnificent suspension bridge of iron which spans the flood in graceful length, and with picturesque effect, at about the centre of the city. From this vantage-point an outlook is obtained upon the railroad tracks that stretch along below the bluffs, and also upon the river, with its channel above the falls almost choked with booms of logs that are to be cut into lumber by the extensive mills which line the shores. The water-power is used for driving the machinery of the foundries, woolen mills and many other branches of mechanical industry of which Minneapolis is the seat.

Minneapolis is regularly laid out, broad avenues running from east to west, crossed by streets from north to south. The thoroughfares are usually eighty feet in width, with wide sidewalks, shaded by rows of forest trees. There are many imposing business blocks, and the residence portion of the city is attractive, with its fine, spacious houses, and well-kept lawns

and grounds. On the outskirts of the city are thousands of pleasant cottages, which are the comfortable homes of the industrious mechanics who find employment in the mills and manufactories.

The business centre of the city of Minneapolis is about ten miles distant from that of the city of St. Paul. The two places are frequently called the twin cities of Minnesota, and also the dual metropolis of the Northwest. Minneapolis is younger than its neighbor, and has grown with surprising rapidity, its progress being largely facilitated by the excellent advantages for manufacturing afforded by the great water-power of the Falls of Saint Anthony. Minneapolis did not fairly emerge from the village condition until 1870, when its population was 13,000. In 1880 the Federal census gave it 46,800 inhabitants, and in 1885 the State census discovered 129,000 people within its corporate limits. The principal sources of its prosperity are manufacturing industries in various forms, and especially in those of lumber and flour production. It has a large wholesale trade, and is in every respect a completely equipped commercial centre.

The most notable buildings are the Chamber of Commerce, the Exposition building, the Public Library, the City Hall, the Tribune building, the Corn Exchange, the Lumber Exchange, the State University, many handsome churches, the High School building, the West Hotel, the Syndicate block, the Union Depot, and the flouring mills of the Washburn and Pillsbury companies. Many of the business blocks are built of stone, and present lofty and handsome architectural fronts. The importance of the lumber trade may be judged by the fact, that the saw mills cut annually over 300,000,000 feet of lumber, 100,000,000 shingles, and 80,000,000 lath. The annual output of flour is about 6,000,000 barrels. Minneapolis has become in recent years the most important wheat market in the United States. The receipts of wheat are over 30,000,000 bushels per annum, a larger amount than is received in either Chicago or New York. The jobbing trade of the city for 1888 aggregated \$45,056,000. As a manufacturing centre, Minne-

apolis is prominent in the Northwest. The aggregate of all of its manufactured products in 1888, including flour and lumber, was \$83,075,101.

The University of Minnesota, a State institution, is located in the eastern part of Minneapolis, and is provided with substantial buildings and spacious, well-kept grounds. It is liberally endowed, and takes rank with the leading institutions of learning in the country.

The two sections of the city separated by the Mississippi river are connected by two iron bridges and a suspension bridge. The river is also spanned near the city limits by four railway bridges; one of which is a substantial stone viaduct erected by the St. Paul, Minneapolis & Manitoba Company at an expense of over one million of dollars. The Northern Pacific Company have two handsome iron bridges, one crossing the river over the deep gorge below the falls, and the other spanning its broader expanse in the western outskirts of the city.

All the railroads running into St. Paul have a connection with Minneapolis, either over their own or over leased tracks, so that the two cities, in reality, constitute a single railroad centre. Cattle, grain, and other heavy freight are transferred at Minnesota Transfer, about midway between Minneapolis and St. Paul. Frequent local trains run between the two cities over three lines of road.

Lake Minnetonka.—Fifteen miles west of Minneapolis lies Lake Minnetonka, the most popular summer resort of Minnesota. It is a beautiful sheet of water, about twenty miles long, of very irregular form, having a varying width of from half a mile to three miles. Its shores are bold and prettily wooded with oak groves, affording admirable sites for summer residences. A large number of visitors come every summer to Minnetonka from the Southern States, attracted by the cool and agreeable climate, the excellent hotels and facilities for

boating and out-door life. The principal hotel is the Lafayette, which is capable of accommodating 1,200 guests, and is equaled in size, architectural beauty, and the comforts it affords, by very few of the great summer-resort hotels of the East. The Lake Park Hotel has room for about 500 guests, the St. Louis for about 300, and numerous other summer hotels and private cottages have summer boarders. A fleet of nearly a score of steamboats, large and small, ply upon the lake, and hourly trains are run during the season to and from St. Paul and Minneapolis.

The Mammoth Flour Mills.—It is aptly said that the history of the flour mills of Minneapolis is like the story of Aladdin. In 1860 the product was 30,000 barrels, and in 1885, 5,473,000 barrels. There are twenty-six mills in operation, the maximum daily capacity of all being 32,000 barrels. An idea of the gigantic proportions which this branch of industry has assumed may be obtained by remembering that the number of barrels of flour manufactured by one of the largest mills in the course of twenty-four hours is greater than that produced by an average-sized mill in the course of a year. The capacity of the largest mill, the Pillsbury "A," is 5,200 barrels per diem; that of the Washburn "A," 3,000 barrels; and six other mills range from 1,200 to 2,000 barrels a day. The estimated quantity of wheat required to supply these mills in 1888 was 18,000,000 bushels. The capital invested in the flour-milling industry is enormous, and the amount is constantly increasing. This is the result of the changes in the mode of manufacturing flour, which have been almost radical within the past few years. The use of the old mill-stone has given place to the system of gradual reduction by iron rollers. The new process has not only raised the grade of flour, from the dark and inferior quality formerly produced, to the standard of the best Hungarian fancy brands, but has increased the quantity obtained from the grain, as well as the capacity of the mills: thus better

flour is now made at less expense than that which the inferior quality previously cost to manufacture. The flour of the Minnesota mills finds a ready market in all the Eastern cities, and also in Great Britain, France, Germany, Holland, Spain and Italy. Single orders are frequently taken for from 10,000 to 15,000 barrels, and the millers find it necessary, in securing the best trade, to control a great manufacturing capacity. Otherwise they would not be able to fill large orders promptly, nor obtain that uniformity in quality without which both the foreign and American market would soon be lost. Moreover, there is economy both in the construction and operation of a large mill over a small one. For example, the cost of one mill with a capacity of 4,000 barrels daily, is much less than that of sixteen mills of 250 barrels capacity, or of eight mills of 500 barrels capacity, or even of four mills of 1,000 barrels capacity. The relative cost of operating a large mill is still less, and the chance of a uniform grade of flour is increased in the same ratio as the capacity of the mill. So medium-sized mills, a few years ago considered the safest and most profitable, have been superseded by those of great capacity.

In order that some idea of a large Minneapolis flour mill may be obtained, the following facts relating to the Pillsbury "A" mill are given. This establishment is 180 feet in length by 115 in width, the building material being Trenton limestone, rock-faced, and laid in courses to the height of seven stories. Inside, on the basement floor, is a stone wall, 125 feet in length and 15 in height, which holds the water from the canal after its passage from the falls before it descends to the wheels. Within this canal are the wheel-pits, dug out of the solid rock, fifty-three feet in depth. Inside these pits are flumes of boiler iron, twelve feet in diameter, in which two fifty-five inch wheels, each weighing, with the shafting, thirteen tons, are placed. The hydraulic power of a column of water twelve feet in

diameter, with a fall of fifty-three feet, is enormous. Only the strongest and toughest metal could withstand the strain. Seventeen thousand cubic feet of water rush down each flume every minute, and the combined force of the wheels is estimated at 2,400 horse-power, equivalent to that of twelve steam engines, each of 200 horse-power. This power is geared and harnessed to the machinery requisite to grind 25,000 bushels of wheat in every twenty-four hours. On the first floor there are the main shafts of the driving apparatus, with pulleys twelve feet in diameter, weighing 13,000 pounds, over which runs belting of double thickness, forty-eight inches wide, at the rate of 4,260 feet in a minute. From the shafts also run thirty-inch belts perpendicularly to the attic floor, over eight-foot pulleys, at the rate of 2,664 feet per minute, furnishing the power which drives the bolting and elevating machinery. There are other pulleys and belting attached to the shafts for operating the rollers and purifiers, the electric light and other machinery. On this floor, also, is the wheat bin for stowing grain. This holds 35,000 bushels, and extends through to the ceiling of the floor above, where it is connected with the weighing hopper. On the second floor the wheat is ground; the third floor is mainly devoted to packing; the fourth, fifth, sixth and seventh floors are filled with bolting chests, middlings-purifiers, bran-dusters and other machinery. Before going to the rollers to be ground into flour, the wheat is cleansed by passing through eight different sets of machinery. It is purged in this manner of wire, nails, cockle, small and imperfect kernels, and becomes actually polished before it is converted into flour. On the packing floor the flour is discharged constantly from twenty-four spouts, and accumulates so fast that a car is either loaded with flour or bran every twenty-five minutes throughout the day. Any lack of transportation facilities at once clogs the mill. To every bushel of wheat there are thirteen pounds of bran or shorts; but for this "offal" there is a steady demand on the

part of stock-raisers in the East. There are railroad tracks on either side of the mill, and the loading and unloading methods are complete. The establishment is provided with fire apparatus, electric lights, passenger elevator, machine shop, and every appliance for its convenient working. In fact, it is one of the model flouring mills of Minneapolis, and the visitor who examines its features in detail will be well repaid.

The process of manufacturing flour in a typical Minneapolis mill is clearly described by Ernest Ingersoll, in *Harper's Magazine*:

“When the wheat comes in, it is unloaded from the cars, by the aid of steam shovels, into a hopper bin, whence it is elevated to the fifth floor, and fed into a receiving bin, the bottom of which extends down to the fourth floor. Out of this it empties itself into conveyors, consisting of small buckets, traveling upon an endless belt, and is taken to storage bins on the first and second floors. Here it rests until wanted for milling. When this time comes the wheat travels by conveyors to the top floor, whence it is fed down into the grain separators in the story beneath, which sift out the chaff, straw, and other foreign matter. This done, it descends another story upon patented grading screens, which sort out the larger-sized grains from the smaller, the latter falling through the meshes of the screen, after which the selected portion drops into the cockles on the floor beneath, and, these escaped, falls still further into the brush machines. All this time the wheat remains wheat,—the kernel is entire. Its next move, however, begins its destruction; for now the ending stones are encountered, which break the germinal point off each grain. This matter accomplished, the wheat is shot away up to the attic again, and, traversing the whole length of the mill, falls into an aspirator on the seventh floor; having passed which, it slides down to the second floor, and is sent through the corrugated rollers. These rollers have shallow grooves cut spirally upon them, with rounded ridges between. The opposing rollers are grooved in an opposite direction, and it is impossible for a grain of wheat to get through without being cracked in two, though the rollers are not sufficiently near together to do much more than that.

It comes out of this ordeal looking as though mice had chewed it, and, pouring into special conveyors, speedily finds itself up on the seventh floor again, where the flour dust which has been produced by this rough handling is bolted out in reels, and all that is left—no longer *wheat*—is divided into ‘middlings’ and ‘tailings.’ The tailings consist of the hard seed-case and the refuse part, and go into market as ‘feed’ and ‘bran,’ while the middlings are reserved for further perfection into flour: they are the starchy, good centres of the grains.

“The first operation toward this end is the grading of the middlings, for which purpose they pass upon silken sieves arranged in narrow horizontal troughs, and given a gentle shaking motion by machinery. There is a succession of these bolting cloths, so that the middlings pass through ten gradings. Next they go to a series of purifiers, which resemble fanning machines, and thence to corrugated rollers, each successive set of which are more closely apposed, where the meal is ground finer and finer. There are five of these corrugations in all, and between each occurs a process of bolting to get rid of the waste, and a journey from bottom to top of the mill and back again. Nevertheless, in spite of all this bolting, there remains a large quantity of dust, which must be removed in order to make the flour of the best quality. And hereby hangs a tale of considerable interest to Minneapolis men.

“In the old mill which not long ago occupied the site of this new one there stood upon one side the usual rows of buhrs, in this case twenty in number. Through the conveyor boxes connected with them was drawn a strong current of air that took up all the fine particles of flour dust, and wafted it with the strength of a tempest into two dust-rooms, where it was allowed to settle. The daily deposit was about three thousand pounds, which was removed every morning. In addition to these small chambers, there were several purifiers on the upper floors, that discharged their dust right out into the room. The atmosphere of the whole mill thus became surcharged with exceedingly minute and fuzzy particles, which are very inflammable, and, when mixed in certain proportions with the air, highly explosive. This mixture had apparently been brought by the millers to just about the right point, when fate supplied a torch. A piece of wire fell between the buhr stones, or into some rollers, and began a lightning express

journey through the machinery, in the course of which it became red hot, when it found an exit, and plunged out into the air. It was a most startling instance of the conversion of heat into motion. A lighted match in a keg of powder is the only analogy to illustrate the result. One room down-stairs burst into flames, and the watchman had only time to pull the electric fire alarm near his hand, when he and the mill together disappeared from the face of the earth. A terrific explosion, generated throughout that great factory in an instant, rent all parts of the immense structure as suddenly as a child knocks over a tower of cards, leaving nothing but blazing ruins to show where, a twinkling before, had stood the largest flour mill in the country. Nor was this all. The land was dug from under the foundations, and the massive machinery buried out of sight. Two other mills and an elevator near by were demolished, so that not one stone remained above another; while of three other mills, cracked and tottering walls and charred interiors were the only mementoes of the day's flourishing business.

"The good that came out of this seemingly wholly harmful episode, which scratched an end mark to one era of the city's prosperity, was the introduction into the new mills of a system of dust-saving that renders such a calamity improbable, if not impossible, in future. Now, instead of being thrown abroad into a large room, the dust is discharged by suction pans into close, fire-proof receivers, where it accumulates in great quantities, and is sold as a low grade of flour. This dust having been removed, what remains is the best quality of flour. It is barreled by the aid of a machine permitting the precise weight of 196 pounds to be determined, packed and branded with great speed.

"Bakers, however, use what is known as 'wheat' or 'straight' flour, which is the product of the five reductions, all the subsequent processes through which the middlings pass in making fine flour being omitted. 'Fancy' flour differs from the ordinary superfine in that the middlings are ground through smooth rollers."

INTERESTING TO TOURISTS.—Tourists stopping at Minneapolis should visit at least one of the great flouring mills. They should drive across one of the bridges to the Exposition building, where annual fairs are held in August and September of every year, and to the University. On the western side of the river, where the principal hotels and business houses are located, there are many pleasant drives. Interesting excursions can be made, by steam motor lines, to Lake Calhoun, Lake Harriet and Minnehaha Falls.



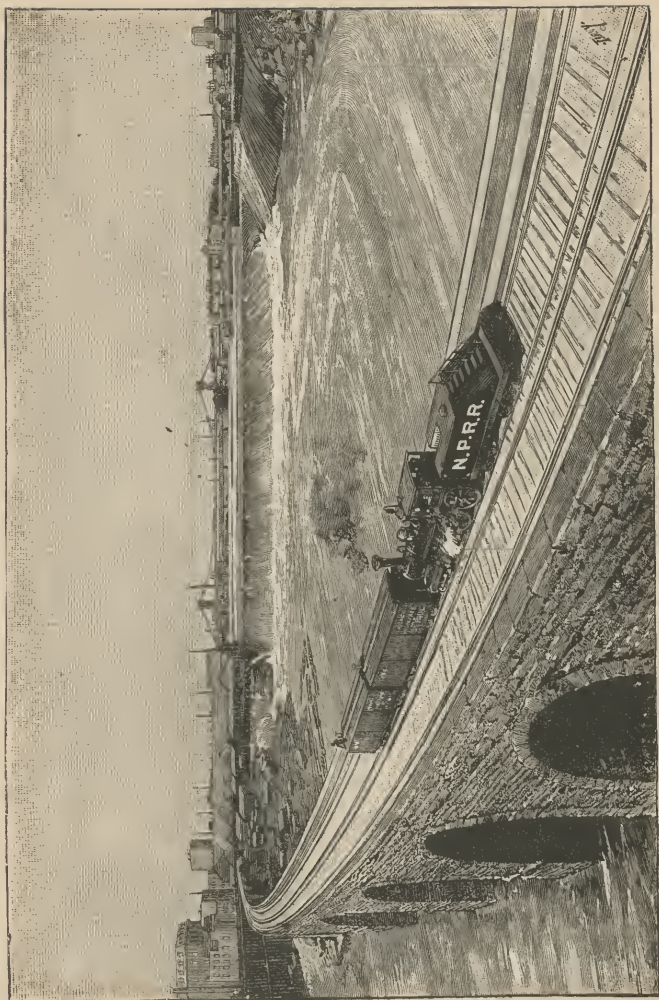
ST. PAUL DIVISION.

ST. PAUL TO BRAINERD.—DISTANCE, 136 MILES.

Between St. Paul and Minneapolis, ten miles, the Northern Pacific runs through the suburban or rather inter-urban villages of Hamline and St. Anthony's Park, passing the new State Fair Grounds and the new Northern Pacific shops in the vicinity of the Hamline University. It crosses the river just below the Falls of Saint Anthony on a superb bridge of masonry, which ranks among the finest railway viaducts in the United States, and then runs into the new depot in the heart of the city. After leaving this spacious, handsome depot, the road passes through the extensive yards of the company, and by its large freight house across the Mississippi on a substantial iron bridge of five spans resting upon masonry piers. The first station is *North Minneapolis*, in the suburbs of the city.

After leaving Minneapolis, the course of the railroad, following the east bank of the Mississippi river, is somewhat west of north, the route being through a level or gently undulating region. The surface of the country is, however, diversified by lakes, rivers and small tracts of prairie and growths of hardwood timber. The first important town is

Anoka.—This town, the county seat of the county of the same name, is situated twenty miles from Minneapolis, at the mouth of Rum river, one of the most important logging streams in the Northwest. Anoka has 6,000 inhabitants, and is a flourishing manufacturing town, being principally engaged



The Falls of St. Anthony, from the Stone Viaduct Across the Mississippi.

in the sawing of lumber and the grinding of wheat. It has numerous churches, excellent schools, newspapers and hotels.

Itasca (36 miles from St. Paul; population, 300) has a good water-power, a hotel and a number of stores.

Elk River (41 miles from St. Paul; population, 1,500) is the county seat of Sherburne county, and is located on the Mississippi at the mouth of the Elk river, a logging stream heading in the great pineries. The town has a water-power, three hotels, two public halls and newspapers, churches and fifteen stores. *Princeton*, a village of 1,200 inhabitants, which is the headquarters of the lumbermen of the upper Rum river, is 19 miles to the northward, and is reached by stage. *Big Lake Station*, nine miles further, deriving its name from the beautiful sheet of water on which it is situated, is the nearest point to the German and Swedish settlements near *Eagle Lake*, some miles distant. *Becker* and *Clear Lake Stations*, the next halting places, afford outlets to a rich farming and grazing region, which stretches away on both sides of the Mississippi, for many miles of its course, and whence large quantities of wheat and dairy products are shipped to the markets of Minneapolis and St. Paul. The populous agricultural and milling towns of *Groton*, *Monticello*, *Clearwater*, *Buffalo*, county seat of Wright county, and *Fairhaven*, are embraced in the area tributary to the railroad stations named.

East St. Cloud (76 miles from St. Paul) is a suburb of the active manufacturing and commercial town of St. Cloud, which is situated on the west bank of the Mississippi, and with which it is connected by a fine iron bridge.

St. Cloud (76 miles from St. Paul; population, 8,000) is one of the most important manufacturing and commercial towns and railroad centers in Northern Minnesota. It is the county seat of Stearns county, one of the most prosperous agricultural counties in the State, and has many fine public and

private buildings. One of the State Normal schools is located here, and the city is also the seat of a Catholic Bishop. The city is built upon a high plateau, about fifty feet above the Mississippi, and most of its business blocks are built of yellow brick. One of the main lines of the St. Paul, Minneapolis & Manitoba Railway runs through the place. A branch of the same system extends to West Superior; another branch runs in a southwesterly direction to Sioux Falls, Dakota. There are a number of valuable granite quarries situated at distances varying from one to four miles from the city, on both sides of the Mississippi river, which furnish excellent material for building, paving, etc. At one of these quarries, on the eastern side of the Mississippi, the State of Minnesota is erecting a penitentiary. Jasper is also quarried near St. Cloud. The Mississippi is dammed just below the city and furnishes a valuable water-power which is used for various manufacturing enterprises. St. Cloud has two large hotels, three newspapers, three banks, and many handsome churches.

Sauk Rapids (75 miles northwest from St. Paul; population, 1,200).—The village of Sauk Rapids, the county seat of Benton county, lies on the east bank of the Mississippi river, at the falls of Sauk Rapids, from which its name is derived. The Mississippi river at this point is 600 feet wide, and has a fall of eighteen feet in one mile. The place is of much importance on account of the extensive beds of granite in its immediate vicinity, the stone, it is said, being equal to the celebrated Quincy granite of New England, varying only in color, and also for the reason that a fine water-power is furnished by the rapids which begin where the Sauk river enters from the west, at the upper end of the village. The rapids continue over a bed of granite a distance of half a mile, and, viewed from either bank, present a picture of great beauty. A substantial bridge, crossing the river just below the

main falls, affords a fine view of the scenery above and below. The village has a graded school, three churches, four hotels, two flouring mills, with a capacity of 500 barrels daily, a saw mill, four general stores, a large hardware store and workshops.

Rice's (88 miles from St. Paul; population, 200).—Rice's is situated in Benton county, one and a half miles east of the Mississippi river, and two miles north of Little Rock Lake. It is in the midst of a good farming community, and is the point of departure for the Rum river lumber regions. It has five general stores and two good hotels, capable of accommodating 100 guests each. Lumber and wheat are the principal exports. There is good hunting and fishing in the neighborhood.

Royalton (95 miles north of St. Paul; population, 800).—Royalton was founded in 1880. It is situated two miles east of the Mississippi river, in the midst of a prairie dotted with groves of hard-wood trees. The population, composed of Americans, Germans and Swedes, is enterprising, and the town is growing fast. There are three churches; two good schools; a saw mill with a capacity of 20,000 feet per day, which may be easily increased; four hotels; two grain warehouses, each capable of storing 8,000 bushels; a steam elevator, close to the railroad track, with a capacity of 30,000 bushels; a livery stable, and numerous stores and shops. Two excellent mill sites, well adapted for the manufacture of flour, are offered by the Platte river, a pleasant stream which skirts the town. A large amount of wheat is annually shipped from the station by the surrounding farming population. There are three lumber settlements on the west side of the Mississippi, in the heart of the hard-wood timber region, within six miles of Royalton, named North Prairie, Two Rivers, and Elmdale. These places are tributary to Royalton, employing hundreds of teams in

hauling logs, cordwood, and railroad ties to the station. Every year, thousands of cords of hard wood, principally maple, are shipped, and the railroad draws largely upon the neighborhood for ties, thousands of which are piled up on either side of the track. Hunting and shooting in this vicinity present their attractions. Deer are plentiful, and feathered game so abundant that prairie chickens, wild geese, ducks, and grouse are shipped in quantities during the season to the markets of St. Paul and Minneapolis. *Gregory*, five miles beyond, is simply a side track.

Little Falls (105 miles northwest of St. Paul; population, 2,000).—This town was named from a fall in the Mississippi river. It has one of the best water-powers in the United States, constructed in 1887-88, at an expense of \$250,000. The dam rests upon a solid rock bed, and is firmly supported by a rocky island in the center of the river. The water-power is utilized by flouring-mills and factories, and the town is evidently destined to become an important center of manufacturing industry. It is built on both sides of the Mississippi river, on a sandy plateau. It is the county seat of Morrison county, and the junction of the Little Falls & Dakota Division of the Northern Pacific R. R. with the main line. A handsome new hotel called "The Antlers" has recently been built for the accommodation of sportsmen, summer visitors, and travelers. There is good shooting for deer in the big woods west of the Mississippi, and for ducks along the river and on the numerous lakes and ponds in the region.

The scenery near Little Falls is diversified and interesting. Finely wooded bluffs cropping up between rich prairies make the neighborhood favorable for hunting. Five miles east is a pleasant inland lake named *Rice Lake*, from the large quantity of wild rice growing around its shores. This is a resort for wild ducks, and in season large numbers are bagged. The woods abound with partridge, and the prairies with grouse, or prairie chickens, while deer are found in great numbers within easy distance.

LITTLE FALLS AND DAKOTA DIVISION.

FROM LITTLE FALLS TO MORRIS.—DISTANCE, 88 MILES.

This branch runs in a course slightly south of west, traversing first the wooded country which skirts the western bank of the Mississippi, and then coming out into a fine rolling prairie country, dotted with numerous lakes. There are a number of large brickyards on the line of the railroad near Little Falls which ship their product to Minneapolis and St. Paul.

La Fond (7 miles from Little Falls; population, 60).—This place contains a saw mill and a general store. The principal industry is lumbering, and shipments are made of lumber, wood, posts, piling, etc.

Swanville (16 miles from Little Falls; population, 150).—Swanville has one hotel, general stores in all branches of trade, elevator, and three saw mills. This is a thickly timbered region, and also well adapted to grazing.

Grey Eagle (26 miles from Little Falls; population 300) has one hotel, three saw mills, two general stores, a church and a school-house. The country is well wooded with fine hard wood, and the chief industry is the marketing of wood, ties and lumber. The woods are well stocked with game, and the many beautiful lakes with fish. *Twin Lakes*, just east of the town, are situated near the railroad, and are a favorite resort for hunters and fishermen. *Mound Lake*, three miles northeast of the town, has a high, firm beach. Old fishermen say this is the

best lake in Minnesota for fishing. *Birch Lake*, lying one mile west and a half-mile south of the town, is noted for its fine gravel beach, and is considered the finest pleasure resort in the surrounding country. Upon the shores of the lake, an hotel has been built to accommodate the pleasure seekers who go there to spend the summer months, or to enjoy the fine hunting and fishing found in the vicinity. In *Birch Lake*, fish of from ten to twenty-five pounds weight are often caught.

Spaulding (29 miles from Little Falls; population, 100).—*Spaulding* has one hotel, three stores, and a saw mill. The shipments are lumber. The surrounding country is heavily timbered, and also affords good pasturage.

Sauk Centre (37 miles from Little Falls; population, 2,700).—This town is situated on *Sauk river*, at the outlet of *Sauk Lake*. It forms the natural geographical and business centre and outlet of an extensive area of rich agricultural country, well supplied with timber and water, and finely adapted to raising grain and stock, as well as to dairy purposes. There are seven churches, and a fine brick school building. *Sauk Centre* has three newspapers, two large flouring-mills, three banks, numerous stores, machine shops, manufactories of agricultural implements, and also a water-power that might be used far more extensively. The railroad crosses an arm of *Sauk Lake*; but only a small part of it can be seen from the cars. The lake is twelve miles in length, and is partially hidden by a point of land projecting into it. There is very good pickerel, bass, and perch fishing. *Prairie chickens* are found only a short distance from town, and, in season, ducks and geese come by thousands to the marshes west of and along the line of the railroad. *Westport*, 48 miles from Little Falls, is a small wheat-shipping village.

Villard (53 miles from Little Falls, and 116 miles from Minneapolis; population, 500).—This village, named after the

ex-President of the Northern Pacific Railroad, is situated in Pope county, and dates from 1883. The soil of the surrounding country is a black loam, with clay subsoil. Farmers bring their wheat twelve miles to the village for shipment, and large quantities are forwarded to market. The chain of lakes near the village are: Lake Villard, one and three-fourths of a mile north and south, and one and one-fourth of a mile wide; Lake Amelia, four miles long by one mile wide; Lake Levan, two miles long by one and one-half miles wide; Lake Ellen, one and one-half miles long by one and one-third miles wide. These lakes are all connected. Their banks are lined with maple and oak of heavy growth; the waters are pure and clear, and the bottoms gravelly. They all abound with black bass, which makes them one of the best fishing grounds in the entire section. There are plenty of water fowl, and, in fact, there is no end of amusement for the sportsman. Between two of the lakes, for a distance of nearly one mile, the railroad track runs, there being just room enough for a single track,—the roadbed sloping down on either side to the water. From the car windows the view makes a very pretty picture.

Glenwood (60 miles from Little Falls; population, 1,000) the county seat of Pope county, is situated in a small circular valley at the eastern extremity of Lake Minnewaska. It has two hotels, three stores, two newspapers, and a brick yard. The hills on the north and east rise 280 feet above the level of the lake, and a little above the surrounding prairie. These eminences are cut up with deep wooded dells or ravines, through which flow clear creeks of spring water, pursuing their way across the valley to the lake below. The railroad station is prominently situated 200 feet above the valley, and offers a pretty view of the village, with its substantial brick court house, school building and church, its neat residences, and the silvery lake, whose shores are fringed with oak and maple. Lake

Minnewaska, now in sight from the cars between Glenwood and Starbuck, and anon hid from view by hills or groves of timber, has a clean, gravelly beach, which affords a delightful drive, over six miles in length, shaded by a growth of forest trees. Minnewaska is one of the largest and handsomest lakes in Minnesota. It is over ten miles long and from two to three miles wide, and is surrounded by a picturesque rolling country. It is becoming a favorite summer resort. The lake abounds in fresh-water fish of all kinds. Many times in spring, wagon loads are taken away, the result of a night's or day's fishing. Many springs gush from the hill slopes on the north shore of the lake, within half a mile to two miles from its eastern end. Some of these springs are pure, sweet water, while others contain iron and potassium, or are strongly impregnated with sulphur. One of these fountains, coming out of the bluff just behind the village, forms a considerable stream, which has been dammed by the owner, and made to furnish the power to operate his mill. Of the excellent medicinal properties of the mineral springs, there is ample evidence, as invalids using the water will testify.

Starbuck (69 miles from Little Falls; population, 500).—The town of Starbuck, situated on the western end of Lake Minnewaska, is an active mercantile town and an important wheat-shipping point. The first buildings were erected in 1882.

Pickarel, red-horse, buffalo bass, and perch abound in large numbers. Flocks of ducks and geese offer an excellent opportunity to the sportsman, as well as prairie chickens in their season. *Scandiaville* (79 miles from Little Falls; population, 100) has one hotel, an elevator, and general stores. The country is well suited to farming, and an abundance of small game is found in the vicinity.

Morris (88 miles from Little Falls; population, 1,800).—Morris, the county seat of Stevens county, is the present west-

ern terminus of the Little Falls and Dakota branch. The town has five churches, a graded and high school, two public halls, two banks, three good hotels, two newspapers, two flouring-mills, three elevators, and a large number of business houses. A good quality of cream-colored brick, manufactured here, is used in the construction of the buildings. The principal buildings are the public school-houses, and the handsome court-house. The chief industries of Morris are stock-raising and agriculture. The shipments are wheat, barley, oats, and corn. There are several lakes well stocked with fish in this vicinity, and flocks of prairie chickens, snipe, plover and ducks, are found here in their season.



ST. PAUL DIVISION.

[Continued from page 53.]

Belle Prairie (109 miles from St. Paul; population, 800).—This town, in Morrison county, four and a half miles north of Little Falls, on the east bank of the Mississippi, derives its name from the beautiful, level strip of prairie, about twelve miles long, and varying from two to four miles in width, upon the edge of which it is situated. The soil of Belle Prairie is a rich, black sand, and well adapted to all kinds of agricultural products, especially wheat, potatoes and garden vegetables. The population of the country tributary to Belle Prairie is 1,000, the majority being French Canadians, who are mostly engaged in agricultural pursuits and lumbering. There are here an hotel, a postoffice, stores and shops, an elevator, a public hall, district schools, a Roman Catholic church, and a convent, with which a school attended by fifty scholars is connected. This town is one of the oldest settlements of northern Minnesota. Mr. Frederick Ayer, the missionary, settled here in 1848, and erected a commodious school-house for the education of Indian children.

Fort Ripley (119 miles from St. Paul; population, 500).—This station derives its name from the now unoccupied fort, distant one mile, on the west bank of the Mississippi river, which, in the time when Minnesota was occupied in a great part by the Sioux Indians, was an important frontier military station. The old block house and barracks are still standing. It is the shipping point of a rich lumbering and farming

region into which settlers are rapidly entering. *Albion*, five miles beyond, is only a siding; *Crow Wing*, 128 miles from St. Paul, is an unimportant station, but has interesting associations in connection with the Indian history of the region.

Brainerd (136 miles from St. Paul, and 114 miles from Duluth; population, 10,000).—Brainerd, City of the Pines, is situated on the east bank of the Mississippi river, on the main line of the Northern Pacific Railroad, at an elevation of 1,600 feet above the sea. It is one of the most important, picturesque and attractive towns on the line of the railroad; north of Minneapolis, and west of the great lakes, in Minnesota. There are nine churches, five school buildings, one of them a noticeably handsome structure; a court house and jail, a fine brick hotel and several small hotels, three weekly newspapers, an opera house, and a public hall. Approaching the town from the south and east, the eye is attracted by the lofty smoke-stack (110 feet high) of the railroad company's shops, which here cover an area of about twenty acres, and consist of a round-house, containing forty-four stalls; machine shop, with capacity for handling twenty-two locomotives at once; boiler shop, copper shop, blacksmith forges, foundry and numerous other accessories of the headquarters of the motive power of a great railroad. Passing by this busy hive of industry, going west, the traveler is at once ushered into the business portion of the city, which stretches along parallel to the track on the south side for a distance of nearly half a mile. On the north side of the track are obtained glimpses, through the timber, of picturesque residences, the Episcopal and Congregational churches; Gregory Park, inclosing ten acres of stately pines; and the court house and jail, erected at a cost of \$30,000. Here also is the building belonging to the railroad company, and occupied as the headquarters of division offices. The Brainerd Water and Power Company, with a paid-up capital

of \$100,000, supplies the city with water from the Mississippi river, and also with electric light. A strong dam was built across the Mississippi river about two miles above the business centre of the city in 1888 by a water-power company, which furnishes power for mills and factories. The dam created a back-water lake, which is one of the most capacious storage reservoirs for logs to be found on the Mississippi river. The principal manufacturing industries of Brainerd are, making lumber and brick. The railroad company has, on the western bank of the river, a large and handsome Sanitarium which is supported by a small monthly contribution from all the employees of the company engaged upon the eastern divisions of the road. These employees have the right to surgical and medical treatment and board, free of charge, when sick or injured. The hospital stands in the midst of a grove of pines, and has an excellent record for successful work.

Brainerd is the gateway to the vast lumber region north and east to the sources of the Mississippi. Good wagon roads penetrate the forest in all directions, and a stage line and semi-weekly mail service is maintained to *Leech Lake* and *Lake Winnebagoishish*, which the United States government is converting into huge reservoirs, at an expense of half a million dollars, to regulate the stage of water in the upper Mississippi. Leech Lake contains an area of 200 square miles, Winnebagoishish half as much more. During the season of navigation a small steamboat plies between Aitkin and Pokegama Falls, where the Mississippi takes a sudden leap of seventeen and a half feet, around which is a short "carry," or portage, whence a small government steamer penetrates to the government works above. A hundred lakes, at varying distances of three to twenty-five miles from Brainerd, and of easy access, are stocked with black bass, wall-eyed pike, pickerel, mascalonge and other varieties of fish, all of exquisite flavor; numerous rice lakes afford breeding places for myriads of water fowl, while the forest is full of game and fur-bearing animals. Red

deer and pheasants may be taken by the sportsman, within easy strolling distance of the town; and a black bear, wolf or wolverine often add piquancy to the hunter's quest. There is an hotel at *Gull Lake*, twelve miles distant northwest, with accommodations for twenty guests, and at *Serpent Lake*, sixteen miles northeast, there are accommodations for perhaps an equal number. *Mille Lac Lake*, twenty-two miles southeast, is the largest, and perhaps the most charming, of all the Minnesota lakes. Embowered in a magnificent forest of butternut, ash, sugar maple and other hard woods, its solitude has rarely been disturbed by the sound of the woodman's axe. It has an area of nearly 400 square miles, and a gravelly beach skirts its shores for nearly 100 miles. This lake is the source of the Rum river; its waters teem with fish, many of which are of marvelous size; black bass of ten and twelve pounds each are often hooked. Its shores abound with game, attracted hither in the fall by the immense crops of mast in the forest, and wild rice in the thousand lakes. Openings in the forest, bits of prairie and meadow, produce wild strawberries, blueberries, raspberries and cranberries, hundreds of bushels of which are annually shipped from this station; the undergrowth is rich with ferns, and flowers and flowering shrubs of exquisite beauty.



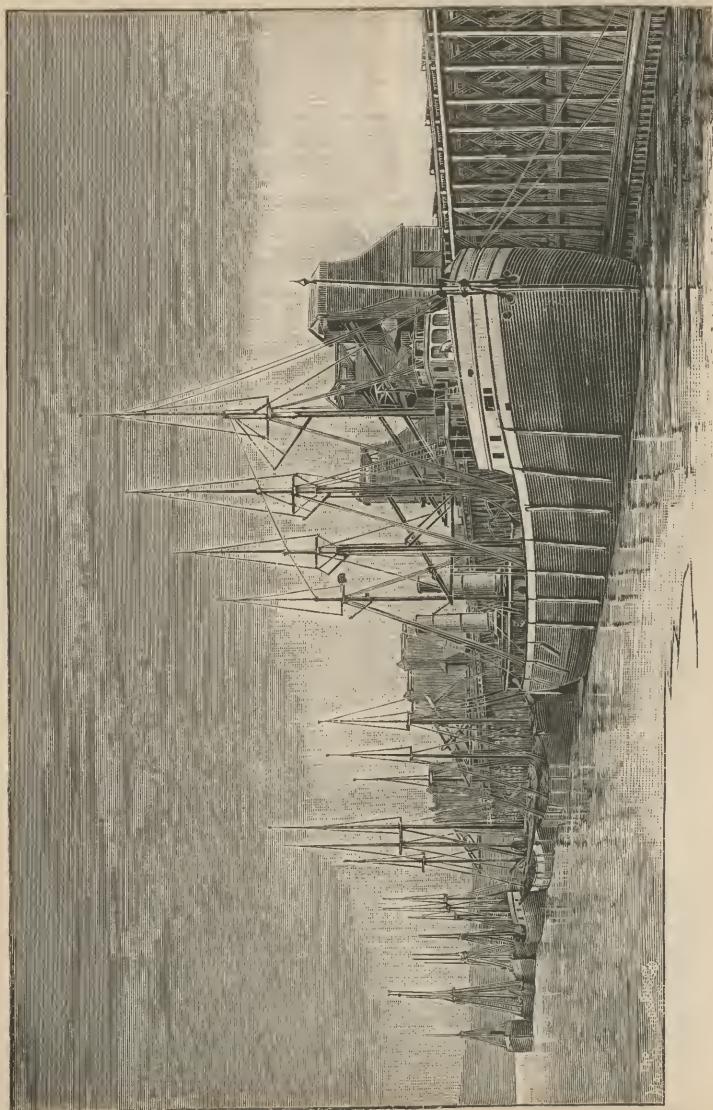
WISCONSIN DIVISION.

FROM N. P. JUNCTION, MINN., TO ASHLAND, WIS.—

DISTANCE, 86 MILES.

The Wisconsin Division of the Northern Pacific Railroad extends from N. P. Junction, the point of junction with the main line, to Superior, and thence on eastwardly to Ashland, on Chequamegon Bay, Lake Superior. The length of this division is 86 miles, and Ashland is the extreme eastern terminus of the Northern Pacific system. The division traverses a heavily wooded country for its entire length. The forests consist mainly of pine, and important lumbering operations are carried on.

Superior (population 15,000).—The district of Superior fronting upon the Bay of St. Louis, and facing the city of Duluth, is known as West Superior. It was laid out in 1884 by a strong company, which cleared away the forests, drained the ground, and platted the town, and made other important improvements. This was done with the idea that a much larger city is destined to grow up at the head of Lake Superior than can find convenient space for its commercial and manufacturing operations within the limits of Duluth. The situation of West Superior, on a handsome level plateau, with extensive water frontage, is peculiarly favorable for commercial activity, and especially for railway terminal purposes. The Northern Pacific bridge across the bay gives easy communication with Duluth. The growth of West Superior has been very rapid,



Coal Docks at Superior, Wis

and it is already an important railroad centre, and ranks among the leading shipping ports on the upper lakes. It has five large grain elevators with an aggregate capacity of 8,250,000 bushels, two immense coal docks, and a merchandise dock. As a manufacturing town, it is already one of the foremost in the Northwest. An iron and steel plant was begun in 1888 with a capital of two millions of dollars. There are two large lumber mills which make an annual cut of about 75,000,000 feet. The coal receipts are over a million tons a year. Coke ovens, owned by the Lehigh Company, make coke from Pennsylvania and Ohio coal. A handsome hotel of large dimensions, called "The West Superior," was completed in 1889. In 1888 West Superior was consolidated with the old city of Superior into one municipality, called by the name of the older place. The new city of Superior, thus constituted, stretches along the shores of the Bay of Superior and the Bay of St. Louis for a distance of nearly five miles, and is separated from Duluth, at the nearest point, by only a narrow strait connecting the waters of those bays. The railway terminal facilities are very extensive, and are used by the Northern Pacific, the St. Paul & Duluth, the Eastern Minnesota, the Chicago, St. Paul, Minneapolis & Omaha, and the Duluth, South Shore & Atlantic roads. The remarkable commercial and manufacturing development, of recent years, at Superior, must be regarded in connection with the parallel progress of Duluth. The prosperity of both of these places, separated as they are by only a narrow channel of water, is a direct result of the rapid settlement and general development of the great Northwest which finds, at the head of Lake Superior, its nearest point of access to the water highway of the great lakes. The old city of Superior was projected and laid out before the civil war by a company of well-known citizens, among whom may be named: Wm. V. Corcoran, of Washington, D. C.; Robt. J. Walker, of New York; Geo. W.

Cass, of Pittsburgh, Pa.; Horace S. Walbridge, of Toledo, O.; D. A. J. Baker, of St. Paul, Minn.; James Stinson, of Chicago, Ill.; Senator Bright, of Ohio; Senator Beck, of Kentucky; and J. C. Breckenridge, of Kentucky, formerly Vice-President of the United States. Stephen A. Douglas, after whom the county is named, was also interested in Superior in its early days. Tourists visiting the old town will find a large and handsome new hotel called "The Euclid," which overlooks the bay and the entrance to the harbor—an attractive stopping place. Among many points of interest in the vicinity of Superior is the magnificent Black River Fall, ten miles south of Superior, and only a few miles distant from the track of the Northern Pacific Railroad. This cataract is 210 feet in height, and the water is of ebony blackness. It is one of the most interesting and awe-inspiring sights in the Northwest. The Aminicon Falls, 110 feet high, are also noted for their grandeur. The forests in the vicinity abound in deer, bear, and other large and small game, and the streams and lakes afford excellent trout fishing.

Between Superior and Ashland, the Northern Pacific road runs through a picturesque forest region, traversed by many small trout streams which flow into Lake Superior. The stations are: *Maple Ridge, Muskeg, Moquah, and C., St. P., M. & O. Junction.* The most frequented trout stream on this road is Brule River, which is much visited during the fishing season by sportsmen from St. Paul and Minneapolis. A St. Paul club has erected a rude, but comfortable, log house for the use of its members. Boats and Indian guides can be procured there.

Ashland (population 10,000) is the county seat of Ashland county, Wisconsin, and is the extreme western terminus of the Northern Pacific Railroad system. It is an important shipping and manufacturing point. This prosperous town has a beauti-

ful location on the picturesque Bay of Chequamegon, facing the Apostle Islands. It has an excellent harbor and considerable lake commerce. It is the northern terminus of the Wisconsin Central Railroad, running to Milwaukee, and to many important towns in the centre of the State. The Milwaukee, Lake Shore & Western Railroad also terminates here. The Chicago, St. Paul, Minneapolis & Omaha system has a line extending from St. Paul to Washburn, a few miles distant, across the bay, with a branch to Ashland. Ashland is the largest shipping port of iron ore in the United States. The ore is brought from the mines on the Gogebic Range, about 30 miles distant, by two lines of railroad, the Wisconsin Central, and the Milwaukee, Lake Shore & Western; and is shipped by steam and sailing vessels from three immense ore docks, one of which belongs to the former railroad company, and two to the latter. These docks handle over 1,000,000 tons of ore annually, affording cargoes to nearly 800 vessels, the greater part of which are bound for Cleveland, O. The docks and approaches are over 3,000 feet long; and the docks proper are 1,405 feet long. On each side are 117 pockets holding 120 tons each. The capacity of each dock is 28,000 tons, and each required over 5,000,000 feet of timber for its construction. Ashland manufactures a great deal of lumber and makes charcoal, and iron and steel from the ore of the Gogebic Range. A large blast furnace was erected in 1887. Ashland has a great reputation as a summer resort. It has a number of hotels; the Chequamegon House is one of the best summer hotels in the country, and is filled with guests during the warm season. The cool breezes from Lake Superior make the summer climate always agreeable, and the opportunities for yachting, rowing and fishing upon the beautiful water, and for drives through the pine forests, render Ashland a delightful place in which to spend the summer months.



MINNESOTA DIVISION.

FROM DULUTH TO FARGO.—DISTANCE, 253 MILES.

Duluth (population 35,000) is the third city in Minnesota, and is one of the most important wheat markets and wheat-shipping points in the world. The city is built upon high ground overlooking Lake Superior, and the Bays of Superior and St. Louis; and is over seven miles long, from its extreme eastern suburbs on the shore of the lake, to its western limits on the Bay of St. Louis. Its harbor is capacious and entirely landlocked, being entered by an artificial channel, cut across a long, narrow, sandy peninsula, known as "Minnesota Point." The grain elevators, which are the most conspicuous structures in the commercial district, have an aggregate capacity of about 12,000,000 bushels. The neighboring elevators in West Superior are operated in close connection with the Duluth elevators, and the wheat stored and handled in both places is represented in the operations of the Duluth Board of Trade. The grain is shipped in steam and sailing vessels of heavy tonnage; a steam propeller usually taking two or three sailing craft in tow. Nearly all of the wheat shipments are to New York, by way of Buffalo and the Erie Canal. A large grain steamer with a capacity of 90,000 bushels, equivalent to 180 car-loads, can be loaded at Duluth in half a day. It has often happened that such a steamer arriving at the elevators by 7 o'clock in the morning has been outside of the harbor with her cargo aboard before noon of the same day. Duluth has become in recent years a more important wheat-shipping port than Chicago, and in the volume

of grain annually dispatched to the East it now leads all Western cities. Next to wheat, the most important article of commerce, is coal; the receipts of which in 1888 were 1,535,000 tons. The manufactures of the city consist of lumber, flour, iron and steel, and railway cars. The railways centering in the place are the Northern Pacific, the St. Paul & Duluth, the Chicago, St. Paul, Minneapolis & Omaha, the Eastern Minnesota, the Duluth, South-Shore & Atlantic, the Duluth & Winnipeg, and the Duluth and Iron Range. The latter road runs northward to the great iron mines in the Vermillion Range. The fisheries of Duluth are an important industry. White fish and trout are caught in large quantities, and shipped to St. Paul and Minneapolis, and to all the towns in Minnesota, Dakota and Montana. Duluth has two large hotels, "The St. Louis" and "The Spaulding," and a number of smaller establishments. It has two daily newspapers, ten banks, and numerous churches and school buildings.

This part of Lake Superior is one of the most interesting points to the geologist on the North American continent. It is on good grounds considered the oldest region in the world. The theory is that the formation of the lake is due to some great volcanic action, long prior to the ice period; perhaps that the lake itself was the mouth of a great volcano. Duluth is built on the rim of this lake basin, upon foundations of trap and conglomerates of every conceivable description, with seams of quartz and veins of iron, copper and silver often cropping out at the surface. The ancient lake bed extends some twenty miles above Duluth, over Grassy Point, Spirit Lake, and the bed of the St. Louis river, as far as Fond du Lac, around which the lake rim curves, inclosing a region of striking beauty. The chain of hills is here cut through by the St. Louis river, causing that wonderful series of rapids, which, in a distance of twelve miles, have a fall of 500 feet through masses of slate, trap, granite and sandstone, and are fast

becoming celebrated as the picturesque regions of the Dalles of the St. Louis.

The mean temperature of Duluth, during the summer, is as follows: June, $57^{\circ} 9'$; July, $61^{\circ} 9'$; August, $63^{\circ} 6'$; September, $58^{\circ} 5'$. Summer visitors find here every convenience for fishing, hunting and sailing parties. Tourists and scientists usually have an abundance of time at their disposal, and are able at leisure to find out the most desirable localities. But there are many who come by lake, and have only a day to spare, or the brief period that a boat is waiting. To the latter class a trip to the Dalles of the St. Louis, via the N. P. R. R., is one of the most profitable ways of spending the time. For the benefit of those who come by rail, and who delight in the "gentle pastime," a list of the trout streams on the north shore of Lake Superior, and their distances from Duluth, is appended:

NAME OF STREAM.	DISTANCE FROM DULUTH
Lester river.....	5 miles.
French river.....	14 "
Sucker river.....	16 "
Knife river.....	21 "
Stewart river.....	32 "
Silver creek.....	33 "
Gooseberry river.....	38 "
Encampment river.....	41 "
Split Rock river.....	48 "
Cross river.....	85 "

The Gooseberry river is considered the best trout stream on the north shore, then Split Rock, and Stewart and Knife rivers, in the order named. Among the fine bays and islands most popular with tourists are Knife Island and Stony Point, Agate, Burlington and Flood Bays. Agate Bay, especially, is visited, and the name is very appropriate. Its shores are lined with agates, among an endless variety of other variegated and curiously colored conglomerates, all specimen chips from the neighboring rocks and hills, but worn more or less smooth

by the perpetual friction and grinding of the wave-washed beach. The north shore is very precipitous, and abounds in fine scenery. Cascades and rapids are to be found on nearly all the above-named streams.

Northern Pacific Junction (23 miles from Duluth, 131 miles from St. Paul, and 91 miles from Brainerd; population, 1,000).—This is the junction of the St. Paul & Duluth and Northern Pacific Railroads, and a branch of the St. Paul & Duluth Railroad, known as the Knife Falls Branch, which runs six miles north to Knife Falls and Cloquet, where three saw mills are established, and large quantities of lumber are manufactured. Northern Pacific Junction has several hotels, two public halls, a church, good schools, and the county jail. It does a large business in supplying the numerous lumbering camps which are situated in the vicinity. Two saw mills are here, which run summer and winter, and are supplied with logs during the winter by a logging train. *Pine Grove*, 28 miles from Duluth, is only a side track. The same may be said of *Norman*, 33, and also of *Corona*, 39 miles from Duluth.

Cromwell (45 miles from Duluth; population 350) is situated on a beautiful lake, which is stocked with pike, pickerel, and perch. Cromwell has a section house, telegraph office, two hotels and a water tank. The principal shipments are wood and ties. Game: deer, bear, rabbits and grouse. *Tamarack*, 57 miles; *M'Gregor*, 66 miles; and *Kimberley*, 75 miles from Duluth, are small places of little importance except as points for the shipment of wood, ties, fence posts and telegraph poles, which are cut from the neighboring forests.

Aitkin (87 miles west of Duluth, and 27 miles east of Brainerd; population, 1,000).—The town has three hotels, a number of stores, the usual shops, three public halls, churches, schools, three saw mills, a planing mill, a flour mill, a bank, and a weekly stage line to Grand Rapids, Minn. During the

summer a small steamboat runs up the Mississippi from Aitkin to Grand Rapids. The Mississippi river has its source in *Itasca Lake*, in the vicinity of which an immense lumber trade is carried on, the trees being cut into logs, and floated down the Mississippi to the Minneapolis mills. The Mud river rises twenty-five miles southwest, and flows through sixteen large lakes, which are full of fish. *Red Cedar Lake*, with its fifty miles of shore, and five other lakes of good size, situated four miles west of Aitkin, are excellent places for hunting and fishing. *Crystal Lake* is distant two and a half miles south. *Lake Mille Lac*, twelve miles in the same direction, is noted for its beauty; and all are well worth a visit.

The country around the lakes is surpassed by none in point of attractiveness to the eye, being undulating and park-like. The glades and meadows are spangled with wild flowers in great variety, and the pebbly shores of the lakes, and azure, transparent waters, present a scene which impresses the beholder by its rare beauty. The hunting here is excellent. Elk may be found within seventy-five to one hundred miles north of this point, and in the immediate vicinity of Aitkin are deer, bear, geese, ducks, pheasants, grouse and woodcock.

Visitors to this portion of Minnesota, desiring to see the red man in his wild way of living, may have their wishes gratified by driving out to the great and beautiful Mille Lac Lake and Chippeway Indian Reservation, about twelve miles from Aitkin. *Cedar Lake*, 92 miles west of Duluth, is only a side track.

Deerwood (97 miles west of Duluth; population, 50) is a favorite retreat for the hunter, and one of the wildest, least known and most beautiful points on the Northern Pacific Railroad. An unbounded forest stretches in every direction, in which deer and bear tempt the adventurous sportsman to share with the Indians the excitement of the hunt. The small streams and clear lakes, of unknown depth, invite the lover of

the rod to make his camp here. The invalid who craves repose, yet does not care to be too far away from the post-office or telegrams, finds here his Mecca. A small hotel has been built, and accommodation may also be found among the farmers at this point ; or, if camping out is preferred, it is easy to obtain milk, eggs, ice, fresh vegetables and berries from the same source.

In a radius of three miles, there are over twenty known lakes, whose waters fairly teem with mascalonge, pike, black bass, whitefish, pickerel, croppies, wall-eyed pike, sunfish, rock bass, catfish, bullheads and suckers. It is not uncommon to take pike weighing upward of twenty pounds, and black bass six pounds, with a trolling spoon, while at the mouths of streams bass weighing from half a pound to two and a half pounds can be caught with the fly. The lakes vary in size from little gems a few hundred feet across, to larger ones of several miles in diameter, many containing islands. Some of them have high rocky shores, pebbly beaches, and deep blue water; others, fringed with a growth of wild rice, are the feeding and hatching grounds of numbers of wild fowl. The more distant lakes can be reached by pony and buckboard, or by birch canoes, the latter carried over portages.

There is a little trading post at this point, which, from its various shipments of furs, fish, venison, game, maple sugar, cranberries, raspberries and huckleberries, gives a very good idea of the resources of the adjacent country. Here, also, the civilized Indians can be seen at their several occupations, from making maple sugar and birch-bark canoes in the spring, to gathering wild rice in the fall, and hunting and trapping in the winter. The sportsman finds here in their season deer, with an occasional caribou, black and brown bear, wolves, foxes, coon, beaver, black and gray squirrels, the great northern hare, Canada grouse, wood ducks, teal, mal-

lards and bluebills. *Kimberley* (108 miles from Duluth) is a side track.

Six miles beyond *Kimberley* the train reaches Brainerd, and unites at that place with the line from St. Paul.

[*A description of Brainerd will be found under the heading "St. Paul Division," page 60.*]

Gull River (143 miles from St. Paul; population, 500.—Gull River, so called from the river which runs through the town, is a lumbering point from which great quantities of lumber are shipped for building purposes. One of the largest saw mills in the State is situated here; also a sash and door factory, and a planing mill. There are four hotels, two general stores, a school-house, and the necessary shops. *Gull Lake* lies four miles north of the town. This is another of Minnesota's beautiful lakes, abounding with fish of all kinds. There is a steamboat on its waters which carries the tourist from eighty to one hundred miles around its shores. Two miles west of Gull River is

Sylvan Lake, also a very pleasant resort in summer. There are a great many deer, and some moose, in the neighborhood of these lakes. A moose was recently killed that weighed, when dressed, 800 pounds. Wolves and bears are also to be found. In the spring and autumn the rivers and lakes are alive with ducks and other water fowl. Years ago, one of the greatest battles between the Chippeways and Sioux Indians was fought here. "Hole-in-the-day," one of the Chippeway chiefs, was shot in this vicinity. "Bad Boy," so called by the Indians because he saved many of the white settlers' lives at the time of the Indian massacre in 1862, lives here.

Motley (158 miles west of St. Paul; population, 600).—Motley, named for the historian Motley, has three hotels, a school-house, and a church. It is situated in a lumbering district, and its two saw mills cut 12,000,000 feet of lumber

yearly. There are several lakes near the railroad, and among them *Lake Shamiveau*, about six miles south of the town, and *Alexander Lake*, twelve miles distant in the same direction, both affording very good fishing. This is also one of the best of hunting grounds in Minnesota for deer. The few Indians remaining in this neighborhood are industrious; a large number of them, having given up their wild mode of life, are at work in the saw mills. Stages run Wednesdays and Saturdays to *Long Prairie*, eighteen miles south.

Stapies Mill (165 miles from St. Paul; population, 150).—This place contains two saw mills and a grain elevator. The inhabitants are engaged in lumbering, cutting wood, railroad ties, piles, etc. Game is plentiful in the neighborhood.

Aldrich (172 miles from St. Paul; population, 125).—The town, situated on the Partridge river, a beautiful little stream with well-defined banks and rapid current, thirty-six miles west of Brainerd, lies in Wadena county. The land surrounding the village is mostly covered with timber, consisting of birch, oak, maple, tamarack, spruce and pine. Large quantities of wood, railroad ties and piling, are shipped from Aldrich, to supply the demands of settlers further west, and millions of feet of pine logs are floated down the river in the spring of the year. A high ridge of land runs north of the village, and upon it is the principal road leading to the outlying farms. The soil, a rich clay loam, produces large crops of wheat, oats, corn and potatoes, as well as garden vegetables. Aldrich is supplied with several stores, an hotel, a saw mill capable of cutting 20,000 to 30,000 feet of lumber daily, and an elevator. This is a good point for game of all kinds, while the Partridge river and the neighboring lakes are well stocked with fish.

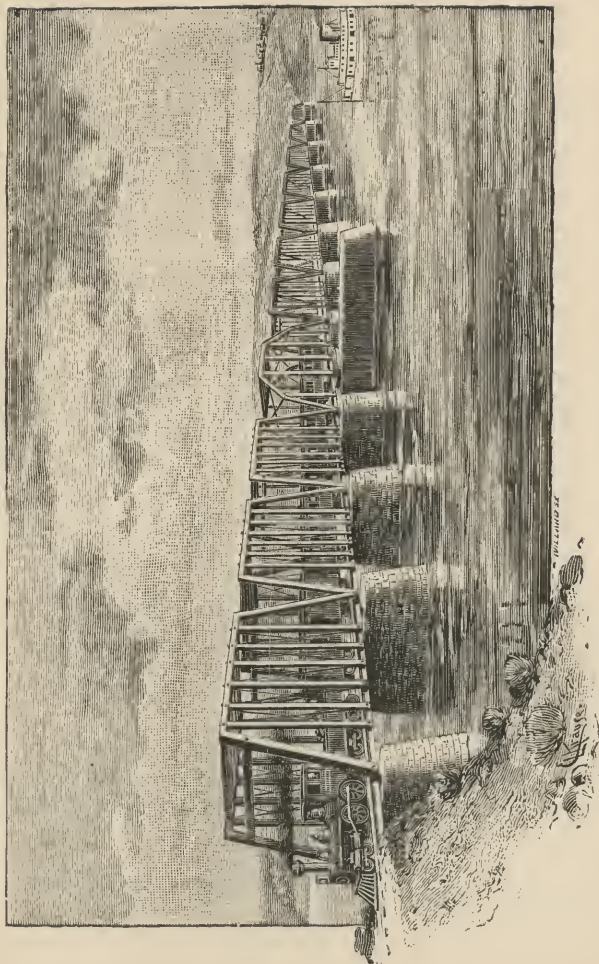
Verndale (153 miles west of Duluth, 175 miles northwest of St. Paul, population, 1,000).—This town is pleasantly situated in Wadena county, in the Wing river valley (one of the most

fertile and beautiful valleys of the Northwest), of which it is the commercial centre. This valley is twenty miles in length, by five or six in breadth, and consists of a number of small prairies or openings, so admirably arranged by nature that almost every settler has timber and prairie. The village is about one mile east of the river in a beautiful opening, or small prairie, sheltered on the north and west by a dense growth of pines, while about two miles south and east can be seen the dark line of the Big Woods, which stretch away for many miles. In its vicinity are many fine farms, the richness of the soil and the thrift of the inhabitants leaving nothing to be desired. Wing river, about one and a quarter miles distant, furnishes a fine water-power, which is used in supplying the mills. There are four hotels, two banks, a newspaper, two public halls, a church, good schools, several general stores, as well as a flouring mill and a saw mill. The best timber lands in Wadena county, besides the Big Woods to the south, are adjacent to the village, and lumber is easily shipped from this point. A stage line to Hubbard, in Hubbard county, over a good road constructed by the State, crosses the southern frontier of Hubbard county. It contains much fine agricultural land, and a great deal of valuable pine land, and has attracted considerable settlement of recent years.

Wadena (183 miles west of St. Paul; population, 1,400).—This town is the county seat of Wadena county. The first line of buildings, which are mostly devoted to business purposes, are about two hundred feet from the track, leaving an open and unoccupied space extending along the entire front of the town site. The educational facilities are good, there being a graded school in a large brick building, costing \$10,000. Churches are well represented by five religious denominations. The country adjacent to the town is a slightly rolling prairie, dotted at intervals with picturesque groves and

strips of timber. Oak, poplar, birch and ash are the most common growths. A few miles north of the town begins the timber line, beyond which lie some of the famous logging camps of Minnesota, where are found large tracts of white and yellow pine. Wadena is, therefore, a convenient shipping point in winter for cordwood, ties and piling. Wadena depends not alone for its support on the country wherein it is located; but, being favorably situated, draws a great amount of trade and business from Todd, Otter Tail, Becker and Cass counties, which are immediately adjoining. The fact that the town is so important a shipping point encourages business enterprises, among which may be mentioned two banks, a manufacturing company, devoted to the production of plows and general foundry work, numerous stores, six hotels, one patent roller flouring mill, with a capacity of 100 barrels per day, and two grain elevators. The products are wheat, barley, corn, oats and potatoes. A semi-weekly line of stages runs to the agricultural village of *Wrightstown*, twelve miles distant, with 175 people, and to *Parker's Prairie*, twenty-five miles distant, with 350 inhabitants.

Wadena is the eastern terminus of the Northern Pacific, Fergus & Black Hills Railroad, which runs into the Southeastern part of North Dakota. This road also furnishes the citizens of Wadena with convenient and easy access to Battle and Clitherrall Lakes, thirty miles southwest, which are popular picnic and fishing grounds, and also to Fergus Falls and the Red river valley.



Northern Pacific R. R. Bridge over the Columbia River, at Pasco, Wash.

NORTHERN PACIFIC, FERGUS & BLACK HILLS BRANCH.

FROM WADENA TO MILNOR.—DISTANCE, 120 MILES.

This branch of the Northern Pacific system runs in a general southwesterly direction from Wadena to Fergus Falls, thence nearly due west, crossing both branches of the Red river, the Otter Tail and Bois de Sioux, at Wahpeton, and terminating for the present at Milnor, 120 miles from Wadena. The country traversed between Wadena and Fergus Falls belongs to the beautiful and picturesque lake and park region, which is a combination of prairie and wooded knolls, interspersed with numerous lakes. West of Fergus Falls the road descends into the level valley of the Red river, which it traverses for the remainder of its length. It will be extended at an early day to some point on the Missouri river.

Deer Creek (10 miles from Wadena; population, 250).—This place is situated in the midst of a good wheat-growing and timber country. It has five stores, one blacksmith shop, an elevator and two hotels. *Parkton* is a new station, four miles west of Deer Creek.

Henning (18 miles from Wadena; population, 400).—The town contains about fifty buildings, of which eight are stores, carrying on a general business, and two hotels. Here the Mississippi river and the Red River of the North

almost interlock. Forty rods east of the village site runs Leaf river, which empties into the Mississippi, and the same distance west the streams flow into the Red River of the North. Two miles south of the village are the Leaf Mountains, or Painted Hills, rising about 200 feet above the plains, making an elevation of about 1,700 feet above the level of the ocean. From these eminences a beautiful view is presented of the surrounding country. Henning occupies a central location to three of the finest lakes in the park-like region; *viz.*, *Inman Lake*, on the east, with its crystal waters and heavily wooded shores; *East Battle Lake*, on the west, with its islands, bays, rocks and headlands, embowered amid the shades of the primeval forest; and *Leaf Lake*, on the north, with its deep, clear waters, and its shore line of twenty-five or thirty miles bordered by thick woods. There are several other charming lakes, such as *Round Lake*, with its white, gravelly beaches; *McDonald*, *Buchanan* and *Otter Tail Lakes*, the latter the largest of all, being ten miles long by three miles wide. These lakes all abound in many kinds of excellent fish, such as whitefish, pickerel, pike, catfish, and black and rock bass. This region has always been the resort and breeding ground of large numbers of water fowl, and no less than seventy varieties of birds have been found here.

Vining (24 miles from Wadena).—This station lies in the midst of a good grain-growing country, and the region is well timbered with oak and maple.

Clitherall (29 miles from Wadena; population, 250).—This new town, half way between Wadena and Fergus Falls, is situated near three of the finest and largest lakes in the renowned Minnesota park region,—*Clitherall Lake*, and the two noted *Battle Lakes*, west and east, respectively. There are two hotels, stores, a large elevator, and a lumber yard. Clitherall Lake is a beautiful sheet of water, somewhat in the shape of the capital letter Y, extending from northeast to southwest,

about four miles in length, with an average depth of sixty feet. It teems with every species of fish known to the Western lakes, from the monstrous buffalo of forty and fifty pounds avoirdupois, or the shy pickerel of twenty-five pounds, down to the beautiful perch of a couple of ounces. The lake is also haunted by water fowl in great numbers, from the pelican and goose to every species of duck. On its shores there is a small Mormon settlement, the oldest in Otter Tail county, the people having made their homes here as early as 1865. They are followers of Joseph Smith, and bitter denouncers of polygamy and their cousins at Salt Lake. Their settlement is one mile and a half from the station, and is finely situated in a beautiful grove of oaks on the north shore of the lake. They have about five hundred acres under cultivation, and the railroad runs through their fields in sight of the settlement.

South of Clitherall, for ten miles, stretches a grand prairie, and he must indeed be a poor shot who can not here bag as many grouse as he wants. The Leaf Mountains are the favorite haunts of deer, which are killed by hunters, in great numbers, every autumn. The Indians say that these mountains have been visited every year by them, in pursuit of deer, as far back as their oldest people can remember. Not even the presence of the white man and the railroad can drive the Indian from his "hunting ground." Even now, at all seasons of the year, the tourist can see here and there a wigwam on the north shore of the lake, and the eyes of a shy papoose peeping at him from behind a bush.

Battle Lake (33 miles from Wadena ; population, 500).—Ere beautiful Lake Clitherall is lost to view, as the train speeds along through pleasant groves and picturesque scenery, it rounds a high bluff, and another picturesque sheet of water is seen, covering an area of four by nine miles. This is the well-known Battle Lake. The town of Battle Lake lies at the

west end of the lake, and a large amount of wheat is marketed here. There are two elevators, one hotel, a school-house, a church, and a steam flouring mill. A lookout has been erected by the Northern Pacific Railroad, the view from which is magnificent. Seventeen beautiful lakes can be seen within a radius of five miles, all of which are well stocked with fish. Besides these there are many ponds where, during spring, summer and autumn, aquatic fowl are abundant. There are two Battle Lakes, *West Battle Lake* and *East Battle Lake*. West Battle Lake, the queen of Otter Tail county lakes, lies one mile north of the station, and is the largest of the three lakes named. It is a favorite resort for fishing parties, and the finny tribe seems inexhaustible. This lake has an average depth of seventy-five feet. A steamer, sail-boats and numbers of row-boats ply its waters. *East Battle Lake* is hidden among the islands and woodland hills, and is renowned for its romantic scenery. The lake is quite irregular in form, its shores being broken by grottoes, dells, lovely little coves and bays. It is about four miles long and from half a mile to two miles wide, containing three large islands. Wild ducks congregate here in the spring and autumn in countless numbers.

The Battle Lakes take their name from the famous and bloody conflict which was fought on the neck of land that divides their waters, between the Chippeway and Sioux Indians, in which the former won a dearly bought victory, killing every one of their enemies, but losing 500 of their own warriors. The battle ground is only a mile and a half from Clitherall, where the fortifications, breastworks, rifle-pits, and even the mounds over the graves, still remain as a record of the bloody and fatal strife between the savages for the possession of this most coveted hunting ground. On the north side of the lakes is still another earth fortification, where at some time another terrible battle was fought between the Indians. A breastwork, in circular form, incloses about an acre of ground, and inside

the circle are a number of rifle-pits. Arrow-heads, shells and other relics have been found in this place. *Maplewood* (39 miles from Wadena) is an unimportant station.

Underwood (41 miles from Wadena; population, 75) nestles amongst hills and beautiful lakes, which exhibit very fine scenery. The country adjacent can not be surpassed for richness and productiveness of soil. The climate is healthful, and the summer season sufficiently long to mature all crops. The settlers have the advantage of an abundance of hardwood timber, and find lucrative employment in shipping wood to Western markets. The town contains a chair factory, three stores and one elevator. The inhabitants consist principally of Scandinavians. The whole country is dotted here and there by beautiful lakes, varying in area from two to twenty square miles. These lakes abound in varieties of fish, such as pickerel, pike, bass, etc., and offer favorable resorts for the tourist. Large flocks of ducks and geese resort to them in spring and autumn, thus affording excellent shooting.

Fergus Falls (52 miles from Wadena; population, 8,000), the county seat of Otter Tail county, the largest well-settled county in Minnesota. The city is three miles square, and is built up more or less for nearly two miles up and down the Red river, and over a mile in breadth north and south. To the north, overlooking and protecting the valley, are groves of timber, through which stretch narrow strips of prairie. South of the river the land is for the most part prairie, on which are several planted groves of rapidly growing trees. The principal street, Lincoln avenue, is built up compactly on both sides for half a mile, and business overflows thence up and down the cross streets. Within an area of two miles north and south, by three miles east and west, are six distinct water-powers, with over eighty feet fall. The Red river at this point leaves a high upland region, and descends a distance of over 200 feet in a few miles to the level of the Red river plain, furnish-

ing 10,000 horse-power, which is used for milling and manufacturing purposes. The favorable situation of Fergus Falls at the southern end of the celebrated Red river valley, surrounded by a rich, well-developed agricultural and stock-raising country, and in the midst of the famed park region of Minnesota, gives the place a front rank among the thriving towns of the Golden Northwest.

Fergus Falls is on one of the main lines of the St. Paul, Minneapolis & Manitoba roads; a branch line of the same road runs northward to Pelican Rapids, a town of 600 inhabitants, twenty-two miles distant. In Fergus Falls are thirteen churches, a fine court house, two large public school houses, also substantial brick structures, ten hotels, one of which is one of the largest and best equipped hotels in northern Minnesota, two public halls, a Masonic temple, Odd-Fellows hall, three banks and about one hundred and fifty stores. The government land office is located here, and there are seven manufacturing establishments, including three flour mills and a paper mill. The city has the electric light, a telephone exchange and water and gas works. *Ames* and *Everdell* are small stations on the Fergus Falls Branch, which are gradually growing.

Breckenridge (77 miles from Wadena; population, 1,000) is the county seat of Wilkin county, Minnesota, and is situated on the eastern bank of the Red river, at its junction with the Bois de Sioux river. It is one of the oldest settlements in Northern Minnesota, and was an Indian trading post as long ago as 1857. The town was burned during the great Sioux Indian outbreak in 1862, and eight of its inhabitants were killed. A battle was subsequently fought between 80 soldiers fortified in a stockade, and a large force of Indians. The savages were finally driven off after two days' futile effort to capture the stockade. Breckenridge was not rebuilt until ten

years later. In 1873 the St. Paul & Pacific Railroad, now the St. Paul, Minneapolis & Manitoba, was completed to the place, and the surrounding country began to be occupied by farmers. Breckenridge has a handsome brick court house, a fine school building, two elevators, four hotels, three churches, and a number of stores.

Wahpeton (78 miles from Wadena; population, 3,000).—This town, situated on the Bois de Sioux, just above its confluence with the Red or Otter Tail, is the county seat of Richland county, one of the best agricultural counties in Dakota Territory. It is forty-six miles south of Fargo, and at the head of navigation on the Red River of the North. Wahpeton has a water-power, formed by the Otter Tail, with a fall of sixteen feet, furnishing a steady and reliable volume of water. In 1869 the first claim hut was put up on what is now the town site. In 1873 a trading house was established, and traffic was carried on with the Indians, who occupied nearly the entire country from Big Stone Lake to the British Dominion for miles on both sides of the river. In 1876 the place was laid out in lots, and soon afterward was recognized as an eligible town site. Wahpeton has now an opera house; a court house, erected at a cost of \$30,000; three newspapers, several churches, three banks, school buildings, and five hotels, while all branches of business are well represented. There are two elevators of 150,000 bushels capacity, two large grain warehouses, a steam flouring mill, a steam factory and repair shop, two railroad depots and four lumber yards. The town is in the midst of an agricultural country of superior fertility, and ranks, as a commercial centre, among the first in North Dakota. There are various kinds of timber in Richland county, consisting of oak, ash, elm, box elder, linden and cottonwood. West of Wahpeton, *Ellsworth*, *Wyndmere* and *Mooreton*, are small villages.

Milnor (120 miles from Wadena; population, 600), the present terminus of the road, was founded in 1883, and rapidly became an important business point. The surrounding country consists of rolling prairie, and is all fertile to a high degree, there being scarcely any waste land. Milnor is the county seat of Sargent county, North Dakota, and has 600 inhabitants, two hotels, one bank, and a public hall, one newspaper, several churches, and about twenty stores. There is an inexhaustible supply of limestone in the immediate vicinity. The wheat shipments are large, and constantly increasing. Fort Sisseton Indian Agency is thirty miles south. There is communication by stage from Milnor to Sargent, Lisbon, and other places west, north and south.



MINNESOTA DIVISION.

[Continued from page 78.]

Bluffton (187 miles west of St. Paul; population, 600).—This town, very near the divide between the Mississippi and Red river valleys, is situated on Bluff creek, a branch of Leaf river, into which it empties about half a mile below the town. It has an hotel, a church, a public hall, a school, blacksmith and wagon shop, a saw mill, a planing mill, a grist mill, a flouring mill, an elevator, and a post office. Its principal industries are the raising of wheat and the shipping of wood, ties, lumber, wheat and flour. Small game and fish are plentiful, and deer are abundant in this region. *Amboy*, 190 miles from St. Paul, is simply a side track.

New York Mills (195 miles west of St. Paul; population, 500).—This is the largest Finnish settlement in the United States. There are over 500 Finns in the town, and nearly 3,000 in the surrounding country. A weekly paper is published in the Finnish language, and religious services are held in that language in two churches, one in the town and one about six miles distant in the country. The Finns have only commenced emigrating in considerable numbers during the past ten years. They prefer Northern Minnesota to any region in the West because of its close resemblance in climate, scenery, soil, forests, lakes, etc., to Finland. The Finns in and around New York Mills are engaged in lumbering, farming, and the mechanical trades. There are a number of general stores in the town, a school, a church, a town hall, and an elevator. The surrounding country is well timbered, and the soil is a

rich, black loam, which can profitably be cleared, and a ready market found for the timber in the form of railroad ties, firewood and saw-logs.

Perham (206 miles west of St. Paul; population, 1,200).—This town, situated in the northeastern part of Otter Tail county, on an open prairie of five by ten miles square, is one of the most prosperous places on the line of the Northern Pacific Railroad. The population of the town and tributary country is about half German, one-quarter American, and the other quarter composed of Poles and Scandinavians. The Poles have a church in the place. Every branch of business is well represented, and manufacturing enterprises are flourishing. Among the latter are a carriage and wagon factory, and a barrel and stave factory. The town supports two good hotels. There are five churches, several good schools, and a newspaper. Perham has a five-story steam mill, fifty-four feet by fifty-six feet in dimensions, and worth \$60,000, with a capacity of 250 barrels of flour per day. In connection with the mill there is a large warehouse, with a capacity of 35,000 bushels. The scenery about Perham is attractive. In coming from the east, for some distance nothing can be seen but pine forests, which suddenly open into a beautiful rolling prairie, through which the famous Red River of the North passes. To the right, only a short distance away, lie two beautiful lakes, called *Big* and *Little Pine Lakes*. The latter is about two miles wide and four miles long, while the former is nearly three times as large. The view from the passing train is very pleasing.

After leaving Perham there are lakes without number, which, to travelers from Eastern cities, would be considered marvels of beauty. All of these lie in sight of this thriving town. They are now becoming popular, and many tourists spend the summer on their banks. Among these resorts is *Otter Tail Lake*, four miles wide and eleven miles long. It is situated

eight miles south of the town. *Marion Lake*, three miles distant, in the same direction, is perhaps three-quarters of a mile in diameter, and nearly circular in form. No better hunting ground can be found in the Northwest than that surrounding Perham. The lakes are full of fish of every description, including pickerel, pike, mascalonge, black and rock bass, catfish, sunfish and whitefish. In spring and autumn ducks and geese are killed in great numbers. During the season the prairie and groves are alive with quail, grouse, swan, brant, woodcock, prairie chicken, partridge, snipe, curlew and rabbits. In early winter the deer, elk and moose are an easy prey to the sportsman.

There is a small Indian village about two miles from the town. These Indians are Chippeways who belong to the White Earth reservation, but prefer to remain in their old home. They are self-supporting, the men working in the pineries and the harvest fields, and the women gathering berries for sale. *Luce* is a small station between Perham and Frazee.

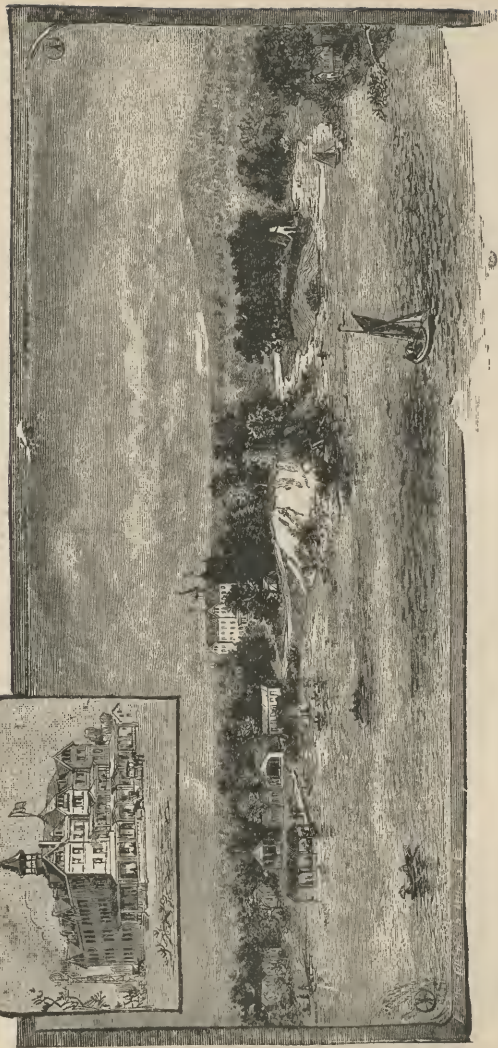
Frazee (217 miles west of St. Paul; population, 300).—Frazee City, situated in Becker county, was established about eight years ago. It boasts of having one of the largest flouring mills west of Minneapolis, the product of which is shipped to all parts of the world. In addition to the flour mill there is a large saw mill, which is supplied with timber driven down the Otter Tail river from ten to twenty miles. There are two hotels, one public hall, a good school and a grist mill. Frazee City is surrounded by a first-class farming country. Otter Tail river, running through the town, is full of all kinds of fish, and so are the numerous lakes that find an outlet through this river. *McHugh*, five miles beyond, is a small lumbering and farming settlement.

Detroit (227 miles west of St. Paul; population, 2,000).—Detroit, the county seat of Becker county, is situated in a

beautiful timber opening, the surface of which is gently undulating, the soil being of a sandy nature. Half a mile east of the village runs the Pelican river, which stream is the western boundary line of what is known as the "Big Woods" of Minnesota. To the west there is but little timber, and on the north the country is about equally divided between timber and prairie land.

South of Detroit lies what is known as the Pelican Lake country, one of the finest, as well as the most fertile and beautiful, sections of Minnesota. The surrounding region is very productive, and each year the farmers are blessed with abundant crops, for which a good and ready market is always found. The advantages of Detroit are many. Its abundance of excellent oak, maple, elm, birch, basswood, tamarack and ash timber, suitable for the manufacture of all articles made from wood, invites industrial enterprise. The business houses and public institutions comprise six hotels, two newspapers, three drug, one jewelry, one boot and shoe, two millinery and four general stores, three wagon and blacksmith shops, a furniture factory, a hardware and farm machinery establishment, a grist mill, livery stables and two banks. The village has churches of the various denominations, and also one of the best graded public schools in the State. The new county court house, erected at a cost of \$25,000, is one of the handsomest buildings of its class in northern Minnesota.

Prominent among the features of this section are its advantages as a summer resort. *Detroit Lake*, one of the most beautiful sheets of water in Minnesota, lies only half a mile from the business portion of the village. Each year it becomes more popular with the people of the neighboring towns, and also with those who are accustomed to flee from the hot and dusty cities, and from the treeless prairies, during the summer months. The lake, which is about a mile and a half wide, and



Detroit Lake Minnesota.

seven miles long, in form somewhat resembles a horseshoe, with a sand-bar reaching from shore to shore, about midway between the two ends of the lake, which is converted into a most delightful driveway. Here is a high bank towering above the clear waters of the lake, and there the broad and pebbly beach, with an occasional "opening," where a sturdy frontiersman is carving out a farm. To the east, Detroit Mountain, whose heights are covered by a dense growth of timber, towers far above the surrounding country, lending its rugged charms to the scene. The lake is stocked with all kinds of "gamey" fish, which are an attraction to the sportsman, the variety including pickerel, black and Oswego bass, wall-eyed pike, perch, and also California salmon, which were planted in the lake some time ago by the State Fish Commissioner.

In 1882 the Detroit Lake and St. Louis Boat Club purchased and improved a handsome piece of property fronting on the east bank of the lake. They have now a fine and commodious club house, and a number of cottages. The club is limited to 100 members.

Detroit Lake, however, is only one of many which abound in the immediate vicinity, the following being also within the township, and varying from one to four miles in length; viz., *Floyd Lake, Lake Flora, Lake Rice, Oak Lake, Edgerton Lake, Long Lake* and *Lake St. Clair*. Here, too, are mineral springs, iron and sulphur, the health-giving qualities of which have been known to the Indians for many generations.

The Detroit Lake Pleasure Grounds are the most popular place of amusement in northern Minnesota, and are to be made more than ever attractive. A handsome steam yacht, as well as sail and row boats, are furnished on these grounds to visitors at a small cost.

The Hotel Minnesota, built in 1884, answers the double

purpose of a first-class hotel for the town, and of a summer resort, being kept open the year round. It is four stories in height, with wide piazzas and well-furnished rooms. In its architectural and general management, it is entitled to rank with the best class of summer resort hotels in the State. The advantages of Detroit for summer tourists and residents are numerous. The place is situated on a high plateau, near the headwaters of both the Mississippi and the Red River of the North. This plateau has a constant sweep of the cool breeze blowing over the great Northwest forests. Excellent drives through woodland and farming country, with numerous lakes, are here; and, for both fishing and hunting, the place has few rivals. Although the country immediately surrounding the town is well settled, a short ride brings the sportsman to the primeval forests where elk, moose and bear are killed in large numbers every year. The lake abounds in water fowl and fish. Tri-weekly stages run from Detroit to *Richwood, White Earth, Cormorant, Spring Creek, Pelican Rapids* and *Carsonville*, which are also favorable points to visit in search of feathered game, and also for bear and deer. The latter are met along the woody margins of streams and lakes, while Bruin confines himself mainly to the coppices and forests.

The White Earth Reservation.—Twenty-five miles north of this village is the White Earth Reservation of the Chippeway Indians. These Indians, who call themselves Ojibways, have always been the friend of the white man. They were a kindly disposed race, and contact with white men had dragged them down into a depth of degradation never known to their fathers. The deadly fire water flowed throughout their country, and disease, poverty and death held a carnival in every Indian village. Their friends secured for them this beautiful reservation, as fair a country as the sun ever shone

upon. This action might have been prevented by the pioneers of the Northern Pacific Railroad; but in this case, as in every other where the rights of the red man were concerned, the railroad company was his friend. A few years after Bishop Whipple had commenced his mission here, the Treasurer of the company, the Bishop, Lord Charles Hervey and others paid the Indians a visit. The Bishop consecrated their hospital, and held confirmation. After the services, the Indians made a feast for the Bishop and his friends. When all had eaten, the chief, Wah-bon-a-quot arose, and, addressing the Bishop, said: "We are glad to see our friends. Do they know the history of the Ojibways? If not, I will tell them." In a few graphic words he described the Indians as they were before the white man came. The woods and prairies were full of game, the lakes and forests with fish, and the wild rice brought its harvest. "Hunger never came to our wigwam," said he. "Would your friends like to see us as we were before the white man came?" Suddenly there appeared a tall, athletic Indian, with painted face, and dressed in a robe of skins ornamented with porcupine quills; and by his side a pleasant-faced woman in wild dress. "There," said the chief, with eyes gleaming with pride, "there see Ojibways as they were before the white man came." Turning to his guests, continued he, "Shall I tell you what the white man did for us?" Then dropping his voice, he added, "The white man told us we were poor; we had no books, no fine horses, no fine canoes, no tools. 'Give us your land, and you shall become like the white man.' I can not tell the story: you must see it." Then stepped out a poor, ragged wretch, with tattered blanket, and face covered with mud; by his side a more dreadful specimen of womanhood. The chief raised his hands: "Are you an Ojibway?" The Indian nodded. Sadly the chief said: "Oh, Manitou, how came this?" The Indian raised a black bottle, and spoke one word, "Ishkotah wabo" (fire water). "This

is the gift of the white man." It went like an electric thrill through every heart, and brought tears to many eyes. The chief said: "A pale-faced man came to see us. I am sorry to say he has seen me and my fellows drunk. He told a wonderful story of the Son of the Great Spirit coming to save men. He told us his fathers were wild men; that this religion had made them great, and what it had done for them it would do for others. We did not hear; our ears were deaf; our hearts were heavy. He came again and again, always telling one story of Jesus, the poor man's friend. We knew each summer, that, when the sun was high in the heavens, the Bishop would come. He gave us a red minister. At last we heard. Shall I tell you what this religion has done for my people? You must see." There stepped out a young Indian in a black frock coat; by his side a woman neatly clad in a black alpaca dress. "There," said the chief, "there is only one religion which can take a man in the mire by the hand and bid him look up and call God his Father."

There are 1,500 civilized Indians at White Earth. They have two churches,—Episcopal church and Roman Catholic. Visitors are always received with kindness, and no excursion on the line of the Northern Pacific Railroad will be more pleasant than a visit to White Earth.

Audubon (234 miles from St. Paul; population, 250).—This settlement, in Becker county, is principally of Scandinavians. It was founded about 1872, and named after the celebrated naturalist. It has had a slow but steady growth, being a good point for the production of wheat, oats, barley, rye, potatoes, butter, cheese and eggs. Audubon has four general stores, three churches, two wheat elevators, a grist mill, a saw mill and the usual shops. There are several lakes in the vicinity which afford good fishing, and small game also abounds.

Lake Park (240 miles from St. Paul; population, 800).—This is an active business town in the western part of Becker

county, situated in the midst of a rolling prairie country, interspersed with lakes and groves of hard-wood timber. It has three grain elevators, and a fourth, and larger one, is in the course of construction. There are also two banks, several dry-goods stores, hardware and drug stores, two churches, a public hall, a flouring mill and an elevator. The population is chiefly Scandinavian. The large farms of Thomas H. Canfield are in the neighborhood. Mr. Canfield has five sections, most of which is under cultivation, affording employment to a large force of men and teams. The principal production is wheat; but the raising of blooded stock is also extensively engaged in. Lake Park is situated on Flora Lake. The town has a summer hotel, accommodating a hundred people. Twenty-two miles northwest of Lake Park is the White Earth Indian Reservation, a pleasant place to view the manners and customs of the red men, who are on friendly terms with the whites. They have farms under a good state of cultivation.

Winnipeg Junction (251 miles from St. Paul; population, 200), is a new place created by the building of the Duluth & Manitoba road in 1887. It has two hotels, two stores, and a number of mechanics' shops.

Hawley (251 miles from St. Paul; population, 350).—The town, named in honor of Gen. Joseph R. Hawley, of Connecticut, lies in the depression east of the hills which skirt the Red river. Its population is largely Scandinavian. It is supplied with a school and two churches, one of which is Methodist, and the other belongs to the United Brethren. From the town, the distance is but a few minutes' walk to the Buffalo river, where there are two large flouring mills. All branches of trade are represented. The town has three hotels, a public hall and two elevators. *Silver Lake*, three miles south, a beautiful body of water covering 300 acres, is an excellent fishing resort. Good hunting and fishing are also to be had in the surrounding country, geese, ducks and grouse being quite plentiful, while deer and bear are found in the timber regions southward.

THE DULUTH & MANITOBA AND THE NORTHERN PACIFIC & MAN- ITOBA RAILROADS.

FROM WINNIPEG JUNCTION TO WINNIPEG, 266 MILES.

The Duluth & Manitoba Railroad, a branch of the Northern Pacific system, extends from Winnipeg Junction, a station on the Minnesota Division of the Northern Pacific, 251 miles from St. Paul to Pembina, Dakota. It is 200 miles long, and runs for the first 105 miles through one of the most productive wheat regions in Northern Minnesota; then crossing the Red River of the North at Grand Forks, it runs for 95 miles almost due north, through the lower Red river valley, a region scarcely surpassed anywhere on the globe for natural fertility, and now producing a larger average yield of wheat per acre than any section in the United States with the exception of the Pacific coast.

At the international boundary, two miles north of Pembina, the Duluth & Manitoba connects with the Northern Pacific & Manitoba Railroad, which runs down the Red river valley to the city of Winnipeg. A branch of this latter road runs from Morris, 30 miles north of Pembina, into Southwestern Manitoba, and another line, owned by the same corporation, runs from Winnipeg to Portage la Prairie. The Northern Pacific & Manitoba road was originally chartered by the Manitoba Provincial Government to build a system of roads in the Province to compete with the Canadian Pacific. The charter

was subsequently confirmed by the Dominion Government after a stubborn opposition on the part of the Canadian Pacific Company.

The first stations north of Winnipeg Junction on the Duluth & Manitoba are *Hitterdale, Ulen, Twin Valley, Heiburg, Gary, Fertile and Tilden.*

Fertile (45 miles from Winnipeg Junction) has a population of about 500, and is an important local trading point. The road now reaches

Red Lake Falls (69 miles from Winnipeg Junction), a growing manufacturing and milling town at the junction of the Clearwater and Red Lake rivers, with a population of 1,500. There are no less than thirteen valuable water powers on these two rivers, in and near the town, and just below the junction of the rivers is a very large power, now being improved by a stock company. Red Lake Falls has two flouring mills, two saw mills, two weekly papers, eight hotels, and a number of mercantile houses. The road now turns to the west and crosses the level valley of the Red River of the North. The stations are *Huot, South Euclid, Buffington, Keystone, Rockwood, Crowell and Sullivan.*

East Grand Forks (105 miles from Winnipeg Junction) has a population of 500, and is situated on the Minnesota side of the Red River of the North. The railroad shops are located here, and there are two grain elevators and a number of stores. The town is connected by both railroad and highway bridges with

Grand Forks, Dakota (105½ miles from Winnipeg Junction; population, 10,000), a busy and prosperous city in the midst of a magnificent wheat country, situated at the junction of the Red Lake river with the Red River of the North. Besides the Duluth & Manitoba Railroad, Grand Forks is on two branches of the St. Paul, Minneapolis & Man-

itoba road. The river is navigable for steamboats up to Fargo and down to Winnipeg. Considerable grain and other freight is brought by boat to Grand Forks. The city has two daily newspapers, water works, gas and electric light, a large saw mill using logs floated down Red Lake river from the Minnesota pineries, eight churches, the Territorial University of North Dakota, and numerous important manufacturing and mercantile concerns. North of Grand Forks the stations on the railroad are *Kelly's*, *Meckinock*, *Beans*, *Gilby*, *Johnstown*, *Forest River*, *Voss* and

Grafton (154 miles from Winnipeg Junction; population, 3,000), county seat of Walsh county, one of the great wheat-producing counties of Dakota. The land in this county, as in all the lower Red Lake valley on the Dakota side, is rolling prairie, with occasional strips of timber following the course of the streams which run into the Red River of the North. The yield of hard spring wheat has seldom fallen below twenty bushels, and often averages as high as thirty bushels. The crop of Walsh county in 1887 was estimated at 5,000,000 bushels. Grafton has water works supplied from an artesian well 912 feet deep, which discharges 1,500 gallons per minute. It has seven churches, two national banks, two weekly newspapers, a fine public school building, and a handsome court house. North of Grafton the stations are *Salt Lake*, *Drayton* (population 500), *Bowesmont*, *Joliet* and

Pembina (199 miles from Winnipeg Junction; population, 1,000), county seat of Pembina county, is the oldest town in the West, having been settled by the Earl of Selkirk's colonists as long ago as 1801. Pembina has a beautiful situation at the junction of the Pembina river with the Red River of the North. It was for many years one of the posts of the Hudson Bay Company. From a fur-trading post, frequented by Indians and half-breeds, its character has been changed in

recent years to that of a prosperous market-town for a rich farming country. Pembina has a handsome court house, a large public school house, a flouring mill, a weekly newspaper, and numerous stores and shops. About a mile above the town stands Fort Pembina, a military post occupied by two companies of infantry. The national boundary line between the United States and the Dominion of Canada is two miles from the town. Just across the Red River of the North, in Minnesota, is the town of St. Vincent, and immediately north of the international boundary line is the important town of Emerson, with a population of 2,000. Pembina and St. Vincent are connected by ferry across the Red river. Pembina county is largely settled by Canadians, French-Canadians, and Icelanders, with a considerable native American element. A trip to Pembina can be highly recommended to the tourist who wishes to see something of the rich wheat country of the lower Red river valley, and at the same time to visit a town which has an interesting frontier history, reaching back to the beginning of the present century.

West Lynne, Manitoba (202 miles from Winnipeg Junction), is the first town on British territory. It has about 200 people, and is a suburb of the large town of *Emerson* (population, 1,500), which is situated on the opposite side of the river. The two places are connected by a fine iron bridge. Emerson has many substantial brick blocks, and is a place of considerable trade. *Letellier* and *St. Jean* are unimportant stations.

Morris (225 miles from Winnipeg Junction; population, 500) is a prosperous wheat-shipping station, and a centre for considerable country trade. Near Morris is a large colony of Mennonites who speak the German language, although they, or their ancestors, migrated from Russia. They live in small villages, and are an exceedingly plain and thrifty people in their

habits of life. They are industrious, and have a reputation for strict honesty in their business transactions. Many curious articles of domestic furniture, brought from Russia, can be seen in their houses. The most conspicuous feature of these dwellings is always an enormous stove or furnace, constructed of bricks or stone, which occupies the centre of the living room.

After passing the small stations of *Silver Plains*, *St. Agathe*, *St. Norbert* and *Portage Junction*, the railroad crosses the Assiniboine river within view of its junction with the Red river, and enters the city of Winnipeg.

Winnipeg (population 20,000) is 266 miles from Winnipeg Junction and 517 miles from St. Paul. It is the capital of Manitoba, a province of the Dominion of Canada. The city is built upon a plain where the Assiniboine and Red rivers unite, and has a suburb south of the Assiniboine called *Fort Rouge*, and a more important suburb across the Red river called *St. Boniface*. Winnipeg is a well-built and prosperous city, with trade relations extending throughout the Canadian territory as far west as the Rocky Mountains. It was originally a Hudson Bay Company trading post, protected by the military garrison at Fort Garry, and was first settled by fur traders in the early part of the present century. A long and interesting frontier history is associated with the place. Nothing now remains of old Fort Garry but its stone portal. The Hudson Bay Company is still the most important mercantile concern in the city, conducting large wholesale and retail stores and a depot for furs. All the operations which this venerable corporation carries on in Manitoba, Assiniboia, Alberta, and the unorganized territories of the Canadian Northwest are directed by a chief commissioner in Winnipeg. Among the points of interest to tourists in the city may be mentioned the old Episcopal church, built by the Hudson

Bay Company, on the walls of which are many mural tablets in memory of the deceased officers of the company and the members of their families; the Parliament House, which is the Capitol of the Province; the residence of the Lieutenant-Governor; the Royal Infantry School and barracks; the cathedral and schools of St. Boniface; the Carleton and Manitoba Colleges; and the stores of the Hudson's Bay Company. The main street of the city is of unusual width, and is substantially built up for a greater part of its length of two miles with handsome buildings of yellow and red brick. One of the finest edifices in the city is the Dominion post-office building. Winnipeg is on the main line of the Canadian Pacific Railroad, and three branches of that road centre in the place. It manufactures flour, lumber, beer, furniture, machinery, and many other articles, and has an extensive jobbing trade. It is a genuine social, commercial, and political capital, and is evidently destined to keep pace in its growth with the development of the Canadian Northwest.



MINNESOTA DIVISION.

[Continued from Page 97.]

Muskoda (256 miles west of St. Paul; population, 125).—Muskoda is an Indian word, said to signify “the buffalo river.” The Buffalo river runs adjacent to the town, and is a beautiful, swiftly flowing stream, fifty feet wide, with high timbered bluffs on either side. It is well adapted to milling purposes, and abounds in black bass, pike and pickerel. *Lake Maria*, two and a half miles southeast of Muskoda, and a half-mile south of the Northern Pacific track, is a curiosity in itself, inasmuch as it is not known to contain a living thing, although every other lake in the region is full of fish. This lake covers 300 acres, and is twelve to fifteen feet deep. A beautiful forest surrounds it, and its shores are a gravelly beach. *Horseshoe Lake*, two and a half miles north of the Northern Pacific Railroad, covers 200 acres, and is well stocked with fish.

The soil of the surrounding country is rich, and well adapted to the production of cereals and grasses, the region being noted for wheat and stock raising. There are a number of springs here, from which pure water flows the year round. This neighborhood has an abundance of small game; geese, ducks, prairie chickens, snipe and rabbits being among the varieties. In former years the country was a favorite hunting ground of the Indians, and the region is strewn still with buffalo skulls and elk horns.

Glyndon (264 miles west of St. Paul; population, 450).—Glyndon lies in Clay county, four miles west of the Northern Pacific crossing of the North Buffalo river, and nine miles east of the Red River of the North. The town was founded in 1872, by the location here of the crossings of the Northern Pacific Railroad and the St. Paul, Minneapolis & Manitoba Railway. Here were the field headquarters of the Red river colony of the date named. Though set on a level prairie, Glyndon possesses some picturesqueness from its situation between the two branches of the Buffalo river, which flow to the west and north, and it shows the activities peculiar to the crossing town of two great railways. The present vast business of grain buying and warehousing in the Red river valley, was begun at Glyndon, and here was built the first grain elevator in the valley. The Barnes and Tenney farm, 4,000 acres in extent, is still one of the features of the locality, affording a specimen of the rich and productive agricultural lands which surround the town. In the village are six stores, lumber yard, three machinery depots, three hotels, two blacksmith shops, two churches, two graded schools, a large public hall, a weekly newspaper, and a grain elevator. Wheat-raising is the leading farm industry; but the stock and dairy interest is growing rapidly. *Tenny* and *Dilworth* are side tracks, with elevators for the storage and shipment of wheat.

The Red River of the North.—This stream is named to distinguish it from the Red river of Louisiana. It has two branches which meet at Wahpeton, the Bois de Sioux rising in Lake Traverse, and the Otter Tail rising in numerous lakes in northern Minnesota (lat. 46°); flows due north a distance of more than 200 miles, entering Lake Winnipeg in the northern part of the Province of Manitoba. The Red river marks the boundary between Minnesota and Dakota. Its elevation above the sea-level at Moorhead and Fargo is 807 feet. From these points

northward to Winnipeg the stream is navigable, even at a low stage of water, the shallow portions being dredged as occasion requires. Large quantities of wheat and merchandise were formerly transported by steamers to Moorhead, Fargo and Grand Forks. In 1882 the fleet numbered sixteen steamers, of a capacity of from 100 to 250 tons each, and twenty-one barges of thirty tons each; but the building of railways has destroyed this traffic.

This river is always subject to overflow in the spring. Its course being almost due north, the winter ice breaks up first along its southern length, and the frozen stream can not carry off the freed waters, which back up upon the ice, and deluge the fields to a greater or less extent. There can be no question but that the soil is benefited by the alluvial deposits which are thus spread over it; but it is often very inconvenient and discouraging to the settlers in Manitoba to be cut off from rail communication with the outer world by the overflow. The valley of the Red River of the North is from sixty to eighty miles wide, embracing an area of 67,000 square miles, at least eighty per cent. of which is composed of the very best farming land. The valley proper is a beautiful prairie, apparently as level as a garden bed, though in reality sloping gently and imperceptibly from both sides to the river, and slightly inclining to the north. The soil consists of a rich black loam, from three to seven feet in depth, which yields from twenty to twenty-five bushels of wheat per acre. The whole valley is well watered by nature, there being a large number of small rivers tributary to the Red, on either side, which perform the double office of supplying water and draining the land. The most important of these streams on the Minnesota side are, the Buffalo, Wild Rice, Marsh, Sand Hill, Red Lake, Middle, Tamarac, Two Rivers and Red Grass. From the west there are several rivers of considerable size, the principal being the Sheyenne,

Goose, Turtle, Forest, Park, Tongue and Pembina. All of these have branches, which penetrate the level prairie in every direction, affording an abundance of excellent pure water. The rivers are, for the most part, skirted with a good growth of oak, elm, soft maple, basswood, ash and box elder, which is ample for fuel purposes. Extensive pine lands are about the headwaters of most of the rivers on the Minnesota side.

On examining a map of the Red river basin, the fact is apparent that most of the tributary streams have their sources in a higher latitude than their mouths. This peculiarity extends as far north as the Saskatchewan, in Manitoba, and suggests that, originally, the slope of the country was to the south, and that the waters of this immense area were drained by a large stream which occupied the now comparatively dry valley of the Minnesota. The theory has been advanced by scientific men, that there has been a subsidence along the valley of the Red river, having its maximum below Lake Winnipeg, together with a possible upheaval at the headwaters of the Minnesota river.

Moorhead (276 miles northwest of St. Paul; population, 4,000).—This well-built city, in lat. $46^{\circ} 51' N.$, long. $96^{\circ} 50' W.$, and 840 feet above the level of the sea, is the last place on the line of the Northern Pacific Railroad in the State of Minnesota, distant 251 miles from Duluth, on Lake Superior, and was named in honor of W. G. Moorhead, of Pennsylvania, formerly a Director of the Northern Pacific road. It is the county seat of Clay county, advantageously situated on the east side of the Red River of the North, immediately opposite the bustling city of Fargo, Dak., with which it is in communication by means of bridges which span the stream. Moorhead has fine business blocks, flouring mills, grain elevators, a brewery, a driving park, fair grounds, a daily and two weekly newspapers. Its chief hotel—the Grand Pacific—was built at

a cost of \$160,000. Its architecture is in pure Queen Anne style, the interior fittings and decorations being in keeping. In addition to this, there is another first-class brick hotel, three stories in height. Moorhead schools afford superior advantages. Besides the public schools, there is an academy, under the control of the Episcopal church, which is known as the "Bishop Whipple School," in honor of the Bishop of the diocese of Minnesota, and this establishment offers a classical as well as business education. The churches, represented by all the leading denominations, have commodious edifices. A number of miscellaneous manufacturing enterprises already exist, among which may be named an iron foundry and a planing mill.

Moorhead is the crossing point of two trunk railroads, the Northern Pacific and the St. Paul, Minneapolis & Manitoba. Besides these two great railways, there are also the Moorhead & Northern, from Moorhead to Fisher's Landing, Minn. The principal product of the country is wheat.



NORTH DAKOTA.

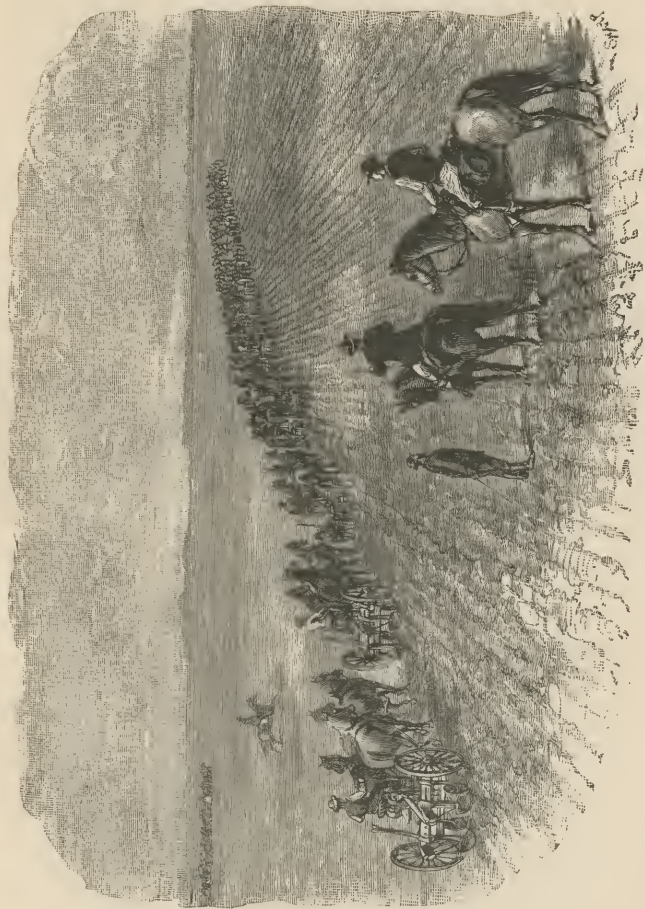
The great territory of Dakota comprised 153,000 square miles, and was exceeded in size among the political divisions of the United States only by Texas and California. In 1889 Congress divided the Territory into North Dakota and South Dakota, and provided for the admission of both divisions, as States of the Union, in October of that year. North Dakota comprises about one-half of the original area of the Territory, and is separated from its neighbor by the Seventh Standard Parallel, which runs a little south of the forty-sixth parallel of latitude. It had in 1889 about 250,000 people. In 1870 the total population of the Territory was 14,000, and was nearly all in the extreme southern part. The settlement of North Dakota did not begin until the Northern Pacific Railroad crossed the Red River of the North in 1871. The success of wheat farming on the level prairies of the Red river valley and the rolling prairies further west, attracted a large emigration in the succeeding decade. The country is now fairly well settled as far west as the James river valley and Devil's Lake, and sparsely settled to and beyond the Missouri river. It still offers for settlement large areas of vacant land, with a highly productive soil.

The glory of this great belt of country is its fertile soil, and a climate perfectly adapted to the production of cereals. This region already plays an important part in the wheat-growing area of the United States, a yield of twenty bushels per acre being usual, and twenty-five bushels not an extraordinary crop.

The general character of the land is that of a rolling prairie, interspersed with broken butte formations west of the Missouri river. The entire country is fairly watered by the Red River of the North, the Sheyenne, the Dakota or James, the Missouri and other streams, with their many tributaries, as well as by numerous lakes in the northern and eastern portions, some of which are of great size and beauty. Good well water is everywhere found by digging to a reasonable depth.

In 1880, just six years after the capacity of the soil was first tested in the valley of the Red river, the yield of wheat along the line of the railroad was about 3,000,000. In 1881, so great was the increased acreage, there was a product of 9,000,000, and in 1882 the crop was 12,000,000. Since then it has continued to increase yearly. The wheat of North Dakota has no equal for milling purposes. It is preferred by the great millers at Minneapolis and elsewhere throughout the United States to any other variety, being best adapted to the modern methods of making flour. It is raised from seed known as Scotch Fife, and, when clean and of full weight, is graded in markets as "No. 1 hard," bringing an excess of ten or fifteen cents per bushel over the soft varieties. Under the new process of manufacture it has been demonstrated that flour produced from hard spring wheat is a far more profitable commodity than that made from winter wheat. For example, bakers are able to get 250 pounds of bread from a barrel of flour made from the hard spring wheat, and only 225 pounds from the same quantity of flour which is ground out of winter wheat.

Prairie Farming.—The cultivation of the soil in a prairie country is, in some of its processes, very different from the methods pursued elsewhere, and has given rise to at least two new technical terms, which are known as "breaking" and "backsetting." Premising that the prairie soil is free from



Plowing on a Bonanza F.^m.

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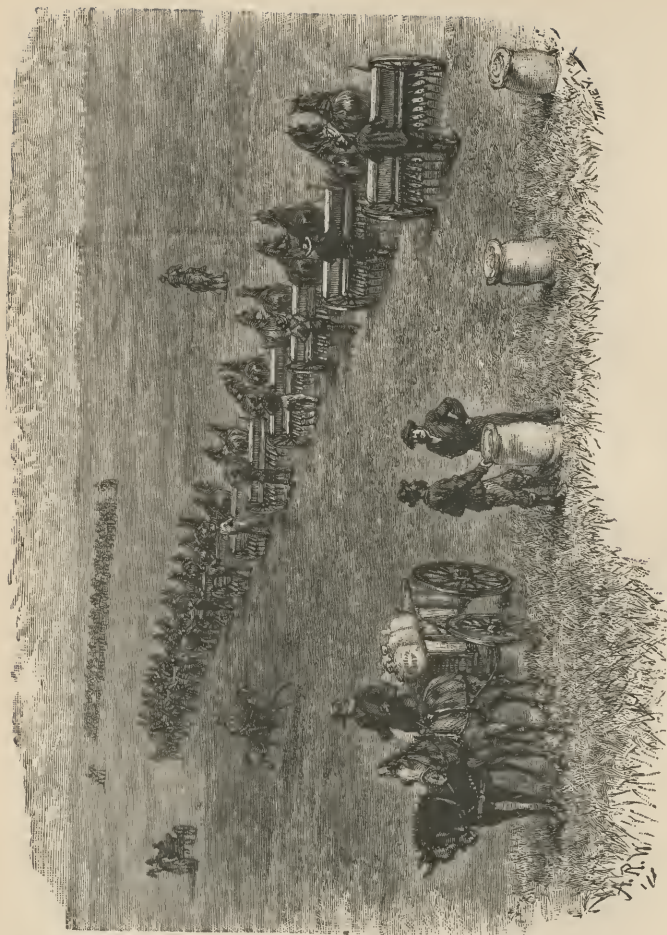
roots, vines or other obstructions, and that the virgin sod is turned from the mould-board like a roll of ribbon from one end of a field to the other, a fact is presented which farmers who are accustomed to plow among stones, stumps and roots, can scarcely grasp. But the sod thus turned is so knit together by the sturdy rootlets of the rank prairie grass that a clod of large size will not fall apart even though it be suspended in mid-air. To "break" or plow this mat, therefore, it is necessary to cut it, not only at the width of the furrow it is desired to turn, but underneath the sod at any thickness or depth as well. An ordinary plow could not endure the strain of breaking prairie soil, so plows called breakers have been constructed to do this special work.

Usually, three horses abreast are employed, with a thin steel, circular coulter, commonly called a "rolling coulter," to distinguish it from the old-fashioned stationary coulter, beveled and sharpened for a few inches above the point of the plow to which it is attached. A furrow is broken sixteen inches wide and three inches thick, and the sod, as a rule, is completely reversed or turned over. Each team is expected to break sixteen miles of sod, sixteen inches wide and three inches thick, for a day's task. By cutting the sod only three inches thick, the roots of the grasses, under the action of heat and moisture, rapidly decay. The breaking season begins about the 1st of May, and ends about the 1st of July. The wages of men employed at this kind of work are \$20 per month and board. The estimated cost of breaking is \$2.75 per acre, which includes a proportionate outlay for implements, labor and supplies. But the ground once broken is ready for continued cultivation, and is regarded as having added the cost of the work to its permanent value. The "broken" land is now with propriety termed a farm.

"Backsetting" begins about the 1st of July, just after breaking is finished, or immediately after the grass becomes

too high, or the sod too dry, to continue breaking with profit. This process consists in following the furrows of the breaking, and turning the sod back, with about three inches of the soil. In doing this work, it is usual to begin where the breaking was begun, and when the sod has become disintegrated, and the vegetation practically decomposed. Each plow, worked by two horses or mules, will "backset" about two and a half acres per day, turning furrows the width of the sod. The plows have a rolling coulter, in order that the furrows may be uniform and clean, whether the sods have grown together at their edges or not. The "backsetting" having been done, there only remains one other operation to fit the new ground for the next season's crop. This is cross-plowing (plowing crosswise, or across the breaking or backsetting), or so-called fall plowing, which is entered upon as soon as the threshing is over, or on damp days during the threshing season. A team of two mules will accomplish as much cross-plowing in a day as was done in backsetting,—two and a half acres. The wages for backsetting and fall plowing are also \$20 per month and board, or \$1.50 per acre to hire the work done.

The virgin soil, having been broken, backset and cross-plowed, is now ready for seeding. This, ordinarily, begins from about the middle of March to the 1st of April, and is often not finished until the 1st of May. Instead of the old style of hand sowing, a broadcast seeder is used, one of which machines will sow twelve acres a day. Fifty-two quarts of clean Scotch Fife seed wheat are used to the acre. The cost of sowing the ground is seventy-five cents per acre, and the average cost of the seed wheat, upon the larger farms, has been \$1.50 per acre. Seeding having been carefully attended to, the harrowing, or covering process, demands close attention. The grain must be evenly covered, at a uniform depth, to ensure a good stand, healthy growth and even maturity. On the so-called bonanza and systematically conducted farms.



Seeding on a Bonanza Farm.
[By permission of Harper & Brothers, New York.]

one pair of harrows follows each seeder, going over the ground from one to five times, according to the condition of the soil, until it is well pulverized, the seed evenly covered, and the surface reasonably smooth.

Harvesting on the large farms begins about the 1st of August. Self-binding harvesters, one to every 160 acres, are employed, and one driver and two shockers are required to each machine. The wages during the harvest season are \$1.50 to \$2 per day and board.

The work on a wheat farm only occupies a few weeks in the year, and the business is attractive on that account, apart from the profits. After the plowing and seeding are finished, the farmer can look on, and see Nature grow and ripen his crop, until the harvest time comes. By the end of August the year's work is practically done. Expensive farm buildings are not required; for the grain may be threshed in the fields, and hauled immediately to the nearest railroad station. Very little fencing is needed on a wheat farm. Frequently the cultivated portion is left unenclosed, and a barbed wire fence is put around the pasture lot to secure the cattle. The outlay for improvements is comparatively light; and, as the country is open and ready for the plow, the settler makes a crop the first year, and is tolerably independent from the start. A village, with school-house, postoffice, stores and churches, springs up, as if by magic, in the neighborhood of his home, and he suffers few of the privations which used to attend frontier life.

The extent of the Northwestern wheat region can not now be estimated, nor its future productiveness foreseen. It includes nearly the whole of North and South Dakota east of the Missouri river, and a considerable portion of the western half of the Territory. The wheat-growing industry has been steadily moving west for more than half a century, and the rich lands of the Red River Valley of the North, and the vast rolling

plains of Dakota and the Pacific Northwest, must ultimately be the permanent wheat field of the continent.

Cost of Farming New Land—The expense of preparing prairie soil is about as follows:

	PER ACRE.
Breaking.....	\$2 50
Backsetting	1 50
Seed (taking one year with another).....	1 50
Putting in crop.....	1 00
Cutting, binding and shocking.....	2 00
Threshing and marketing.....	2 50
	<hr/>
	\$11 00

The cost of a crop from stubble ground, after the farm is opened, in the second and succeeding years, would be as follows :

	PER ACRE.
Fall plowing	\$1 75
Seed wheat.....	1 50
Putting in crop.....	50
Cutting, binding and shocking.....	2 00
Threshing and marketing.....	2 50
	<hr/>
	\$8 25

These estimates are on the basis of hiring the labor and machinery. If a farmer owns his own team and implements, he can reduce the cost about \$2 per acre. The expense of the buildings, teams, machinery and household effects necessary to open wheat lands and keep them under cultivation is \$10 per acre, and this is called the permanent working capital. From this it is evident that the outlay for raising the first crop on a prairie farm is \$20 per acre.

The ordinary farmer of 160 acres generally puts about \$3 per acre into a house, \$2 per acre into a stable, and provides himself with two spans of mules or horses, one gang plow, one seeder, two pairs of harrows, one mowing machine, one self-binder and one wagon, hiring an itinerant thresher at a fixed price per bushel. The new-comer usually does not care to



Harrowing on a Bonanza Farm.
[By permission of Harper & Brothers, New York.]

break up his entire 160 acres the first year, but gets his farm in condition gradually, working part of the time for his older neighbors. In this way he earns a living for himself and family until his own crop is harvested.

The agricultural products include the whole range of those common to the Northern States. Oats and barley yield largely; all root crops flourish. Dairying is not carried on to a great extent. The country, however, is well adapted to dairy farms, as the native grasses of North Dakota, particularly the blue-joint and high prairie grass, are as nutritious as the cultivated grasses of the Middle and Eastern States. Stock-raising is profitable. The tendency is more and more towards mixed farming, raising cattle and sheep, as well as wheat and other small grains.

One of the principal factors in profitable wheat culture is easy and cheap transportation. The farmer of northern Dakota is amply provided for in this respect. He has the choice of two outlets for his grain and other products. It is only 250 miles from the Red river to Lake Superior, whence wheat is shipped via Duluth and Superior City to the markets of Buffalo and New York, while the immense mills at the Falls of St. Anthony, in Minneapolis, create a demand which has never yet been fully satisfied. The uniform rate of freight for carrying wheat adopted by the railroad gives every shipping point on the line equal advantages in the cost of getting grain to market.

Philological and Historical.—Dakota is named after the great Indian nation who once claimed a large portion of the Northwest for their own. The Northern Indians are divided into two great families: the Algonquins, which include the Chippeways, or Ojibways, the Ottawas, the Crees and a host of others, and the Dakotas, or Sioux, who are divided into many smaller bodies, all speaking the Dakota language. The only difference is, that the Dakotas east of the Missouri use a

D, where those west use an L. For example, those east say "codah" (friend); those west, "colah" (friend). Those east call themselves Dakotas; those west, Lakotas. The Lissetons, Wahpetons and Mandawatons, who lived in Minnesota, were called Santees. The Yanktons, Yanctonais, Brulé, Cuthead, Ogallas, Two Kettles, and a score of other bands are Sioux. Nicolet, Catlin and others say that they are one of the finest specimens of wild men on the earth. For a generation they were our devoted friends. Our first fight with the Sioux was near Fort Laramie. Some Mormons who were crossing the plains to Utah had a lame ox, which they turned loose to die, and a camp of Indians found and killed it, and made a feast. The Mormons saw this in the distance, and, thinking they could secure payment, stopped at Fort Laramie, and told the officer in command that the Indians had stolen their ox. The officer, who was half drunk, took some soldiers, went to the Indian village, and demanded the ox. The Indians said: "We thought the white men had turned them loose to die. We have eaten the ox; if the white men want pay for him, you shall have it out of our next annuity." "No," said the drunken officer; "I want the ox, and, if you do not return him, I will fire upon you." He did fire on them, and killed a chief. The Indians rallied, and exterminated the command. That war cost one million of dollars.

FARGO & SOUTHWESTERN BRANCH RAILROAD.

FROM FARGO TO EDGELEY.—DISTANCE 109 MILES.

This important branch of the Northern Pacific country has recently opened to settlement one of the finest agricultural regions in Dakota. The road now extends to Edgeley, 21 miles west of the James river, and 109 miles from Fargo, its general course being southwest, as indicated by its name. The country traversed is for the first forty miles level prairie, then becomes slightly rolling, and the uneven character of the ground increases after the Sheyenne river is crossed at Lisbon. Between Lisbon and La Moure the drainage for the most part is into numerous small lakes and ponds. The whole country is of almost uniform fertility.

Horace (11 miles from Fargo) is a small station at the first crossing of the Sheyenne river. The course of this stream across the prairie is marked by a belt of timber. *Davenport* (19 miles from Fargo; population, 100), a branch of the St. Paul, Minneapolis & Manitoba Railway, running from Wahpeton to Mayville, crosses the Southwestern Road at this place. *Leonard* is an unimportant station. *Sheldon* (41 miles from Fargo; population, 500).—This town is the trading centre for a considerable extent of country, which is fast filling up with a thrifty farming population. It has numerous stores and shops, two churches and a school-house. *Buttsville* is a small village.

Lisbon (56 miles from Fargo; population, 2,000).—The city is very pleasantly situated on the Sheyenne river, being sheltered by forests and towering bluffs. Lisbon was first started in 1881, when few people had settled in Ransom county, and, although for some time it had no railroad facilities nearer than thirty-five miles, its growth has been remarkable. From a mere speck in the valley, it has risen to a thriving city of 2,000 inhabitants, with a full city government. Educational interests have been well looked after. There are five church organizations, and three weekly newspapers. There are grain warehouses, an elevator, two banks, two brick yards, a machine shop and foundry, four hotels, and all the stores and shops which are needed to carry on the large trade of the rich agricultural region of which Lisbon is the centre. The soil, for at least fifty miles in every direction from Lisbon, is a black, sandy loam, with a clay subsoil, and for the production of wheat, oats, corn, barley, flax, peas, root crops and vegetables generally, is not excelled. The average product per acre of wheat is twenty-two bushels; of oats, fifty bushels. A flouring mill, driven by water-power, is in operation, and several other water-powers near the city invite the establishment of manufacturing enterprises.

Ransom county, of which Lisbon is the county seat, is one of the finest agricultural counties in North Dakota. A larger proportion of the wheat raised in this county in 1884 graded No. 1 than of any other county in the Territory. Indian corn is successfully cultivated, and frequently yields 150 bushels of ears to the acre. *Marshall* and *Verona* are unimportant stations between Lisbon and La Moure. Considerable quantities of wheat are shipped from these stations.

La Moure (88 miles from Fargo, and 365 miles from St. Paul; population, 1,000), county seat of La Moure county, is located at the crossing of the Fargo & Southwestern Branch

and the James River Valley Railroad; is situated on the James river, from 1,400 to 1,500 feet above the sea-level, with a gradual slope to the river, affording fine drainage, the surrounding country being chiefly a beautiful, slightly undulating prairie, which has beneath several feet of black loam, a subsoil of silicious marl, with a heavy clay beneath for a considerable depth. Such a soil is admirably adapted to the production of wheat.

La Moure has three hotels, one of them a handsome brick structure costing \$25,000, two banks, a newspaper, flour mill, grain elevator, twenty stores, three churches, and a large public school building. The James river is navigable to this point, and steamers occasionally come up from Columbia. The town was first established in 1883, and has had a rapid, substantial growth. The railroad will finally be extended to some point on the Missouri. The James River Valley Railroad, following the course of the James river, was opened from Jamestown, forty-nine miles north of La Moure, to La Moure in 1885. It is being extended southward to connect with the railway system of southern Dakota.

Farming in the Vicinity of La Moure.—The soil of the middle James river valley, of which La Moure is the commercial centre, is peculiarly suitable for the growth of all cereal and root crops. The No. 1 hard wheat grown here has made itself famous in the markets of the world, and has been shown, by the official analysis of the Agricultural Department in Washington, to surpass all the wheats grown in any other part of the United States in weight, nutritive qualities, etc. It is grown entirely from Saskatchewan Fife, Scotch Fife, and other hard varieties of seed; oats grow most abundantly, and the varieties most generally used are the White Russian, White Belgian, Prize Cluster, and Welcome. One yield, well authenticated, ran in 1884 up to 119 bushels to the acre. Magnifi-

cent crops of barley are raised, of the Chevalier, Six-Rowed and other fine varieties. Chevalier barley, grown ten miles from the town of La Moure, has averaged sixty bushels to the acre. Farmers have also lately turned their attention to raising corn, and good crops were harvested in excellent condition in 1884. Flax, millet, etc., are also being grown here with great success. As to roots, all kinds grow here in profusion; turnips, mangel-wurzel, beets, potatoes, and all kinds of garden vegetables. For size, weight, cleanness, uniformity, entire freedom from worms, etc., the potatoes of this country can hardly be equaled, certainly not surpassed, throughout the United States. Cattle thrive and fatten themselves for market on their prairie pasturage. The local meat markets are supplied by the neighboring farmers with excellent beef, and none of it is specially fattened for the purpose, or fed upon grain. *Berlin* and *Medbury* are small grain-shipping stations in the midst of a fine fertile country.

Edgeley (109 miles from Fargo) is the present terminus of the Fargo & Southwestern Railroad, and is the northern terminus of one of the Dakota divisions of the Chicago, Milwaukee & St. Paul road. It is a new town, established in 1887, and has a population of about 500. The surrounding country is well settled with a thrifty population of farmers engaged in the raising of grain and stock. Stages run from Edgeley to Napoleon, the county seat of Logan county, about 40 miles west.

DAKOTA DIVISION.

FARGO TO MANDAN.--DISTANCE, 199 MILES.

Fargo (277 miles west of St. Paul; population, 10,000).—This city, the county seat of Cass county, Dakota, 242 miles west of Lake Superior, is situated on the western bank of the Red river, which, though a very tortuous stream, is the constituted boundary line between the State of Minnesota and Dakota Territory. This is the largest city in North Dakota, and is often called the metropolis of the Red river valley. The importance of Fargo is largely due to the railroad system of which it is a central point. The arrivals and departures of passenger trains number twenty-six daily. There is a rail connection east, west and southwest by the Northern Pacific line, another northwest and southeast by the lines of the St. Paul, Minneapolis & Manitoba, and south by the Fargo Southern, operated by the Chicago, Milwaukee & St. Paul Company, while the Moorhead Northern affords a northerly route on the eastern bank of the Red river. The steam navigation of the river is not as important a feature in the traffic movement of the town as it was a few years ago, but is still of considerable value, furnishing cheap transportation to the farmers in the immediate vicinity of the river banks. The growth of Fargo began when the Northern Pacific reached the Red river, late in 1871; but it was very slow until the large wheat firms in the vicinity, opened as a rather hazardous ex-

periment by Oliver Dalrymple, had demonstrated the remarkable fertility and great agricultural value of the Red river valley. Fargo is a lively type of a new Western town, with all the modern improvements. Manufactories have been established. There are many hotels, twelve churches, three daily newspapers, three public halls, an opera house, two other theatres, a court house, a high school, a driving park, fair grounds, etc., and also many wholesale houses, comprising dry goods, drugs, provisions, clothing, hardware, lumber and agricultural implements.

The banks of Fargo at present number four, two of which are organized under the National Banking Act, and two as private banks. The Northern Pacific Railroad has here a round-house, repair shops and rail mills. Three planing mills, two breweries, costing respectively \$100,000, and a flouring mill, with a capacity of over 400 barrels of flour daily, give evidence of the progress which the city has made. The Northern Pacific Elevator Company has its headquarters in Fargo, owning over fifty elevators and as many more warehouses scattered over Dakota and Northern Minnesota on the lines of the Northern Pacific and Manitoba Railroads. Three large elevators, with a capacity of over half a million bushels, are in operation. The principal streets and the larger business houses are lighted by electricity, and a tower, 200 feet in height, carries at its apex 20,000 candle-power lights. Fargo has a well-organized and fully equipped fire department, with five companies. The educational facilities of the place are exceptionally good. The High School, situated on Adams Avenue, cost \$40,000. Several ward schools also have been established. The water supply is drawn from works constructed on the Holly system. The capacity of the works is 3,000,000 gallons per diem. The city supplies farmers within a radius of at least fifty miles. *Canfield*, eight miles west of Fargo, and *Haggart*, six miles, are side-track stations.

Mapleton (289 miles west of St. Paul; population, 500).—This town possesses a steam elevator and warehouses, three hotels, one hall, a church, general stores, and one of the finest and best appearing school-houses in North Dakota. It is in the midst of a fertile region.

Greene (292 miles west of St. Paul).—This station is in the midst of the great Bonanza farm, formerly known as the Williams farm, which is noted as having given its proprietors a profit of nearly \$60,000 in two wheat crops. Mr. Greene has the handsomest grove of young trees along the line of the Northern Pacific Railroad. Three miles west of Greene is *Dalrymple Station*, the shipping point of a farm 20,000 acres in extent, which is owned by Mr. Oliver Dalrymple, the famous wheat grower, after whom the place is named.

Bonanza Farming.—A peculiarity of wheat-growing in Dakota is the grand scale upon which it is frequently conducted. Prior to 1875 it was declared, upon high army authority, that beyond the Red river the country was not susceptible of cultivation; in going west from that stream to the James, there was some fair land, but much that was useless; and thence to the Missouri there was little or no available area, except the narrow valleys of the small streams; in fine, with the exceptions named, that the country was practically worthless. This sweeping statement gained wide publicity, and caused much hesitation with respect to undertaking the cultivation of the Dakota prairies. But Messrs. George W. Cass and Benjamin P. Cheney, both heavy capitalists, and Directors in the railroad company, having faith in the fertility of the land, determined to test its capacity for wheat production. They first bought, near the site of the present town of Casselton, 7,680 acres of land from the railroad company, and then secured the intervening government sections with Indian scrip, thus obtaining compact farming grounds of enormous area. Mr. Oliver Dalrymple, an experienced wheat farmer, was en-



Harvesting on a Bonanza Farm.

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gaged to manage the property; and in June, 1875, he turned his first furrow, plowing 1,280 acres, and harvested his first crop in 1876. The acreage was increased in each succeeding year, until in 1882 there were not less than 27,000 acres under cultivation. This immense farm does not lie in one body. One part of it, known as the Grandin farm, is situated in Traill county, thirty miles north of Casselton. The entire area embraced by the three tracts is 75,000 acres. Farming operations conducted on so gigantic a scale, seem almost incredible to persons who are only familiar with the methods of the older and more settled States. In managing the affairs of a "bonanza farm" the most rigorous system is employed, and the cost of cultivation averages about \$1 per acre less than on smaller estates. The plan adopted by Mr. Dalrymple and all the other "bonanza" men is to divide the land into tracts of 6,000 acres each, and these are subdivided into farms of 2,000 acres each. Over each 6,000 acres a superintendent is placed, with a bookkeeper, headquarters building, and a storehouse for supplies. Each subdivision of 2,000 acres is under the charge of a foreman, and is provided with its own set of buildings, comprising boarding houses for the hands, stables, a granary, a machinery hall and a blacksmith's shop, all connected with the superintendent's office by telephone. Supplies of every description are issued only upon requisition to the several divisions. Tools and machinery are bought by the car load from manufacturers; farm animals are procured at St. Louis and other principal markets; stores of every description for feeding the army of laborers, are purchased at wholesale; and the result of the thorough system and intelligent economy in every department is found in the fact that wheat is raised and delivered at the railroad at a cost varying little from thirty-five cents per bushel. The net profit on a bushel of wheat is seldom less than ten cents, and the average yield per acre may safely be put at fifteen bushels, although it often exceeds that quantity.

On this great farm, or, rather, combination of farms,—the 20,000 acre tract at Casselton,—400 men are employed in harvesting, and 500 to 600 in threshing. Two hundred and fifty pairs of horses or mules are used, 200 gang plows, 115 self-binding reapers, and twenty steam threshers. About the 1st of August the harvester is heard throughout the length and breadth of the land, and those who have witnessed the operation of securing the golden grain will never forget the scene. The sight of the immense wheat fields, stretching away farther than the eye can reach, in one unbroken sea with golden waves, is in itself a grand one. One writer describes the long procession of reaping machines as moving like batteries of artillery, formed *en échelon* against the thick-set ranks of grain. Each machine is drawn by three mules or horses, and with each gang there is a superintendent, who rides along on horseback, and directs the operations of the drivers. There are also mounted repairers, who carry with them the tools for repairing any break or disarrangement of the machinery. When a machine fails to work, one of the repairers is instantly beside it, and, dismounting, remedies the defect in a trice, unless it prove to be serious. Thus the reaping goes on with the utmost order and the best effect. Traveling in line together, these 115 reaping machines would cut a swath one-fifth of a mile in width, and lay low twenty miles of grain in a swath of that great size in the course of a single day. "Carleton," a correspondent of the Chicago *Tribune*, described the reaping scene thus :

"Just think of a sea of wheat containing twenty square miles,—13,000 acres,—rich, ripe, golden,—the winds rippling over it. As far as the eye can see there is the same golden russet hue. Far away on the horizon you behold an army sweeping along in grand procession. Riding on to meet it, you see a major-general on horseback,—the superintendent; two brigadiers on horseback,—repairers. No swords flash in the sunlight; but their weapons are monkey-wrenches and

hammers. No brass band, no drum-beat or shrill note of the fife; but the army moves on—a solid phalanx of twenty-four self-binding reapers—to the music of its own machinery. At one sweep, in a twinkling, a swath of 192 feet has been cut and bound—the reapers tossing the bundles almost disdainfully into the air—each binder doing the work of six men.”

Casselton (297 miles west of St. Paul; population, 1,500) is a thriving, hustling town, the situation of which is very advantageous, being in the midst of one of the finest wheat-raising districts in Dakota. The first house at Casselton was built by the railroad company in 1877, and during that winter there were only four inhabitants in the place. In the spring of 1878 the first business house was put up. Improvements have been going on ever since, and the growth of the town has been steady. It has an organized fire department. The business of Casselton is represented by nine mercantile concerns, six hotels—one with accommodations for 200 guests—two banks, lumber yard and two wheelwright shops. There are two elevators, with a capacity of 200,000 bushels, and a large and well-equipped flouring mill, two public halls, two newspapers and four churches. The public schools are efficiently organized under the graded system, and are in successful operation.

The farmers of Casselton, in speaking of the excellence of their opportunities, say that they do not suffer materially, either in wet or dry seasons. The farms lie just high enough to be secure from the overflow of the Red river. Good well water can be obtained at a depth of twenty-two to twenty-five feet. There are three artesian wells in the vicinity, one being six and a half miles south of this point, another nine miles north, and the third at the Casselton mill.

Wheatland (303 miles west of St. Paul; population, 500).—This town is established upon the dividing ridge that separates the magnificent black soil of the Red river valley from the undulating prairie beyond toward the Sheyenne, and is sup-

plied with general stores, three hotels, a school-house, which is also used for church purposes, a newspaper, and an elevator of 60,000 bushels capacity. It is the trading point for numerous small farmers, and also the headquarters for several large bonanza farm interests in the vicinity.

Buffalo (313 miles west of St. Paul; population, 500).—Buffalo is an incorporated village, and the trading point for farmers in its vicinity, the exports being principally wheat, oats and potatoes. It has an altitude of 575 feet above the level of Fargo. The surrounding country is an even, unbroken prairie, as far as the eye can reach. The first settler came to Buffalo in 1878, and took a claim about one-half mile north of the present village. The town was laid out in May, 1878, and the first house was occupied as a store, postoffice and dwelling. The same year the railroad depot and a blacksmith shop were erected. There are an elevator, with a capacity of 75,000 bushels; general stores, three hotels and a number of various mechanics' shops.

North of Buffalo, and adjacent thereto, will be found the bonanza farms of Ex-General Manager Sargent of the Northern Pacific; Colonel Rich, of Michigan; T. D. Platt, and others.

Tower City (319 miles west of St. Paul; population, 800).—This town, named in honor of Charlemagne Tower, of Philadelphia, Pa., a former Director of the Northern Pacific Railroad, is on the western edge of Cass county. It was laid out in April, 1879, by George H. Ellsbury, when there was no settlement nearer than Valley City, sixteen miles westward. The growth of the town has not been rapid; but it has been, nevertheless, steady and healthy. The population is chiefly made up of Americans, Canadians, Germans and a few Scandinavians. The soil of the surrounding country is the rich, dark vegetable loam which characterizes Cass county. Tower City has church organizations, three of which, the Baptist, Presbyterian and Methodist, have substantial buildings; a school-

house costing \$6,000, besides three hotels, bank buildings, substantial business blocks, handsome residences, a public hall, a newspaper, a steam elevator and a flouring mill. The Tower University is a creditable young institution managed by the Baptist denomination.

An Artesian Well.—The Northern Pacific Railroad, in boring a well at Tower City, struck a vein of water at a depth of 670 feet. The water is soft, not very cold, sweet and pleasant to the taste, and its medicinal properties are said to be similar to those of the springs at Saratoga. Many persons who use the water say that it works on the kidneys in a beneficial manner, and tones up the entire system. The town has two small parks,—the Ellsbury, which is situated on the north side of the railroad, bordering on Michigan Avenue; and the Villard, just south of the railroad depot. In the centre of the latter park is a fountain, supplied with water from the artesian well. On the arrival of a train, the travelers usually make a rush for the fountain, for the purpose of testing the medicinal water.

Oriska (324 miles west of St. Paul; population, 200).—This place, situated midway between Fargo and Jamestown, is surrounded by thousands of acres of fertile prairie, dotted with many lakes of pure water, and a more desirable farming and stock country could scarcely be found. The soil is of first grade and of great depth, with a clay subsoil.

Valley City (335 miles west of St. Paul; population, 2,000) is the county seat of Barnes county. It lies in a deep valley surrounded by an amphitheatre of hills, which rise to a height of 125 feet or more on every side of it. Circling round the valley is the beautiful Sheyenne river, a stream at this point fully seventy-five feet in width, running over gravelly beds, and fringed with sturdy oaks, elms and other woods. The Northern Pacific Railroad enters the town on its eastern side by a winding passage through the bluffs for a distance of

several miles, and emerges on the steepest part of the line between Fargo and the Missouri river. The town is furnished with a fine water-power by a fall of ten feet in the river within the limits of the city proper. The Sheyenne river, to which the town owes much of its prosperity, is one of the few important rivers in Dakota. It rises in the northern part of the Territory, in the vicinity of Devil's Lake, and describes a tortuous course of nearly 100 miles before it reaches Valley City. Its waters are generally clear, and abound with fish, and its banks are skirted with timber. Along its shores in former years roamed the savage Sioux, and many a bloody conflict has taken place between warrior tribes within sight of its wooded slopes. More than twenty years have passed away since the Indians were driven across the Missouri, and the only mementoes of the red men to be found to-day are the bones of the buffalo, which lie bleaching everywhere over these Dakota prairies. The town is finely provided with wide streets and avenues, and the business and residence structures are of attractive appearance. A large proportion of the population are Americans; but there are also many prosperous, enterprising Scandinavians and Germans. Among the public buildings are an imposing court house which cost \$35,000, having ample accommodations, not only for the county officers, but for the United States Court; a brick jail built at an expense of \$10,000; one large brick hotel costing over \$30,000, besides two smaller frame ones; an opera house, four churches, a handsome public school house of brick; three national banks built of brick,—the edifice occupied by the First National having been erected at a cost of \$15,000. There are four newspapers, three weekly and one daily. The city has two brick yards, also several lumber and coal yards, and a large flour mill operated by power from the Sheyenne river. *Hobart*, seven miles westward, is a small station, with an elevator for handling wheat.

Sanborn (346 miles west of St. Paul; population, 600).—In 1880 there was scarcely any population in the neighborhood of Sanborn; but now there is a good town here, with a great deal of land occupied and cultivated. About 300,000 bushels of wheat are shipped annually. Sanborn has two newspapers, two public halls, two hotels, four churches, three elevators, a school, one bank, several large business establishments, including hardware and agricultural implement stores, harness shops, etc. The products are wheat, oats and barley. The Sanborn, Cooperstown & Turtle Mountain Railroad leaves the main line at this place.



SANBORN, COOPERSTOWN & TURTLE MOUNTAIN BRANCH.

FROM SANBORN TO COOPERSTOWN.—DISTANCE, 36 MILES.

This branch is completed to Cooperstown, 36 miles north of Sanborn. It traverses a remarkably rich prairie country for its entire length. The surface of the country grows more and more rolling as the train advances northward, until in the vicinity of Cooperstown it is diversified with numerous ridges of hills. The soil on these hills, except on their crests, where it is somewhat stony, is as valuable for farming as the level stretches between them. The way stations on the road are *Odell*, which has a grain elevator; *Dazey*, a growing village with three stores, two hotels and three elevators; and *Hannaford*, an unimportant station.

Cooperstown (382 miles from St. Paul; population, 600) is the county seat of Griggs county. The town was established in the spring of 1883, and in the fall of the same year the railroad from Sanborn was completed, making it a terminal point and an important centre of trade. Cooperstown has a court house built of red brick at a cost of \$30,000, which is one of the most substantial and imposing public edifices in Dakota. Trade is represented by three general merchandise stores, two hardware, two groceries, a drug store, two agricultural implement establishments and a number of mechanic shops.

There are also three hotels, three banks, a large public school house and a weekly newspaper. Griggs county is one of the best parts of Dakota for mixed farming. A large part of its surface is admirably adapted for wheat culture, and there are numerous lakes and ponds, bordered by meadow lands and excellent pasturage tracts, which give good facilities for stock-raising. The Sheyenne river runs through the eastern part of the county, affording several good mill powers, and having on its banks numerous groves of timber, which are of great value in giving the farmers cheap fuel. The lands of the Cooper Brothers, who are among the largest land-owners in Dakota, are mostly all in Griggs county, of which 6,000 acres are under cultivation, the cultivated tracts lying in the vicinity of Cooperstown.



DAKOTA DIVISION.—MAIN LINE.

[Continued from page 134.]

Eckelson (350 miles west of St. Paul) is a new town, situated on Lake Eckelson, a lovely sheet of water. The land is high and rolling, the soil as rich as any in the region, and by virtue of the lake, which is thirty feet below the level of the town, a natural and perfect system of drainage is provided. Lake Eckelson—seven miles long and three-quarters of a mile wide—affords excellent opportunities for bathing, fishing and boating. There are two general stores, an elevator, depot, hotel, and other business establishments.

Spiritwood (359 miles west of St. Paul; population, 100).—Spiritwood is in the midst of a fine grain-growing country, and has several large farms around it, making the town an important shipping point. The village contains one store, one school, and an elevator with 50,000 bushels capacity. Spiritwood Lake, ten miles distant, is a very beautiful spot, and its waters teem with pickerel, bass, perch, and some smaller kinds of fish. Ducks, geese and prairie chickens also abound in this vicinity. The waters of this lake are fresh, while those of two neighboring lakes are strongly impregnated with alkaline salts.

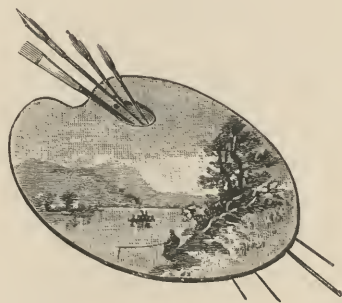
Jamestown (370 miles west of St. Paul; population, 4,000).—This is a large, active and growing town, and is the commercial centre of an extensive region of country. It is the county seat of Stutsman county, and is situated in the midst of

a rich agricultural region which is equally well adapted to wheat-raising and stock-growing. The town stands on a dry plateau on the east bank of the James, and is surrounded by ranges of sloping hills. The drainage is excellent, and the health conditions are remarkably good. The substantial character of the business buildings, the hotels, the court house and school-houses, and the number of handsome residences attract the attention of travelers. Jamestown has seven hotels, two of them being large three-story brick structures, furnished and managed in first-class style. There are two banks, five churches—Presbyterian, Methodist, Episcopal, Baptist and Catholic—one daily and three weekly newspapers, one of the latter being in the German language, two breweries, a beer bottling establishment, two grain elevators, a flour mill run by water-power furnished by the river, brick and lime kilns, and about fifty mercantile houses representing all branches of trade. The North Dakota Insane Hospital, a public institution costing over \$100,000, stands on the hill about a mile south of the town. The two principal public school-houses cost respectively \$14,000 and \$15,000. The Jamestown College, established by the Presbyterians, is a handsome brick edifice standing on the bluffs overlooking the town. There is a reading-room and a circulating library. Jamestown is the headquarters of the Dakota Division of the Northern Pacific Railroad. The railway buildings here, including the round-house and machine shops, cost about \$100,000. Jamestown is the junction of the Jamestown & Northern Railway, extending 90 miles north to Minnewaukan, at the west end of Devil's Lake. The James River Valley Railroad runs to Oakes, 69 miles south of Jamestown.

Stutsman county is 36 by 40 miles in extent, and covers an area of 1,105,920 acres, nineteen-twentieths of which are available for cultivation and pasturage. There are four streams in

the county, three of which are timbered along their banks with hard wood. The banks of the streams are well defined, and contain deposits of granite and limestone, which are excellent for building purposes. There are also several fine lakes in the county fringed with trees, and the lakes and streams abound with fish. Stock-raising has been thoroughly tested as a branch of industry, and is a recognized success. Cattle, horses, sheep and hogs alike thrive.

North of Jamestown can be found the "Hawk's Nest," where Gen. Sibley had the Sioux corraled at one time. There are several battle fields in the vicinity where fierce conflicts took place between the troops and the Sioux.



JAMESTOWN & NORTHERN RAILROAD.

JAMESTOWN TO MINNEWAUKAN.—DISTANCE, 90 MILES.

This important branch of the Northern Pacific system, leaving the main line at Jamestown, follows the valley of the Pipestone river for a distance of about thirty miles, the general direction being northwest; then, turning north, crosses the James and Sheyenne rivers, and terminates at Minnewaukan, at the west end of Devil's Lake. With the exception of a range of gravelly hills between the James and the Sheyenne, the whole region traversed by the road is a rich prairie, more or less rolling, and taking a leading rank among the best agricultural sections of North Dakota. *Parkhurst, Buchanan, Pingree, Edmunds* and *Melville* are the first stations on the road in the order named, north of Jamestown.

Carrington (43 miles from Jamestown; population, 500) was established in 1883, by the Carrington & Casey Land Company, a corporation owning large tracts of land in the vicinity of the place. It has two hotels, two newspapers, two elevators and numerous stores and shops, and is an important grain-shipping point. It is the county seat of Foster county.

New Rockford (59 miles from Jamestown; population, 700) is the county seat of Eddy county, and is situated on a

prairie sloping to the west of the James river. It has two elevators, two newspapers, and numerous mercantile establishments, and is surrounded on all sides by stretches of fertile prairie extending as far as the eye can reach. The railroad here crosses the James river, a small stream at this point. The source of the James is about thirty miles west of New Rockford. At *Sheyenne* (70 miles from Jamestown) the Sheyenne river is crossed. It has a volume of water at this point not greater than that of the James, but becomes on its lower course an important river. *Parker* (79 miles from Jamestown) is an unimportant station. *Fort Totten* (83 miles from Jamestown) is the station for the fort of the same name, situated about ten miles distant on Devil's Lake. Near this station a fine view is had of the Antelope valley stretching out to the westward, and containing a large area of peculiarly fertile farming land.

Minnewaukan (90 miles from Jamestown) was established in 1884. It is the county seat of Benson county, and has a population of about 500. It is a favorite summer resort for tourists who wish to enjoy the scenery of Devil's Lake and its facilities for fishing and shooting. Minnewaukan is the trade centre for a large extent of country. It has a newspaper, a bank, and grain elevator, a flour mill, and numerous mercantile establishments. A steamboat runs during the season of navigation between Minnewaukan and Fort Totten and Devil's Lake City.

Devil's Lake.—This remarkable body of water is about fifty miles in length, and has a width varying from one to five miles. It has no outlet, and its waters are strongly saline. It receives no important streams, and in consequence appears to be slowly diminishing in volume by evaporation. Well-marked former beaches show that the level of its waters was at one time about twenty feet higher than at present. A considerable portion of the shore line of the lake is heavily timbered with large oak trees. These forests add greatly to the at-

tractiveness of the lake in an open prairie country like Dakota. The waters of the lake are of a beautiful sea-green color, and are said to have possessed valuable curative properties. The lake abounds in pickerel, and is the resort of myriads of wild fowl; geese, brant and different species of wild ducks frequent its waters, and make it a favorite resort of sportsmen.

The Indian name is Minnewaukan, which means "spirit waters." The lake was believed by the Indians to be haunted; and there is a legend which relates, that a party of Sioux Indians once attempted to cross it in boats, in spite of the warnings of the medicine men, and that their canoes were seized in the middle of the lake by some mysterious power, and dragged to the bottom, so that neither boats nor voyagers were ever seen again. Since that time the Indians never venture upon the lake in any sort of craft.

A large portion of the southern side of the lake is occupied by the reservation of the Cut-head Sioux Indians, who number about 2,000 souls, and are peaceable and tolerably industrious, cultivating small spots of grain and potatoes, and keeping cattle and horses. They are mainly Catholics in religion, and there is a mission for the reservation, under the management of the "Gray Nuns," where the Indian children are educated.

Fort Totten.—This military post is situated on the southern shore of the lake, about midway between its eastern and western extremities. The buildings are substantial brick structures, and the fort has a more permanent appearance than is usual with frontier military stations. There are two small hotels at the fort which accommodate tourists and sportsmen. A steamboat runs to Minnewaukan, and also to Devil's Lake City, a town of about 2,000 inhabitants, at the head of a deep bay on the northern shore of the lake.

MOUSE RIVER BRANCH.

FROM CARRINGTON TO SYKESTON.—DISTANCE, 13 MILES.

This branch leaves the Jamestown and Northern R. R. at Carrington, and runs due west to Sykeston, a distance of 13 miles. From Sykeston it will be continued in a northwestern direction to some point in the valley of the Mouse river, a further distance of about 75 miles, traversing for its entire length a rolling prairie country having the general characteristics as to fertility, of the country between Jamestown and Carrington.

Sykeston (13 miles from Carrington, and 56 miles from Jamestown ; population, 300) is the county seat of Wells county, and is situated near the source of the Pipestone river, and a short distance from the bold elevation known as the "Hawk's Nest," which is a sort of abutment of the coteaux, and is a conspicuous object in the landscape for many miles around. Sykeston is a town created by the real estate and farming operations of the English company of Sykes & Hughes. This company owns and farms large tracts of land in the vicinity, and makes active efforts to attract American emigrants to this portion of the Northern Pacific. The town has a newspaper, two elevators, a school, and a number of stores and shops.

JAMES RIVER VALLEY RAILROAD.

FROM JAMESTOWN TO OAKES.—DISTANCE, 69 MILES.

This line begins at Jamestown and, following the course of the James river, runs southward to Oakes, where it connects with one of the lines of the Chicago & North-Western system, and also with the main line of the Minneapolis, St. Paul & Sault Ste. Marie Railroad. It furnishes the connecting link between the railroad systems of North and South Dakota. The road traverses a rich agricultural country. The valley proper of the James river is a narrow one, the bottom lands having a width of from one to three miles between the rolling uplands on either side. Occasional groves of cottonwood are found near the stream. The valley has a light black-loam soil, and for general fertility and adaptability to both small and large farming is unsurpassed in Dakota. The first stations on the road are *Ypsilanti*, *Montpelier*, *Adrian*, and *Dickey*.

Grand Rapids (41 miles from Jamestown) has a population of about 500, and is situated in the midst of fine farming country.

La Moure, county seat of La Moure county, and the junction of the Fargo & Southwestern Railroad, is described in the account of that road. A branch line runs from La Moure westward to Edgely, 20 miles. *Valley Junction* and *Glover* are small stations.

Oakes, in Dickey county (69 miles from Jamestown), is a

new town of rapid growth, the first buildings in which were erected in 1886. It has a population of about 1,000, a weekly newspaper, a large hotel, flouring mill, and two grain elevators. The Minneapolis, St. Paul & Sault Ste. Marie Railroad furnishes a short line to Minneapolis and St. Paul, and also extends into the country west of the James river. The Chicago & North-Western Railroad furnishes communication with all the towns in the Southern part of Dakota.



DAKOTA DIVISION.—MAIN LINE.

[Continued from page 139.]

The Coteaux.—The country between the valleys of the James and Missouri rivers, traversed by the Northern Pacific line, is a high, rolling plateau, the general elevation of which, above those two streams, is about 400 feet. This region is generally known as *The Coteaux*. Its correct geographical name, as given it by the early French settlers, was *Plateau du Coteau du Missouri*; but this has been shortened into *Coteaux*. The coteau country is open prairie, with an occasional small plat of timber on the shores of the lakes. It has no streams, the drainage all going into lakes and ponds. Most of the soil is deep and rich, and farming is successfully carried on. The region is also admirably adapted for stock-raising and wool-growing, pasturage being excellent, and the numerous natural meadows in the valleys and around the lakes and ponds furnishing an abundant supply of hay. From the western margin of the plateau, where it begins to dip toward the valley of the Missouri itself, the country is generally known as the Missouri Slope.

Eldridge (377 miles west of St. Paul; population, 100).—This village contains a store, a church and school building combined, an hotel, and an elevator of 10,000 bushels capacity. The products are wheat, oats, barley and potatoes. *Windsor* and *New Minneapolis* are small towns.

Cleveland (390 miles west of St. Paul; population, 100) is surrounded by good agricultural and grazing lands. Farming was begun in 1883 upon the heretofore uninhabited prairie. The soil is eighteen to twenty-four inches deep, with a clay subsoil of eighteen feet. The town contains a depot, side track, postoffice, two stores, lumber yard and telegraph office. *Medina*, nine miles further west, is at present an unimportant station, much resorted to by sportsmen, who find good hunting and shooting in the vicinity.

Crystal Springs (407 miles west of St. Paul; population, 100).—This is a small town, with excellent outlying agricultural lands; and good crops of wheat, corn, oats and potatoes are produced. The small lakes, not far distant, contain quantities of fish.

Tappen (415 miles west of St. Paul; population, 150).—This is a small station on the line of the railroad, situated on the Troy Farm, where about 2,500 acres are under cultivation. This farm was established in 1879, receiving its name in compliment to two of its owners, the station and postoffice being called Tappen in honor of a third proprietor. The farm consists of sixteen sections, or 10,240 acres, embracing most of the railroad land in two townships.

Dawson (420 miles west of St. Paul; population, 400) is an enterprising town, having an excellent agricultural and stock-raising country tributary to it. It has three hotels, one of which cost \$15,000, several general stores, lumber yards, livery stables and a newspaper. The products are wheat, oats, barley and potatoes. About two miles south of the depot lies a beautiful body of fresh water, called Lake Isabel.

Steele (428 miles west of St. Paul; population, 500) is a thriving town near the center of Kidder county, of which it is the county seat. This town is the highest point on the line of the Northern Pacific between Duluth and Bismarck, and is

growing rapidly in population. Situated in a rich agricultural district, Steele is already a favorable trading point, containing general stores, a court house, two hotels, a newspaper; an elevator and lumber yards, a school and a church. The town is supplied with water from tanks inclosed in two brick towers, each forty feet high, the water being pumped from wells beneath the tanks by windmills. South of the town is Lake Etta, a considerable body of water, with timber on its shores. Lakes Isabella and Chattie are in the same vicinity. Twelve miles north of Steele is Horse Head Lake.

Geneva, Driscoll, Sterling, McKenzie, Menoken and Apple Creek, situated on the line of the railroad, distant from St. Paul, respectively, 435, 439, 447, 453, 458 and 467 miles, are at present shipping and supply stations in the midst of a fine agricultural and grazing region. At each of these points there are one or more general supply stores, and the population and business interests are constantly increasing. Sterling has about 100 inhabitants, and Menoken is the distributing and shipping point for the large farms which surround it. Apple creek is a beautiful stream, offering fine sites along its banks for farm houses.

Tree Planting.—It has been fully demonstrated for a long time past that many forest trees will grow and thrive under cultivation upon the naked prairies and plains of the Western States. The advantage of timber to the settler admits of no dispute. To encourage and stimulate the farmers of the Dakota plains to engage in tree planting, the railroad company, some years ago, made liberal appropriations for setting out and protecting trees at various points on its line in North Dakota. Wherever these trees have been cared for they have made a fair growth. The plantation at Steele is the most flourishing and extensive on the line. It contains white wil-

low, cottonwood, and box-elder, and has furnished saplings for shade trees for the farm-houses in the entire region for many miles around Steele.

Bismarck (471 miles from St. Paul; population, 4,500).—This is the capital of Dakota, and the county seat of Burleigh county. The North Dakota Penitentiary is also located here. The geographical position of Bismarck is scarcely inferior to that of any city between the Atlantic and the Pacific Oceans. It is situated on the east branch of the Missouri river, which, with its tributaries, gives 2,000 miles of navigable water above it to the northward and westward, and about the same extent to the southeastward to St. Louis. Its landing is one of the finest on the great river, and the place has become, and will always remain, the centre of steamboat navigation in the Northwest. The government has recognized its importance by making Bismarck a port of entry, with a deputy collector of U. S. Customs, and by locating here the U. S. Court, the U. S. Land Office, and U. S. Quartermaster's Depot, the Headquarters of the Northwest Division Military Telegraph Lines, and U. S. Signal Office, and the U. S. Marine Hospital. The Quartermaster's Depot is at Camp Hancock, where substantial buildings have been erected, and from this point all government supplies for military posts and Indian agencies are forwarded. Important mail routes centre here. Bismarck has two daily and two weekly newspapers.

The town is remarkable for its healthy situation, as it is for the productiveness of the land which environs it. Its elevation above the sea is 1,690 feet. It is above the line of possible submergence by the river, and is well adapted to easy and cheap drainage. In 1872 the engineers of the Northern Pacific decided on crossing the Missouri river at this point, and this decision resulted in the survey of Edwinton and the first settlement of the city, the name of which was afterward changed to

Bismarck by resolution of the Board of Directors of the railroad company.

Only one wing of the capitol building has been completed. It is a massive structure of red brick, standing on one of the hills which dominate the town, and was built in great part by subscriptions from the business men of Bismarck. The Catholics have a large brick hospital named "The Lamborn," in honor of Colonel C. B. Lamborn, Land Commissioner of the Northern Pacific Railroad. The high school building cost \$25,000, and there are two other school buildings,—one a brick, costing \$5,000, and the other a substantial frame. The court house is of brick, costing \$30,000. The city owns substantial buildings. There are three handsome brick bank buildings costing from \$30,000 to \$65,000 each, and many costly business houses and handsome residences. The grain elevators, roller mill, and brewery, are among the conspicuous structures in the city. The steamboat landing is about two miles distant from the business centre of the place. Here are large warehouses from which steamboats depart for Fort Benton, the head of navigation on the Missouri, and also for points on the lower river.

Surrounding Bismarck are wide expanses of arable soil, capable of producing everything necessary to the subsistence of a large population. The river is skirted with timber, the belts ranging from a few rods to two miles in width. The timber is oak, ash, cottonwood, elm and box elder. Coal is abundant, and is sold in the city at \$3.50 per ton. The variety is lignite: one ton of it is regarded equal to about two cords of wood, which is sold at from \$5 to \$6 per cord; green cottonwood, at \$2.50 to \$3.50. The country is particularly adapted to stock-growing, and large herds of cattle and sheep are being established. The staple products,

however, are wheat, oats, barley and flax. The wheat is always No. 1, unless the grade is lowered through fault in handling, and its weight is usually above the standard,—frequently 64 pounds to the bushel. Oats usually weigh 40 pounds to the bushel, 25 per cent. above the standard. The barley, flax and vegetables also show the superiority of soil and climate. The flint varieties of corn never fail to mature. The yellow dent is now being successfully raised. The grasses of the Missouri slope mature before frost, and, as there is no rain in winter, retain their nutriment, affording winter grazing. Provision for winter is not required, excepting during a few weeks, at most, of the severest weather.

Fort Abraham Lincoln.—An eminence of easy ascent, within the city limits of Bismarck, has received the name of Capitol Hill, and its summit is soon to be crowned with State buildings of imposing architecture. From this point a wide and beautiful view is obtained,—a prominent object in the scene being the white walls of Fort Abraham Lincoln. This military station lies five miles distant by the road, on the high bluffs on the west side of the Missouri, and not far from Mandan. It was attacked on five different occasions, during the years 1872-73, by the Sioux, with an aggregate loss of eight killed and twelve wounded on the side of the troops; but the repulsed Indians suffered more severely. The gallant and ill-fated Gen. Geo. A. Custer passed the last two years of his life at this post. One of the friends of the deceased General, in describing the incidents of Custer's busy life, gives a glimpse of his room at the old fort in the following words: "It was pervaded by an air of luxury and good taste, although the furniture was of the plainest, and much of it old and worn. But over every old chair or sofa, covering all deficiencies, were beautiful furs and skins that money could hardly purchase,—the spoils of Custer's rifle; and all around the walls hung grand heads of buffalo, of 'bighorn,' of graceful



The Northern Pacific Railroad Bridge over the Missouri River.

antelope,—heads prepared by Custer himself, the fierce faces of wolf, bear or panther giving a wild and peculiar grace to the lofty room lit up by the glow from yonder ample fire-place, with its blazing logs."

The Great Bridge Over the Missouri River.—This superb bridge was opened for traffic with appropriate ceremonies on the 1st of October, 1882: Prior to that time the river was crossed by means of a large transfer steamer, specially constructed for the purpose of carrying trains of cars. Owing to the strong current and constantly shifting sand-bars in the channel, the ferriage by steamboat was always tedious, and the Northern Pacific Railroad Company never intended that so slow a transfer of its trains should be anything but a temporary arrangement.

The bridge proper consists of three through spans, each measuring 400 feet between centres of end pins, and two approach spans, each 113 feet. It is a high bridge, the bottom chord of the three main spans being placed fifty feet above the level of the highest summer flood, thus giving room for steamboats to pass at all navigable stages of the river, the bridge allowing practically four feet more room than many of the bridges on the lower Missouri. The variable channel and the high bluff on the east side were sufficient reasons for adopting the high bridge plan in preference to the low bridge with a draw, and the violent action of the ice added to the force of these reasons. The east end of the east approach span is supported by a small abutment of granite masonry founded on the natural ground of the bluff. The west end of the west approach span is upheld by an iron bent, resting on two Cushing cylinders, which are supported by piles driven into the sand-bar. The three long spans are supported on four granite piers, which are of unusual size, with long, raking ice breakers, shod with steel. They are fashioned so as to cut readily the large sheets of ice upon the breaking up of the

river in the spring, and to afford the least possible obstruction to the moving mass of broken ice which follows. Their stability far exceeds any force which the ice can exert.

Each of the main channel spans measures 400 feet, divided into sixteen panels of twenty-five feet each. The trusses are fifty feet deep from centre to centre, and twenty-two feet apart. The pedestals, end posts, top chords, and ten centre panels of the bottom chord, and all the pins and expansion rollers, are of steel. All other parts in the main are of wrought iron, except the ornamental work, which is of cast iron. Each long span contains 600,950 pounds of wrought iron, 348,797 pounds of steel, and 25,777 pounds of cast iron, the total weight of each span being 975,524 pounds. The steel used was manufactured under the most rigid inspection, and subjected to extraordinary tests before it was placed in position. The extreme height from the bottom of the deepest foundation to the top chord of the bridge is 170 feet. The floor of the structure is formed of oak timbers, nine inches square and fifteen feet long, with spaces of six inches between. On this floor are laid the steel rails of the track.

The east approach to the bridge leaves the old main line at Bismarck station, and is exactly two miles in length. The west approach is 6,000 feet long from the west end of the permanent bridge, with a descending grade westward of 52.8 feet per mile. One-fourth of this distance consists of a timber trestle, sixty feet at its maximum height, which is built across the space reclaimed from the river by the action of the dike. This trestle spans the place that was the main steamboat channel of 1880, which is already covered with a fair growth of willows. The bridge was subjected to a severe test on the day it was opened, each span bearing in succession the weight of eight heavy locomotives, or about 520 tons, and the maximum deflection under this enormous burden was not more than three inches.

The Valley of the Upper Missouri.—The fixing of the crossing point of the Northern Pacific Railroad over the Missouri at this place was no accident, but rather the natural result of adequate causes. Long before the remarkable expedition of Lewis and Clark up the Missouri to its source, over the Rocky Mountains, and down the Clark's Fork and Columbia rivers to the Pacific Ocean, nature had created and provided for the primitive people of this region a land admirably adapted to their condition and requirements. It was not "a land flowing with milk and honey," but a land abounding in beaver, buffalo and bear, where war and hunting were preferred to money, and life was passed without the white man's cares.

The land that subsisted the countless herds of buffalo, elk, deer, antelope and mountain sheep; that furnished the primitive people of Dakota with the amusement of the chase and the means of supporting a vigorous life,—was no "Great American Desert," except in the brains of ignorance, but was really one of the most productive areas of North America. Proof of this productiveness is found not only in the almost limitless prairie growth of sweet and nutritious herbs and grasses, but also in the forests of valuable timber that are found in every place where the streams or bluffs afford protection from the devastating annual prairie fires.

The region for a hundred miles above and below Bismarck and Mandan is blessed with an abundance of this kind of protection. The Big Heart and the Little Heart, on the west of the Missouri, empty their pure and constant waters into the great river very nearly opposite Bismarck,—the former just above Fort Abraham Lincoln, and the latter just below. On the east side of the Missouri, Apple and Burned creeks, streams of great length, purity and durability, flow into the great river just outside of the same town. In addition to these rivers, there are, to the west of the Missouri, the Cannon Ball, the Square

Butte, the Knife and the Little Missouri, and to the east the Turtle, the Long Lake, the Horse Head, and the Big and Little Beavers, all affording not only the finest arable and grazing lands, but, from their diffusion of an abundance of pure, fresh water, a protection from prairie fires to an immense tract of heavily timbered country. This timber, from primitive times up to the advent of civilization, gave adequate shelter, during the cold and inclement seasons, to the game that was reared and subsisted on the surrounding prairies, attracting the primitive inhabitants of this region as to a great centre abounding with the means of subsistence. Another peculiarity aided in fixing this point as one of great local interest to the nomadic aborigines. It is the narrowest point on the Missouri river for thousands of miles, and so offered the most feasible and expeditious crossing place for both Indians and the wild herds upon which they lived.

The copious spring and summer rains that contributed to the luxuriant growth of the prairie grasses for the subsistence of the buffalo, also made it possible to raise crops of maize, or Indian corn, which were cultivated extensively by the squaws on the rich, sandy alluvium of the Missouri bottoms. That the culture of this grain had been carried on by the aborigines from a very remote period, is shown by the fact that numerous fossilized and many charred corn cobs, in a perfect state of preservation, are still found in the excavated bluffs along the river, and very deep down in the oldest mounds.

Another marked peculiarity of the Missouri valley in and above the region about Bismarck, is its equable and agreeable winters. These result from the warm air which is brought by the westerly winds that prevail in this latitude from off the heated water of the great Japan Current, in the Pacific Ocean. The current of air passing eastward over the Northern Pacific Ocean, in its course onward across this part of the continent, finds comparatively little obstruction in the intervening mount-

ain ranges. These were so denuded during the glacial period of the vast quantity of material which was toppled over from their highest peaks, and deposited as rich surface soil upon this wheat-growing region, as to render them comparatively very low. The highest point of the Northern Pacific Railroad is less than 5,000 feet, and this is through and over an isolated range, while the Union Pacific Railroad is built for nearly 1,000 miles upon and over ranges of nearly 8,000 feet in height. This low elevation of the mountains on the line of the Northern Pacific allows the heated and saturated atmosphere to pass over with trifling obstruction, thus sensibly ameliorating the climate of Montana and Dakota.

These are a few of the reasons that formerly rendered the valley of the upper Missouri the "Paradise of Indians." That it was from time immemorial enjoyed as such is easily adduced from what is now known of it. The first recorded observation of it was made by Messrs. Lewis and Clark, who spent the first winter of their celebrated expedition over the Rocky Mountains, in the early part of Jefferson's administration, at Fort Clark, situated only a few miles above Bismarck. They gave a description of the country and its inhabitants which amply justifies all that is here said of it. The next known of the country was the result of army explorations, and the stories told by the old hunters and trappers of the Hudson's Bay and American Fur Companies. Then came the accounts of the few annual steamboat voyagers, to whom it was a region very partially explored, and who characterized it as a land of Indians, buffalo, elk, and all other kinds of game, with plenty of timber.

In 1863, after the Sioux had perpetrated their unparalleled massacre in Minnesota, Gen. Sibley drove them from that State, and followed them to their paradise of subsistence and safety in the neighborhood of the place where Bismarck now stands. Here the red men crossed the Missouri, and the

pursuit into the unknown land beyond was abandoned. This expedition, like almost every other against Indians, was a very hard one, and most of the volunteers from Minnesota remember the country only through their prejudices caused by the hardships of the campaign, which naturally resulted in giving it a bad name. This fact, however, did not deter the Northern Pacific Railroad Company from sending out experienced engineers to find and locate the most feasible route for the railroad, and to select the most practicable place for the construction of a bridge across the broad and swift Missouri river. The first efforts of these engineers were in pursuance of a suggestion made by Gen. I. I. Stevens, upon which they directed their explorations along a line passing a long distance north of the present crossing. When, however, the road, through legislation, had attained the importance which induced its friends to work earnestly for its completion, the engineers, in looking for the most direct and feasible route, encountered the Indian *travois* and buffalo trails leading to this Indian paradise. Following the footsteps of these experienced and successful guides, they followed as far as practicable these trails, and were thus directed to the best crossing place on the river.

The establishment of the crossing here led to the building of Bismarck and the settlement of the surrounding region. This resulted in so thorough an exploration as to furnish all the data necessary to establish the true, natural and inherent value of the country. Everywhere were seen the carcasses of buffalo slain by the Indians, and the ground was found literally cut up by the trails of these animals and the red men who hunted them, leading from all points of the compass on the east side of the river to the present site of Bismarck as a great converging place. All along the river banks, above and below, ancient as well as modern mounds were found, containing Indian skeletons, implements of war and the chase.

with specimens of pottery and other evidences of aboriginal ingenuity.

No wonder, therefore, that this region should be the red man's favorite resort, and that they lived here in large numbers. But the capability of the region to subsist men and animals is not only deducible from the footprints of the former inhabitants, but also from the gradual experience of the last five years, during which period the adaptability of the country to support a numerous and prosperous population has been fully demonstrated.





Buffalo Hunting in Early Days.

MISSOURI DIVISION.

MANDAN TO GLENDIVE.—DISTANCE, 216 MILES.

Mandan (199 miles west of Fargo, and 476 miles distant from St. Paul; population, over 3,000) lies on the western bank of the Missouri, nestled in the lowlands between that great stream and the Heart river, just after the railroad bridge is passed. The city is the county seat of Morton county. On three sides it is inclosed by low ranges of hills, and the fertile Heart river valley here broadens into a wide, circular plain. Up to 1879, when the extension of the railroad west of the Missouri river was begun, the site of Mandan was occupied by Indians, while buffaloes ranged on the neighboring hills. Even as late as the period named, the warlike Sioux had here a series of skirmishes, which culminated in a pitched battle with the Arickarees, or Rees, as they are commonly termed, a branch of the Mandan tribe. Under shelter of the bluffs, Mandan was founded in 1880. The streets are laid out in squares, the principal thoroughfare being Main Street, which runs parallel with the railroad, but is divided from the track along its entire length by a wide open space that is set apart for a city park. This being the terminus of the Dakota Division and the beginning of the Missouri Division of the railroad, there are, at Mandan, extensive machine shops, round-house, freight buildings, and every other appliance for the transaction of railroad business, a large number

of workmen being employed. There are three banks, one national and two private, a large brick court-house, several churches, schools, wholesale and retail stores, a flouring mill, one daily and two weekly newspapers, and a 200-barrel flouring mill.

In the vicinity of Mandan, an abundance of clay, suitable for manufacturing bricks of the very best quality, is obtained, and this industry is quite prosperous. Excellent stone, also found in the neighborhood, is largely used for the foundation of new buildings. Fuel is supplied in abundance—both wood and coal—by the timber which skirts the rivers, and by the mines, which are worked to great advantage, on the line of the railroad westward. The coal is delivered by the car load at the low rate of \$3.25 per ton. The outlying lands are very fertile, and large crops of wheat, corn, potatoes and other vegetables, are produced. Much attention is given in Morton county to stock and sheep raising, to which the country and climate are well adapted.

Mandan's merchants not only do a large business with the farmers who are fast settling in the fertile regions westward, but also send supplies by steamboat to the posts and settlements of the upper Missouri, the fine rock landing on the river at Mandan affording a peculiarly favorable point of shipment.

Mandan, lying as it does on the west bank of the Missouri river, controls most of the commercial business on the Northern Pacific between the Missouri and the Montana line. It is to the country lying west of it what Omaha is to the region lying west of the Missouri in Nebraska.

Near Mandan are points of interest dating from prehistoric times. A short distance south of the city are mounds which have been formed by successive layers of camp refuse, heaped together, and burned by recurring prairie fires. In these stratifications are found stone weapons, arrow-heads, household implements, pottery, trinkets, and bones of men and animals.

The Indians deny all knowledge of these mounds, the presence of which offers a fine field for archæological and ethnological research. The Mandan *Pioneer*, describing some of the discoveries, said:

“Two miles from Mandan, on the bluffs near the junction of the Heart and Missouri rivers, is an old cemetery of fully 100 acres in extent, filled with bones of a giant race. This vast city of the dead lies just east of the Fort Lincoln road. We have just spent a half-day in exploring this charnel house of a dead nation. The ground has the appearance of having been filled with trenches piled full of dead bodies, both man and beast, and covered with several feet of earth. In many places mounds from eight to ten feet high, and some of them 100 feet or more in length, have been thrown up, and are filled with bones, broken pottery, and vases of various bright-colored flints and agates. The pottery is of a dark material, beautifully decorated, delicate in finish, and as light as wood, showing the work of a people skilled in the arts, and possessed of a high state of civilization. Here is a grand field for the student, who will be richly repaid for his labor by excavating and tunneling in these catacombs of the dead. This has evidently been a grand battle field where thousands of men and horses have fallen. Nothing like a systematic or intelligent exploration has been made, as only little holes, two or three feet in depth, have been dug in some of the mounds; but many parts of the anatomy of man and beast, and beautiful specimens of broken pottery and other curiosities, have been found in these feeble efforts at excavation. Who are they, and from whence did they come, dying, and leaving only these crumbling bones and broken fragments of their works of art to mark the resting place of a dead nation? Five miles above Mandan, on the opposite side of the Missouri, is another vast cemetery, as yet unexplored.

“How long have these bones and remains laid in this cemetery? is a question which readily suggests itself. The fact that there are no existing tribes on the plains having any knowledge of pottery would indicate that the mounds had existed for a very long time. And yet there are found near the surface, and again down to a depth of nine, ten or fifteen feet,

well-preserved bones, which look as if they had not been buried more than five or ten years. Then, again, the fact must be borne in mind that there are no tribes existing that will own to any knowledge of these mounds. The Indians simply say they are spirit mounds, concerning which they know nothing. It seems strange that they should have been forgotten, even within a period of 100 or 200 years, since the Indians have very tenacious memories for traditional matters. The sexton of this cemetery appeared to have a very peculiar way of doing his work. It seems that human bodies were buried, then an accumulation of grass and brush was thrown over them and set on fire. This is proved by the fact that above the bodies will be found from two to three inches of ashes. Then it looks as if the living folks had remained in the vicinity long enough to cover the dead remains with broken pottery and bones of animals. The whole would then be covered with layers of rubbish, such as would be cleared away from the tents of the people as a sanitary precaution. Broken pottery, and fragments of bones and ashes in layers, go to make the funereal mounds complete.

"In the ashes are found charred corn-cobs, burned bones and charred meat. All the large bones that are found are broken, with the exception of the human bones. Judging from appearances, this was not only a great cemetery, but a great banqueting place also."

Sunnyside is a stock-yard station, three miles from Mandan, where cattle are taken from the cars for feeding.

Marmot.—After leaving Mandan, the railroad passes through the fertile valley of the Heart river, which tortuous stream it crosses at frequent intervals, before reaching Marmot, the next station, nine miles westward. Marmot is situated on a high plateau, near the confluence of the Heart and the Sweetbriar rivers. The station derives its name from the fact that a prairie dog village existed here before the railroad appeared. As the train advances westward, these curious little animals are more abundant, their antics affording a great deal of amusement to passengers. Colonel Richard I. Dodge, in his book

"The Plains of the Great West," writes that "this well-known animal is badly named, having no more of the dog about him than an ordinary gray squirrel. He is a species of marmot, and burrows in the ground as do wolves, foxes, raccoons, skunks and all the smaller animals on the treeless plains. He lives on grass and roots, and is exceedingly prolific, each female bringing forth several sets of young each year. He is not excellent eating; but the young are as good as the common squirrel, and, when other flesh meat is not to be had, they make no unwelcome addition to the bill of fare. I regard the prairie dog as a machine designed by nature to convert grass into flesh, and thus furnish proper food to the carnivora of the plains, which would undoubtedly soon starve but for the presence in such numbers of this little animal. He is found in almost every section of the open prairie, though he prefers dry and arid to moist and rich localities. He requires no moisture and no variety of food. The scanty grass of the barest prairie appears to furnish all that is requisite for his comfortable existence. Though not in a strict sense gregarious, prairie dogs yet are fond of each other's company, and dig their holes in close vicinity. Such a collection is called a town, and they sometimes extend over immense areas. The numbers of inhabitants are incalculable. Cougars, panthers, wildcats, wolves, foxes, skunks and rattlesnakes all prey upon them without causing any perceptible diminution of their immense numbers." *Sweetbriar* is an unimportant station.

New Salem (504 miles west of St. Paul) is a prosperous agricultural community, largely composed of German Evangelical settlers. It has an hotel, church, school-house, four general stores, a lumber yard, livery stable, and a weekly newspaper. A peculiarly fine agricultural country extends northward to the Knife river valley, 40 miles distant.

Topographical.—For 100 miles westward the physical appearance of the country is that of a roughly rolling prairie,

the fine agricultural possibilities of which have already been successfully tested. The railroad crosses at frequent intervals many water-courses, the more important of which, after leaving the Heart, are the Curlew and Knife rivers and Beaver creek. These streams are no puny rivulets, but dignified rivers of considerable volume, which, with their tributaries, meander in devious ways throughout the length and breadth of the land grant of the railroad, forty miles on either side of the track. Along these water-courses there is usually a fair supply of soft-wood timber, and the land is everywhere covered with a rich growth of buffalo and other nutritious grasses. The horizon is bounded on all sides by the undulating outline of the surface, varied occasionally by some dominating elevation which serves as a landmark. These sharp, conical elevations, denominated buttes,* are very peculiar. They rise from the rolling plains, and, being usually without vegetation, show the sedimentary strata of the soil, which is often of many colors. All this region is at present thinly inhabited; but, as it is endowed with good water, an abundance of lignite coal, a rich soil, and a climate even somewhat milder than the country eastward, its advantages for settlement have been already recognized.

Sedalia (500 miles west of St. Paul).—This is a side track on the summit of the Sweetbriar.

Blue Grass (508 miles from St. Paul) is a section house and side-track station.

Sims (511 miles west of St. Paul; population, 250).—This place obtained its first start from the opening of a mine of lignite coal, worked to supply the railroad, and also for domestic fuel. The mine was first called *Baby Mine*, and latterly *Bly's Mine*; and, after the place had developed into a town of some importance, the name was changed to *Sims*, in honor of

* In pronouncing this word, the u is sounded as in tube.

Geo. V. Sims, then chief clerk in the Northern Pacific office in New York City. Sims is almost entirely built of an excellent quality of brick made in the place. The output of coal is over 250 tons per day. There are two veins four and one-half feet in thickness, and one of seven feet. The town has a large three-story brick hotel, and a number of stores. The surrounding country is well adapted to general farming. *Almont*, *Curlew* and *Kurtz* are small stations, distant, respectively, 517, 522 and 529 miles from St. Paul.

Glenullen (534 miles west of St. Paul) is an agricultural settlement started in the spring of 1883, by a colony of farmers and mechanics from Ohio and Wisconsin. The present population of the village and tributary country is about 700. *Eagle's Nest* (539 miles west of St. Paul) is a water station.

Hebron (546 miles west of St. Paul) is a new settlement, composed in great part of colonists of the German Evangelical faith, from Illinois and Wisconsin; and German-Russians, who migrated from the Province of Bessarabia in Russia to avoid military conscription, and to find homes in a free country. These people are thrifty and industrious and make the best of the resources of the country. Many of them build substantial houses from the prairie turf with good roofs thatched with straw. They understand the care of cattle and the raising of grain, and although they arrived with very little money they are, as a rule, in comfortable circumstances. The road here crosses a branch of the Big Knife river, which makes a handsome and fertile valley.

Antelope is nine miles beyond Hebron, in the midst of a good farming country.

Richardton (561 miles west of St. Paul) was founded in the Autumn of 1882, and named in honor of Mr. C. B. Richards, of the firm of C. B. Richards & Co., of New York, passenger agents of the Hamburg Steamship Line. The town is

situated in Stark county, near Young Man's Butte, a prominent elevation not far from the railroad, and the promoters of the place have already succeeded in giving it importance. There are a number of stores, an hotel, a lumber yard and a brick yard. The surrounding country rolls in regular undulations through miles and miles of fertile soil, offering superior advantages for farming. The soil is a dark, rich and somewhat sandy loam of great depth, underlaid with a clay subsoil, and is well adapted to the cultivation of wheat, rye, oats and barley. To the north of Richardton, the country is somewhat broken, interspersed with well-watered valleys that afford abundance of wild hay. The small streams are generally fringed with a growth of cottonwood trees, thus making the region admirably suited to successful stock and sheep raising. Inexhaustible beds of coal, which may be inexpensively mined, underlie the whole region.

Taylor (567 miles west of St. Paul; population, 200).—The adjacent country was settled in 1882, mainly by people from New York and New Jersey. It has an hotel and two stores, and is surrounded by a wide expanse of fertile country. There is a creamery and cheese factory four miles north of the town. The soil is of vegetable mould, eighteen inches to three feet deep, with a fine subsoil similar to that of the James river valley. Four miles south of Taylor, flows the Heart river, while to the north is the Big Knife. Both these streams have broad, grassy valleys skirted with groves of oak, cottonwood and ash. Here, too, are found excellent cattle and sheep ranch sites. Many springs of good water issue from the outcropping beds of coal in the bluffs bordering the valleys, and wells give a good supply at a depth of sixteen to thirty-five feet. Besides the fuel which is furnished by the oak and cottonwood trees, the whole country is underlaid with a bed of good coal five feet in thickness, which can be mined by digging from three to fifteen feet deep. From this bed the settlers obtain their

own fuel at leisure times, highly appreciating so great an advantage.

Gladstone (574 miles west of St. Paul; population, 500).—This town was laid out in the spring of 1882 by a colony from Ripon, Wisconsin, on the north bank of the Green river, and named in honor of the great English statesman. The situation of the town is pleasant, and the surrounding country for many miles is settled by the colonists. During the first year of the colony's existence, about 150 families took up the lands in the neighborhood, and the crops raised upon the upturned sod were bountiful. Near Gladstone are great fields of coal of a good variety for heating and cooking purposes. This coal is apparently of a recent formation, and emits no smoke or disagreeable odor, but burns like wood and equally as fast. Gladstone has an hotel and a number of stores and shops.

Dickinson (586 miles west of St. Paul; population, 1,500) is an active new town in the valley of the Heart river, at the terminus of the first freight division of the Missouri Division. It lies in the midst of an agricultural and grazing country, and is already an important shipping point for cattle and grain. The ground on the outskirts of the town gradually slopes to the south, giving a fine opportunity for drainage. There are two hotels, a handsome brick court-house, a flouring mill, commodious railroad shops, round-house, passenger depot and freight warehouse. Dickinson is the county seat of Stark county. The tributary country is well watered, and the rainfall in spring and summer is sufficient to insure good crops. Many thousands of acres are already under cultivation, and there are excellent stock ranges within thirty miles of the town. The coal beds in the immediate vicinity produce a good quality of lignite, and a fine grade of clay for brickmaking and sandstone for building purposes is found in the neighboring bluffs. *Eland* and *South Heart* are unimportant stations.

New England City is a new town on the Cannon Ball river, 25 miles south of Dickinson, in Hettinger county. The people of the town and surrounding country are principally from the New England States, and were the first settlers in the county. The country along the Cannon Ball is very similar in its appearance and characteristics to that along the Green and Heart rivers on the line of the railroad. It is well adapted to farming and stock-raising, and is a healthful and picturesque region. Numerous buttes diversify the landscape; the most conspicuous of these is Square Butte, an elevation rising about 300 feet above the general level of the prairies, and having a plateau on its summit of about 50 acres in extent. New England City has a church, a newspaper, a school, an hotel, and several stores and mechanics' shops.

Belfield (606 miles west of St. Paul) is situated in a region which is sometimes termed the "Summer Valley." The Heart river, here a pretty stream, is bordered on each shore with handsome trees. Hundreds of miles north and south of the new town stretches a very fine agricultural country, and its proximity to the well-sheltered valleys of the Bad Lands will make it a headquarters for cattle-raisers. Belfield contains a church, several general stores and lumber yards. Water is found in abundance by digging wells at no great depth.

The next stations, *Fryburg*, *Sully Springs* and *Scoria*, are in the midst of scenes which are so unique as at once to fix attention.

The Bad Lands.—At Fryburg the train suddenly leaves the beautiful rolling prairies, and enters a long cut on a down grade, presently emerging upon a region, the startling appearance of which will keep the vision alert until the Little Missouri river is reached, fourteen miles beyond. Here are the Bad Lands, sometimes called Pyramid Park, which show that the mighty forces of water and fire, fiercely battling, have

wrought a scene of strange confusion. Buttes, from 50 to 150 feet in height, with rounded summits and steep sides, variegated by broad horizontal bands of color, stand closely crowded together. The black and brown stripes are due to veins of impure lignites, from the burning of which are derived the shades of red, while the raw clay varies from a dazzling white to a dark gray. The mounds are in every conceivable form, and are composed of different varieties of argillaceous limestone, friable sandstone and lignite lying in successive strata. The coloring is very rich. Some of the buttes have bases of yellow, intermediate girdles of pure white, and tops of deepest red, while others are blue, brown and gray. There are also many of these elevations which, in the hazy distance, seem like ocean billows stiffened and at rest.

Between these curiously shaped and vari-colored mounds there are sharp ravines and gulches, which are often the beds of shallow streams. Here and there are broader spaces, covered with rich grass, and flecked with a growth of ground juniper of delicious fragrance. No trees worthy of the name are seen; but a fringe of gnarled and misshapen pines occasionally presents itself along the water channels. In ages long ago, however, dense forests existed in these Bad Lands. There is evidence of this primeval growth in the abundant petrifications of tree stumps, four to eight feet in diameter, which are in portions translucent as rock crystals, and susceptible of as high a polish. Fine specimens of fossil leaves, of the Pliocene age, changed by the heat of the burning lignite into a brilliant scarlet, but retaining their reticulations perfect, are also found. The coal, still burning, gives a plutonic aspect to the whole region, one fiery mass not far from the railroad being easily mistaken at night for an active volcano, the cliffs having close resemblance to volcanic scoria. Among the many other fossil remains are oysters, clams and



Buttes in Pyramid Park

crustaceans. The seeker for geological curiosities has here a fine field in which to work.

The term Bad Lands, as applied to this region, is a gross misnomer. It conveys the idea that the tract is worthless for agricultural and stock-raising purposes. Nothing could be wider of the truth. The fact is, the soil possesses fertilizing properties in excess, and the luxuriant grasses which here flourish, attract herbivorous game animals in large numbers. The designation "Bad Lands" is derived from the times of the old French *voyageurs*, who, in their trapping and hunting expeditions in the service of the great fur companies, described the region as "*mauvaises terres pour traverser*," meaning that it was a difficult region to travel through with ponies and pack animals. This French descriptive term was carelessly translated and shortened into "bad lands," and thus has resulted a wholly false impression of the agricultural value of the country.

This entire region, geologists tell us, was once the bed of a great lake, on the bottom of which were deposited, for ages, the rich clays and loams which the rains carried down into its waters. This deposit of soil was arrested from time to time sufficiently long to allow the growth of luxuriant vegetation, which subsequently decayed, and was consolidated by the pressure of succeeding deposits, transforming itself into those vast beds of lignite coal which abundantly meet the need of the country for fuel. The various strata thus deposited are all of recent origin, and, being without cementing ingredients, remain soft, and easily washed by the rains. When at last this vast lake found an outlet in the Missouri, the wear and wash of these strata, under the action of rain and frost, were very great. Hence the water-courses, especially the minor ones, where the wash has not had time enough to make broad valleys, have precipitous banks, and high inclosing bluffs, with curiously furrowed and corrugated sides, usually bare of veg-

etation, and showing only the naked edges of the rich soils of which they are composed. The tops of these bluffs and buttes are on the general level of the whole country, and are equally as fertile. This is shown by the hotel garden at the Little Missouri, where, in the very heart of the "Bad Lands," and on the summit of the highest bluff, a level spot was chosen and planted, which annually yields heavy crops of vegetables, the potatoes alone producing as many as 300 bushels to the acre. But these Bad Lands, misnamed as they are, form a very small part of the country,—they are conspicuous from the fact that the chaos of buttes is so curious and fantastic in form and beautiful in varied color. From the railroad, which naturally follows the valleys between these strangely formed, isolated mounds and hills, the view of the broad, open country which lies on a level with their tops, is shut off.

Henry J. Winsor, writing from the Bad Lands in 1882, noted his observations in an Eastern journal as follows:

"My visit to the Bad Lands,—which, by the by, are beginning now to be known as Pyramid Park,—proved to me how erroneous had been my own impressions with respect to them. I found excellent grazing in all the tortuous valleys and frequent glens; while the tops of the giant buttes—level as a floor in many cases, and containing hundreds of acres in a single plot—offer as fine agricultural lands as can be found.

"A party of six arrived late at night at the hostelry at Little Missouri Station, a rough but not uncomfortable refuge for tired and hungry wayfarers. After a good night's rest, we started next morning on a tour of exploration, guided by Moore, the inn-keeper, a jolly, fat and rosy-cheeked young man, brimming over with animal spirits. Two of the party preferred riding on a buckboard wagon; the others mounted hardy 'cayuse' ponies; and among the latter was a subject who weighed 250 pounds, his avoirdupois fully testing the wiry endurance of his steed, which showed no sign of flagging vigor after a long day's journey. Twice we forded the shallow stream, yellow as the Tiber. Rough riding here. If I

were to tell of the slopes down which we slid, and up which we struggled, buckboard and all, I am sure I would jeopard my reputation for truth. The ride was quite exhilarating and altogether novel, nevertheless. A particular zest and flavor was given to the scenery by the remarkable grouping of fantastically shaped buttes, each girdled with a broad band of crimson,—a stratum of pure pottery, burned in Nature's oven by the combustion of the coal veins underlying the clay. These potsherds, jagged and shapeless, are used by the railroad instead of gravel for its roadbed, and answer the purpose admirably. The road here, therefore, may well be likened to a scarlet runner. After some hours of rough riding, we brought up at a sheep ranch, belonging to the Eaton brothers, where we were surprised by the many appliances for comfort *en garçon*. A tame antelope fawn, playful as a kitten, and a medley of buffalo heads, and elk and mountain sheep horns, as well as other trophies of the chase, diverted us; and stories were told of the large and small game which the neighborhood supplies to those who know how to shoot it, which would make even the least enthusiastic sportsman long to try his luck. A lavish game dinner, including tender buffalo steak, washed down with rich milk and good water, and a dessert of canned fruits, was just the thing to satisfy appetites made unusually keen by the brisk ride in the dry, pure air. These Eaton boys, whose hospitality we had so agreeably tested, are from the East, and they have money enough invested in sheep and cattle to carry on a very respectable wholesale business in any large city of the Union. Having enjoyed their hospitality as long as our time would admit, we left their 'shack,' which is the common name for a substantial log house, re-enforced by one of these happy ranchmen,—a young chap who sat his horse as though he were a centaur, and looked a picturesque and noble figure, with his clean shaven cheeks, heavy drooping mustache, sombrero, blue shirt and neckerchief with flaming ends; in fine, a perfect specimen of the noble manhood finish which this breezy, bounding Western life often gives in a few years to the Eastern born and bred young man. After visiting a coal vein which has been smoldering constantly ever since the country was known to the whites, and from time immemorial, according to Indian tradition, the fire of



Pyramid Park Scenery

which is visible at night from the train, we inspected the 'Maiden of the Park,' the 'Watchdog,' and others of the buttes which bear more or less resemblance to the things after which their sponsors named them. We also chipped off specimens of petrified wood, full of sparkling, silicious crystals, from the mammoth tree trunks turned to stone, which crop out from the sides of the conglomerate mounds, showing that, in ages long remote, a stately forest grew on these grassy plains."

Prof. N. H. Winchell, of Minnesota, who accompanied Gen. Custer as geologist on his Black Hills expedition in the summer of 1874, thus describes the general formation of this region :

"Although I call these bad lands (for so they are generally known among the men who have before crossed here), they are not so *bad* as I had been led to expect from descriptions that I have read. There is no great difficulty in passing through them with a train. There are a great many bare clay and sand buttes, and deep, perpendicular cañons, cut by streams in rainy seasons; but there are also a great many level and grassy, sometimes beautiful, valleys, with occasional a few trees and shrubs. There is but little water in the region, most that we have found being due to recent rains. One of a great many of the buttes are red, and often they are strewn with what appears like volcanic scoria. The soil, satisfied, arises from the burning of the lignite, and in nearly all these lands, there being one large bed, or sometimes two distinct beds, in the same slope, which is ignited by fires that sometimes prevail, and is set by Indians, and, when fanned by the wind, the sweep across them, produces a very fine layer of ash over the over and under lying beds, and results in a confused slag, which, although sometimes of various colors, is a very hard, vitreous or pottery-like substance, sometimes green or brown. Iron stains the surface a shade of red."

Medora (62½ miles west of
This town is situated on the

river, and is surrounded by high bluffs seamed by lignite and scoria, which is characteristic of Bad Lands scenery. It is the creation of the Marquis de Mores, a French gentleman, formerly an officer in the French army, who has built up at this point an extensive business in slaughtering cattle and sheep, and shipping dressed beef and mutton to Eastern market. The abattoir he erected is now in other hands. The works at Medora cost about \$100,000. Medora has three hotels, a general store, church and school. The so-called burning mine, where the lignite seams are on fire beneath the surface of the ground, is seven miles distant over a good road.

Cattle-raising in the Bad Lands.—Hon. Theodore Roosevelt, of New York, who owns a cattle ranch near Medora, in a recent article in the *Bismarck Tribune* wrote as follows on the subject of cattle-raising in the Bad Lands :

“Roughly speaking, the stretch of country known among cattle men as the ‘Dakota Bad Lands,’ occupies the western portion of the Territory, from the Black Hills region on the south to the Missouri on the north ; that is, it comprises the country drained by the Little Missouri river, and the waters run into it. This river runs in long loops, which inclose bottoms, through a rather narrow valley, bounded on one side by a line of jagged buttes, back of which stretches a very rough and broken hill country, rent and cleft in places by deep, winding ravines, and narrow, cañon-like creeks open into the river every few miles. At times their beds hold foaming torrents, while during the summer they are either perfectly dry or consist of small, shallow pools, with here and there some cottonwood, and in a few of the ravines pine and cedar. The Bad Lands proper extend for twenty miles, when we come out into the plains, which gives the cattle fine feed in summer, and shelter from the bitter winds of

"The herds of the stockmen now graze fifty miles north, and many times that distance south, of the railroad. The cattlemen through the Bad Lands have formed themselves into a stock association, and most of them, in addition, have joined the great Montana stock association. Their round-up takes in all the country along the Little Missouri, from Box Alder creek on the south to below the Big Beaver creek on the north, including the ranges of some fifteen or twenty stock outfits along a river front of nearly two hundred miles. Each such outfit may have from 500 to 10,000 head of stock, and from 10 to 100 head of ponies with which to herd them. There is plenty of timber for building purposes; the home ranch of each outfit consists of a log house, or shack, containing one or many rooms, according to the way the inmates appreciate comfort and the decencies of life; near by is a log stable and outbuildings, a strong, high, circular horse corral, with a snubbing post in the centre, and further off the larger cow corral, in which the calves are branded, etc.

"The country is covered with a growth of short bunch grass, which cures on the stalk into excellent hay for winter feed; it is very nutritious, and upon it range cattle become as fat as stall-fed oxen. Over most of the land there is nothing but this grass, and the bitter, grayish green sage brush; except for a few weeks in spring, when the first growth forms a mantle of green, the whole land is colored a monotonous dull brown, which, joined to the extraordinary shape and bizarre coloring of the water-worn buttes, gives the landscape a look of grim and forbidding desolation, although this very look of loneliness, sameness and vastness, also gives it an intense attraction for some men, including myself. This forbidding aspect of the land, however, completely belies its real character; the dull, barren-looking country, clad with withered brown grass, in reality offers as fine grazing as can be found anywhere in the West, while the cliffs and broken valleys offer almost perfect shelter to the animals in the winter. The loss among cattle during the winter, no matter how severe the weather, is surprisingly small, always excepting, of course, half-starved "pilgrims," or cattle put on the range late in the fall, and in poor condition. The rainfall is slight, and the

snow rarely covers the ground to any depth. The water supply back of the river is scanty, and the country is wholly unfit for agricultural purposes; recognizing which fact, the last Territorial legislature very wisely repealed the herd law, in so far as it affected the western tier of counties, and the cattle men are now free from the fear of being sued by every unscrupulous adventurer who palms himself off as a granger, and declines to fence in his few acres of grain or vegetables. The scantiness of the water supply is no harm to the cattle men, as in summer the beasts keep within a few miles of the river, principal creeks or large water-holes, and thus leave a great stretch of back country over which they have not grazed, and which affords them excellent winter feed when ice has closed up all the ponds and streams, and they are obliged to slake their thirst by eating snow.

"Each ranchman puts up a certain amount of hay for winter use for such horses as he constantly rides, to help out any sick animals which he finds, etc. So far, all this hay has been wild, and has been cut on the tops of the great plateaus; but the time is rapidly approaching when the ranchmen will be obliged to fence in large patches of ground and raise a hay crop, by preference alfalfa, if on further trial it proves that it will grow.

"The excellence of the Bad Lands as a country for fattening steers has been proved beyond all doubt; as yet it is too early to say definitely how it will turn out as a region for raising stock. Last year the calf crop was very light; but it is believed that this was mainly due to the very insufficient number of bulls on the range, as a number of the outfits have yet to learn that it is criminal folly to expect to get along with the same proportionate quantity of bulls loose on the range as would do on an Eastern farm. There will always be a lack of calves until the supply of bulls is much more ample than at the present time. Still, appearances indicate a much larger calf crop this year than was the case last. Along the river, as a whole, the steers greatly outnumber the female stock. Horned cattle, and also horses, do excellently; but all efforts at sheep-raising have so far been flat failures,—for which the cattle men are sincerely grateful. The sheep have in each case died by the score and the hundred, but a small percentage

surviving the first winter. Many of the ranchmen and small stock owners have now brought out their wives, and the country, which four years ago was an empty wilderness, or with straggling bands of Indians and parties of hunters, is now settled by a thriving and prosperous class of men, and in many spots a most pleasant home life is growing up. The ranchmen are hearty, open handed and hospitable. The cow boys are a fearless, generous, good-natured set of men, much misrepresented in some Eastern papers. Of course, there are fools in all classes, and the fool variety of cow boy likes to come into town and get drunk, and go about yelling and shooting in the air, firing at the car wheels of a passenger train, or perhaps shooting off the hat of some well-dressed stranger who looks small and timid. But, if a man keeps away from drinking saloons, does not put on airs, and, at the same time, shows that he does not intend to stand any nonsense, he can safely reckon upon first-class treatment in cow boy land."

Little Missouri (626 miles west of St. Paul) is a small village just across the river from Medora. There is a coal mine on the bluffs close at hand. There is an abandoned military post a quarter of a mile from the place.

Soon after leaving the Little Missouri river the country westward becomes less rough, although the railroad passes through many cuts and ravines. Gradually, however, the feature of the landscape is that of broad rolling prairie, marked here and there by isolated buttes. The last two stations on the railroad in Dakota are *Andrews* and *Sentinel Butte*, distant respectively 634 and 642 miles from St. Paul. These places are both unimportant.

Sentinel Butte is a prominent object on the left hand, not far from the track. The top of this eminence is visible on clear days at a distance of thirty miles, but looks only to be about three miles off, so deceptive is the luminous atmosphere. This region abounds in moss agates, specimens of which are found, near the foot of the buttes, of great size and beauty. A well-known army officer, who was at one time stationed

here, secured a sufficient number of these agates so large that they were converted into dessert knife handles, and served as a unique and handsome present to a lady on her wedding day.

Sentinel Butte, in spite of its precipitous faces, as seen from the railroad, is easy of access on the side remotest from the track. On its summit there is half an acre of level ground. Buffalo were very partial to this elevation, and sometimes resorted to it in so large numbers that many were crowded over the brink. The bones of these animals lie in heaps at the foot of the precipice, whitened by the weather.

A Primitive Boundary Mark.—One mile west of Sentinel Butte the boundary between Dakota and Montana is crossed. The line is marked by a tail pole, upon which is nailed a fine pair of antlers.

The railroad for the next thirty miles passes over a fine prairie plateau, which is watered by many small running streams. It then traverses six miles of broken country, which forms the divide between the Little Missouri and Yellowstone rivers, after which it descends into the valley of Glendive creek, and reaches the Yellowstone river at the town of Glendive, twelve miles beyond.



MONTANA.

Montana embraces nearly as large an area as Dakota. It averages 275 miles from north to south, and 550 miles from east to west, stretching through 12° of longitude, from 104° to 116° west of Greenwich, and lies for the most part between the forty-fifth and forty-ninth parallels of north latitude. Its southern boundary is in about the latitude of St. Paul, Minn., and its northern line joins the British Possessions. The mean height of Montana above the ocean level is estimated at 3,900 feet, the greatest elevation among the mountain peaks being 11,000 feet, and the lowest, on the Missouri river, being about 2,000 feet. Of the 93,000,000 acres contained within the limits of the State, two-fifths are mountainous, and three-fifths valleys or rolling plains. The water-shed between the Atlantic and the Pacific Oceans, the main chain of the Rocky Mountains, traverses the western portion of Montana in a course a little west of north, leaving about one-fourth of the entire State on the western slope and three-fourths on the eastern. In the central part of the State are the Bull, Belt, the Little Rocky and other smaller mountain ranges, which, with many lateral spurs and detached groups, give that great diversity of rocky ridges, broad plateaus and pleasant valleys, which render the country extremely picturesque.

The Bitter Root range, which forms the western boundary of Montana for a distance of over 200 miles, is loftier than the main range of the Rockies.

Montana is well supplied with rivers. Her great water-

courses are Clark's Fork of the Columbia and the Missouri river, the latter with many important tributaries. The Clark's Fork drains 40,000 miles of the State, and flows into the Columbia river; while the Missouri and its tributaries, the Milk, the Yellowstone, the Teton, the Marias, the Judith, the Mussel-shell, the Jefferson, the Madison and the Gallatin carry off the waters of double that area. These rivers are navigated by steamboats a distance of 1,500 miles within the limits of the State. Montana has a number of beautiful lakes, the largest of which is Flathead, in Missoula county, ten by thirty miles in size. The cataracts of the Missouri river between the town of Great Falls and the town of Fort Benton, are the most striking scenic features in northern Montana. There are three principal falls, the Black Eagle, the Rainbow, and the Great Fall; and three minor falls are within a distance of 20 miles. The height of the Great Fall is 80 feet, that of the Rainbow 50 feet, and that of the Black Eagle 50 feet.

The agricultural lands of Montana lie mainly in the valleys of the large rivers and their affluents. These valleys, usually old lake basins, which have received the wash from the surrounding mountains, have an alluvial soil which has proved to be very fertile. The land has generally a gentle and regular slope from the higher ground which separates the valleys from the foot-hills, and this is a fact of great importance in its bearing upon irrigation. So uniform is the slope that, in almost every instance, when water is conducted by means of a ditch from any stream, it may be made to flow over every foot of land in the valley below. The uplands (or bench lands, as they are commonly termed) are simply continuations of the valleys at a higher elevation. They frequently look like artificial terraces of enormous size, rising one above the other; and, where the quantity of water in the stream above admits the irrigation of the bench lands, they are also found to be very productive. Beyond these terraces are the foot-hills, with rounded tops and

grassy slopes, and behind these loom up the mountains, crowned with a scanty growth of pine and fir, although the slopes and valleys are always destitute of these varieties of timber. There are no deciduous trees either, excepting groves of cottonwood and willows along the water-courses, and occasional copses of quaking asp in wet places on the sides of the mountains. Only in the extreme northwestern part of the State is a very large body of magnificent timber, covering mountains and plains alike.

Eastern Montana, stretching from the base of the Rocky Mountains to the boundary of Dakota, and embracing an area of 90,000 square miles, is divided into three belts of nearly equal size by the Missouri and Yellowstone rivers. On the west and south are mountains, timbered with pine and fir, and from them issue many streams, which abundantly water the country. The ground is covered with a rich growth of bunch grass, which makes the region an excellent stock range. But the large area of grassy, rolling table lands in the northeastern part of the State is pre-eminently the place for cattle-raising and sheep husbandry; Meagher county especially, in which lie the Musselshell, the Judith and the Smith rivers, being famed as the great grazing county of Montana.

The resources of the entire State are varied and very valuable. Millions of acres of good agricultural land are awaiting development; but, owing to the light rainfall, irrigation is generally necessary.

Mining has always been, and probably will continue to be, the leading industry. The Drum Lummon mine, at Marysville, near Helena, is the most productive gold mine in the world. The Granite Mountain mine, at Phillipsburg, in Western Montana, is the most valuable silver mine in the world. The mines at Butte, which furnish the ore for the great smelters and reduction works at Anaconda, are the most productive copper mines in the world. Besides these famous

mines, there are other rich deposits of ore which yield large annual returns to the companies working them. Montana's total annual yield of precious metals is over \$30,000,000.

The stock-raising interest of Montana ranks next in the value of its annual product to the mining interest. Cattle, sheep, and horses, are raised in great numbers on the plains and on the well-grassed foot-hills of the mountain ranges. The cattle and sheep are marketed chiefly in St. Paul and Chicago. The wool goes mostly to Boston. Montana horses have won a high reputation for speed and endurance, and are shipped as far east as New York City.

Historical.—The history of Montana has not been destitute of stirring incident. Before 1861 there were no settlements, and the only whites who had visited the region were trappers, missionaries and the members of various military exploring parties. Public attention was first directed to the Territory at about the period named by the discovery of gold in paying quantities in Deer Lodge county. The report brought an irruption of miners from all the Western States, among whom were some of the wildest and most reckless characters, whose names and misdeeds figure in the early annals of the Territory. In 1862 the rich placers at Bannack were discovered. In the following year a party, returning from an unsuccessful attempt to reach the Big Horn Mountains by way of the Gallatin river, whence they were driven back by the Crow Indians, camped for dinner on Alder creek, near the site of Virginia City. Here one of the number, William Fairweather by name, washed a few pans of gravel, and was surprised to obtain about \$2 worth of gold to the pan. The news soon spread, and numbers flocked to the place, which has since yielded \$60,000,000 of gold, half of which was taken out during the first three years after the discovery. The next important placer diggings were found in 1864, at Last Chance gulch, where Helena now stands, and at Silver

Bow and German gulches, at the head of the Deer Lodge valley. Subsequently mines of great richness were found at various other points, and the excitement upon the subject ran high.

The fame of the diggings caused a large immigration, and, with the honest and deserving gold hunters, there was also a rush of the vilest desperadoes from the mining camps of the Western States and Territories. This ruffianly element served as a nucleus around which the evil-disposed gathered, and soon was organized a band of outlaws which became the terror of the country. These banditti included hotel-keepers, express agents, and other seemingly respectable people,—Henry Plummer, the Sheriff of the principal county, being their leader. The roads of the Territory were infested by the ruffians, and it was not only unsafe, but almost certain death, to travel with money in one's possession. One writer affirms that "the community was in a state of blockade. No one supposed to have money could get out of the Territory alive. It was dangerous to cope with the gang; for it was very large and well organized, and so ramified throughout society that no one knew whether his neighbor was or was not a member." The usual arms of a "road agent," writes Prof. Dimsdale, in his history of "The Vigilantes of Montana," "were a pair of revolvers, a double-barreled shot-gun of large bore, with the barrels cut down short, and to this was invariably added a knife or dagger. Thus armed, mounted on fleet, well-trained horses, and disguised with blankets and masks, the robbers awaited their prey in ambush. When near enough, they sprang out on a keen run, with leveled shot-guns, and usually gave the word 'Halt! throw up your hands, you — — —!' If this latter command were not instantly obeyed, that was the last of the offender; but in case he complied, as was usual, one or two of the ruffians sat on their horses, covering the party with their guns, which were loaded with buckshot, and

one dismounting, disarmed the victims, and made them throw their purses on the grass. This being done, a search for concealed property followed, after which the robbers rode away, reported the capture, and divided the spoils."

At last the decent citizens organized a Vigilance Committee in self-defense. The confession of two of the gang put the lovers of law and order in possession of the names of the prominent ruffians, who were promptly arrested. Twenty-two of the miscreants were hanged at various places, after the form of a trial, between December 21st, 1863, and January 25th, 1864, five having been executed together in Virginia City. This summary justice so stunned the remainder of the band that they decamped. From the discovery of the bodies of the victims, the confessions of the murderers before execution, and from information sent to the Vigilance Committee, it was found that certainly 102 people had been killed by the bandits in various places, and it was believed that scores of unfortunates had been murdered and buried, whose remains were never discovered. It was known that the missing persons had set out for various places with greater or less sums of money, and were never heard of again. After this wholesome justice had been meted to the murderers, law and order prevailed, the lawless element leaving the Territory, and the honest and enterprising remained to develop the mining and other natural resources. Congress provided for the admission of Montana as a State in the act passed at the session in 1889, which also provided for the admission of North Dakota, South Dakota and Washington.

Beach (650 miles west of St. Paul.)—This is the first station on the railroad in Montana. Beyond this fact the place is at present of no importance.

McClellan (659 miles west of St. Paul) is situated on Beaver creek, a clear stream running over a gravelly bottom, and promises to develop into a pleasant little town. The soil

is rich, the water pure, and the point is a good one for cattle ranches.

Mingusville (661 miles from St. Paul) is an important cattle-shipping station, and has a hotel and a number of stores. It is in the valley of Beaver creek, convenient to many of the best cattle ranges of eastern Montana and western Dakota.

Hodges and Allard are unimportant stations established on Glendive creek. The valley of Glendive creek is noted for its attractive scenery.

The Yellowstone Valley.—The railroad follows up the Yellowstone valley from Glendive to Livingston, a distance of 340 miles. In its characteristics the Yellowstone river more closely resembles the Ohio than any other American stream. Its waters, unlike those of the Missouri, are bright and clear, except when discolored by the freshets of its lower tributaries. The stream runs over a bed of gravel through permanent channels, and among thousands of beautiful islands, covered with heavy timber. It is navigable during a good stage of water for more than 250 miles, from its confluence with the Missouri at Fort Buford to a point above the mouth of the Big Horn river, by steamboats of two or three hundred tons.

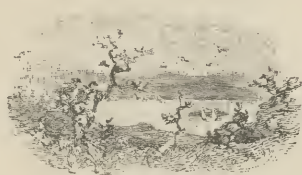
The Yellowstone has many tributaries along that part of its course which is traversed by the railroad, especially on its south bank. After leaving Glendive, the first important stream coming in from the south is the Powder river, so called by the Indians from its inky-black water, stained by the long course it runs through the alluvial soil flanking the Black Hills and Big Horn Mountains. Here the valley of the Yellowstone broadens, and the country behind the bluffs is better and richer than before. On the north side of the Yellowstone, between Powder and Tongue rivers, several small streams come in which drain the divide between the Yellowstone and the Missouri. The next river of consequence on the south side is the Tongue, with a good but narrow valley, already

well settled by farmers and herders. About thirty miles westward of the Tongue another affluent of considerable volume is the Rosebud, flowing from the south. Fifty-six miles beyond is the Big Horn river, the largest tributary of the Yellowstone, draining the whole eastern slope of the Rocky Mountains from the Yellowstone southward to the Platte. The next important stream is the Clark's Fork of the Yellowstone, which must not be confused with the other and more important Clark's Fork of the Columbia.

The Yellowstone winds from side to side of the valley, and along most of its course westward presents a very picturesque appearance. Bluffs of what are called "Bad Lands" inclose it, showing their precipitous faces against the stream, first on one side and then on the other, as the river winds from bluff to bluff, leaving always opposite the bluffs a considerable valley on either side of the stream. The width of the Yellowstone valley throughout its entire length scarcely exceeds three miles; sometimes it narrows to not more than two miles, and again it widens to seven. At the heads of the lateral valleys are fine sites for stock ranches or grazing farms, the same luxuriant grasses covering the whole country. Clear, pure water is to be found every few miles in running streams and springs, along which are fringes of oak, ash, elm, box elder and cottonwood, with occasional pines and cedars in the ravines. Before reaching the Big Horn the valley becomes somewhat broader, and for many miles on the north side of the river, beginning at a point opposite Fort Keogh, are ranges of bluffs which finally recede in height and gradually disappear. Along this part of the river the rough, broken water-shed of the Musselshell, the Missouri and the Yellowstone, called the Bull Mountains, is drained by three small streams, which have considerable valleys of fertile soil. The streams are Frozen creek and the Big and Little Porcupine. The Yellowstone above the Big Horn runs through a com-

paratively narrow valley, which broadens only at a single point. The Clark's Fork Bottom lies in this part of the valley, on the north side of the Yellowstone, extending from the rocky bluffs east of the old settlement at Coulson, near the site of Billings. to the hills which put into the river from outlying spurs of the Rocky Mountains, some thirty-five miles westward.

The traveler, passing through the Yellowstone valley, except during the months of May and June, when vegetation is vividly green, is apt to rebel against the withered look of the grass. Lowland and highland alike are clothed with a russet garment, which the heat of summer has spread over them. The mountains appear like colossal hay-mows with the lush growth of bunch grass surging up their slopes, cured as it stands by the sun into the best of hay, upon which herds fatten all the year round. The valley has the same sere tone, and the fringe of dark pines on the brow of the hills does not relieve, but only serves to emphasize, the prevailing tone of the landscape.





Eagle Butte near Glendev, Montana.

YELLOWSTONE DIVISION.

GLENDIVE TO BILLINGS.—DISTANCE, 225 MILES.

Glendive (692 miles from St. Paul; population, 1,500).—Glendive is the first place of any prominence in Montana that is reached by the railroad. It is the county seat of Dawson county, the largest county in Montana, and is the terminus of the Missouri Division and the beginning of the Yellowstone. The town is in latitude $47^{\circ} 3' N.$, and longitude $104^{\circ} 45' W.$, and lies 2,070 feet above the ocean level. Situated on the south bank of the Yellowstone, ninety miles from the junction of that stream with the Missouri, at Fort Buford, Dak., Glendive occupies a broad plain which slopes gently toward the river, and is sheltered by a range of curiously shaped clay buttes, distant about half a mile from the stream, and rising abruptly to a height of nearly 300 feet above its level. These buttes are not unlike those seen at the Bad Lands of the Little Missouri, only here the subterranean fires have not burned so fiercely as further east, and the river seems to have stopped the combustion, for across the water there is a large expanse of excellent soil. The site of the town was selected and laid out under the supervision of Gen. Lewis Merrill, U. S. A., who adopted the name of Glendive for his projected city, in remembrance of Sir George Gore, an eccentric Irish nobleman, who spent the winter of 1856 in hunting buffalo

in this vicinity, and who originally applied the designation to the creek.

Glendive was founded in 1881. It has several business houses, the necessary stores and shops, public buildings, banks, church organizations, three hotels, two weekly newspapers, a brick court-house costing \$25,000, and a brick school building costing \$10,000. The soil in the neighborhood is a rich, sandy loam, and the gardens of the inhabitants yield fine vegetables. The valley produces wheat, barley, corn, rye, oats and other crops. Wherever the land has been broken, young trees have appeared spontaneously, and good water is obtained by digging wells to a depth of from twenty to thirty feet. The place is an important point of shipment to eastern markets of cattle and sheep.

The railroad company has built repair shops, round-houses, a station and freight buildings at Glendive, the brick used in the construction of which was manufactured in the town.

The scenery just beyond Glendive is imposing. The railroad skirts the river, and bluffs tower several hundred feet above the track. *Eagle Cliff* is especially noticeable, for its height, and the heavy engineering work which was necessary in constructing the railroad at this point.

Iron Bluff (702 miles from St. Paul).—This is the first station on the Yellowstone Division. Large quantities of shell boulders are found in the vicinity. These consist chiefly of shells, which are mixed with small quantities of silica and alumina. The analysis shows seventy per cent. carbonate of lime, thirteen per cent. carbonate of magnesia, the remaining portion being silica, alumina and phosphate of lime. This shell conglomerate has been thoroughly experimented upon by Captain Maguire, of the United States Engineering Corps, who finds that it produces an excellent water lime, about equal in strength and quality to Louisville cement. There is a

plentiful supply of this material in sight; but the extent of the deposit is not known.

Milton (706 miles from St. Paul) is a small station with a section house for the railroad men.

Fallon (721 miles from St. Paul; population, 75) is at the mouth of O'Fallon creek. It is the depot for the beautiful and fertile valley running 100 miles south, which has attracted many ranchmen and stock-raisers.

Terry (731 miles from St. Paul; population, 250).—A small place, named in honor of Brig.-Gen. Alfred H. Terry, United States army. *Morgan*, ten miles beyond, is an unimportant station.

Ainslie (751 miles from St. Paul; population, 100) is the depot for the Powder river valley region. Ten miles east of Ainslie, at the Powder river crossing, was fought a battle between the Indians and United States troops; and for several miles along the banks of the Yellowstone, the graves of the soldiers who died of their wounds on their march up the river can be seen. *Dixon*, ten miles further westward, is a new station, surrounded by a good country.

Miles City (770 miles from St. Paul) is the only town on the Northern Pacific line between Superior and the Rocky Mountains which did not owe its origin to the building of the road. It was a flourishing frontier trading post three years before the Northern Pacific reached the Yellowstone valley. Its business was originally, to a large extent, with buffalo hunters; but, after the extermination of the buffalo, the immense grazing country surrounding it was rapidly occupied by stockmen. There are over 700,000 cattle on the ranges tributary to the town. Miles City is the county seat of Custer county; it has a handsome court house which cost \$25,000, a large public school building costing \$15,000, two banks, three hotels, a daily newspaper with a weekly edition, a stock-

grower's journal, five churches, two public halls, two saw mills, a brewery, and a large number of stores in all branches of trade. A weekly stage runs to Deadwood, Dakota. The Yellowstone is navigable to this point during what is called the "June rise;" but steamboating has been entirely supplanted by the railroad.

Miles City has suffered from numerous fires; but the frame buildings destroyed have been rebuilt with substantial brick structures, so that the business part of the town presents a very solid appearance. An irrigating ditch has been constructed from a point twelve miles up the Tongue river, to supply water to a large area of fertile bottom lands. Some farming is carried on without irrigation on the bottoms close to the Yellowstone and Tongue rivers.

Explorations of the Yellowstone.—The first recorded exploration of the Yellowstone valley was that made by Captain William Clark, U. S. A., who was associated with Captain Meriwether Lewis, U. S. A., in the command of the famous Lewis and Clark expedition, fitted out in 1804, under authority of President Jefferson, to explore the region west of the Mississippi river, and extending to the Pacific coast. This vast territory, known as "the Louisiana purchase," and subsequently as the Province of Louisiana, was ceded to the United States by Napoleon Bonaparte, in 1803, for the nominal sum of \$15,000,000. The heroic band of explorers, numbering only thirty-two men, set out from St. Louis on the 14th of May, 1804, ascended the Missouri river a distance of 2,858 miles from its mouth, and, striking across the Rocky Mountains and other ranges westward, reached the mouth of the Columbia river on the 7th of November, 1805. On the 23d of March, in the following year, the dauntless explorers entered upon their return journey, recrossing the Rocky Mountains on the 3d of July. The expedition now resolved itself into three parties, one of which followed the eastern base of the mountains north-

ward to the mouth of the Marias river, where it united with the second party, commanded by Captain Lewis, that had gone directly down the Missouri. The third detachment, under Captain Clark, pushed eastward until it struck the Yellowstone river, and then followed this stream 400 miles to its confluence with the Missouri, near which point the three parties again united. After an absence of nearly two years and a half, the expedition arrived at St. Louis on the 23d of September, 1806, having lost only a single man by death. This was one of the most brilliant and successful explorations ever made. By its means a mass of accurate information respecting the country was gathered, the practical value of which has continued to the present day. The result of the expedition was at once to open up the newly acquired territory to the enterprise of the great fur companies, who established trading posts with the Indians at many points. Aside from the trappers, however, no whites settled in Montana until the breaking out of the gold excitement in 1862. Then, and even for many years afterward, the settlements were confined to the extreme western portions of the Territory, which were the most accessible, the eastern half long remaining a wilderness, in absolute possession of the Indians.

Only since the year 1853, at which time the government sent out an expedition, under command of the late General I. I. Stevens, to explore the region lying between the forty-seventh and forty-ninth parallels, with a view of reporting upon the feasibility of the northern route for a railroad from Lake Superior to Puget Sound, has the Yellowstone valley been brought to public attention. Since the date named a number of expeditions, both government and private, have passed through the valley from time to time, and their records of experience and adventure are of the highest interest. But it is not within the plan of this book even to outline the more important features of any of these exploring expeditions. The space at

command will only admit of the narration of a few of the more important facts connected with the various conflicts between the Indians and the United States troops, of which this valley was the scene between the years 1873 and 1877.

During the period in question the aborigines strove hard to keep possession of their favorite country. But civilization, repeating the history which has marked its progress in every land, was not to be kept back, and the fierce struggle for supremacy between the white race and the red man resulted in the final disappearance of the latter from the Yellowstone valley.

The railroad was finished to the Missouri river toward the close of 1872; but the actual surveys and locations for the roadway had been made as far west as the Powder river, 250 miles beyond. An escort of troops always accompanied the surveying parties, and minor engagements between these small detachments and the Indians were of common occurrence. During 1873 these attacks became so bold and frequent that it was necessary to transfer an additional regiment of cavalry from the Military Department of the South for the purpose of holding the hostile red men in check, and a supply depot was established on Glendive creek, where that stream empties into the Yellowstone.

A Fight with Indians at Tongue River.—In the summer of 1873 an army expedition, consisting of about 1,700 men, under the command of Major General D. S. Stanley, was sent out from Fort Rice, on the Missouri river, to explore the Yellowstone valley in the interest of the railroad. In due time the expedition reached the Yellowstone river, and marched for several days up that stream. The country eventually proved so rough and broken that in many places serious delays were encountered in finding a practicable route for the long and heavily laden wagon trains. These serious embarrassments were only overcome by sending out each morning,

some distance in advance of the main column, two companies of the Seventh Cavalry, under command of the late Gen. Custer, whose duty it was to seek and prepare a practicable road. In carrying out the plan, which already had been for some days followed successfully, Gen. Custer left camp on the 4th of August, with a force of ninety-one men, guided by Bloody Knife, a young Arickaree warrior. At a point nearly opposite the mouth of the Tongue river, plainly in sight of the railroad, Gen. Custer encountered a force of Sioux outnumbering his own command over five to one. After a hard fight the Indians were driven off the field. For a week afterward, as the exploring party pursued its march, it entered upon a series of sharp skirmishes with the large force of Indians, who, however, were invariably repulsed, although the troops did not escape many severe casualties.

In 1874 and 1875 the Yellowstone valley enjoyed comparative quiet, although there were hostile bands of Sioux roaming over the valleys of the Big Horn and Powder rivers, and the entire western frontier was ravaged by them. In June, 1875, a steamboat expedition, consisting of seven officers and 100 men, commanded by Col. Forsyth, of Lieut.-Gen. Sheridan's staff, ascended the Yellowstone a distance of 430 miles, selecting sites for military posts at the mouth of the Tongue and Big Horn rivers, in order to better deal with the Indians. This expedition returned without encountering any hostile red men.

On February 21st, 1876, an expedition left Fort Ellis, near Bozeman, under command of Major Brisbin, numbering 221 officers and men, for the succor of a party of citizens, who were besieged by Indians at Fort Pease, near the confluence of the Big Horn with the Yellowstone. The original party consisted of forty-six men, who defended themselves desperately in a stockade until the relief column of troops arrived. Six persons were killed, eight wounded, and thirteen

escaped during the night, leaving only nineteen in the stockade, who were rescued by the troops.

Later, 1876, the government was compelled to send out a force against certain wild and hostile bands of Indians who were roaming about Dakota and Montana, not only attacking settlers and immigrants, but also making war upon the Mandans and Arickarees, who were friendly to the whites. To this class belonged the notorious Sitting Bull, who was not a chief, but only a "head man," and whose immediate followers did not exceed thirty or forty lodges. Another disaffected chief was Crazy Horse, an Ogallala Sioux, who properly belonged to the Red Cloud Agency, and whose band comprised, perhaps, 120 lodges, numbering about 200 warriors. These bands had never accepted the agency system, and would not recognize the authority of the government. They had been notified, however, by the Department of the Interior, that they must, before the 31st of January, 1876, retire to the reservations to which they were assigned, or take the alternative of being brought to subjection by the military power. Every effort, meanwhile, to pacify these bands, proved unsuccessful. They refused to come into the agencies, settle down and be peaceable. A strong force of troops was, therefore, set in motion to subdue them. On the 1st of March, Col. J. J. Reynolds, with a force of 883 men, moved out from Fort Fetterman, on the North Platte river, in search of the hostiles, and, after marching through deep snow and suffering great hardship, reached the mouth of the Little Powder river on March 17th, at which point he attacked and defeated a large village of Sioux and Northern Cheyennes, under Crazy Horse, destroying 105 lodges and a great amount of ammunition and supplies, and capturing a large herd of animals. The troops, however, had suffered so much from the severity of the weather that they were compelled to return to Fort Fetterman to recuperate.

Operations were resumed by this force toward the end of the following May. On the 29th of that month, a column of 1,000 men, under the command of Gen. Crook, again left Fort Fetterman, and on the 13th and 17th of June the Indians were discovered in large numbers on the Rosebud. Here a desperate fight took place, lasting several hours, resulting in the flight of the Indians after heavy losses. The casualties to the troops in this engagement were nine killed and twenty-one wounded. From the strength of the hostiles who attacked Gen. Crook's column, it now became apparent, that not only Crazy Horse and his small band had to be fought, but also a large number of Indians who had re-enforced them from the agencies along the Missouri; and from the Red Cloud and Spotted Tail Agencies, near the boundary line between Dakota and Nebraska. Under these circumstances, Gen. Crook deemed it best to await re-enforcements and supplies before proceeding further.

The Massacre of Custer's Command.—Simultaneously with Gen. Crook's operations, Gen. Terry had concentrated 400 infantry and 600 of the Seventh Cavalry, the latter under Gen. George A. Custer, at Fort Lincoln. With this force he left the fort on the 17th of May, and reached the mouth of the Powder river on the 7th of June, where a supply camp was established. From this point, six troops of cavalry, under Major Reno, scouted up the Powder river to its forks, and across the country to the Rosebud, following down the last-named stream to its mouth, definitely locating the Indians in force in the vicinity of the Little Big Horn river. During Major Reno's scout, the force under Gen. Terry moved up the south bank of the Yellowstone, and formed a junction with a column consisting of six companies of infantry and four troops of cavalry, under Col. Gibbon, which had marched from Fort Ellis eastward, along the north bank of the Yellowstone, to a point opposite the Rosebud.

On June 21st, after a conference with Cols. Gibbon and Custer, Gen. Terry, who was in supreme command, communicated the following plan of operations: Gibbon's column was to cross the Yellowstone near the mouth of the Big Horn, march up this stream to the junction with the Little Big Horn, and thence up the latter, with the understanding that it would arrive at the last-named point on June 26th. Custer, with the whole of the Seventh Cavalry, should proceed up the Rosebud until the direction of the Indian trail found by Reno should be ascertained. If this led to the Little Big Horn, it should not be followed; but Custer should keep still further south before turning toward that river, in order to intercept the Indians should they attempt to slip between him and the mountains, and also in order, by a longer march, to give time for Col. Gibbon's column to come up. On the afternoon of June 22d, Custer's column set out on its fatal march up the Rosebud, and on the morning of the 25th he and his immediate command were overwhelmed and pitilessly slaughtered by the Indians, who were concentrated in the valley of the Little Big Horn, to the number of over 2,500 fighting men. The harrowing details of the massacre are mainly a matter of conjecture. No officer or soldier who rode with their gallant leader into the valley of the Little Big Horn was spared to tell the tale of the disaster. The testimony of the field where the mutilated remains were found showed that a stubborn resistance had been offered by the troops, and that they had been beset by overpowering numbers. The bodies of 204 of the slain were buried on the battle ground. The battle ground has been marked by a monument by the United States Government. It is about thirty miles south of the railway station of Custer, near the mouth of the Big Horn river. The important military post of Fort Custer was established near the battle-field not long after the massacre occurred.

The Brilliant Work of Gen. Miles.—After this calamity had befallen the expedition, additional troops were sent to the scene of operations as rapidly as they could be gathered from distant posts, but too late to be of immediate use. The exultant Indians had already broken up their organization, and scattered far and wide as bands of marauders, placing themselves beyond the reach of punishment in a body. In the autumn most of the troops were withdrawn from Montana, leaving only a strong garrison, under the command of Gen. Nelson A. Miles, who was then Colonel of the Fifth Infantry, to occupy a cantonment at the mouth of the Tongue river (now Fort Keogh). Through the energy and bravery of this command, the Yellowstone valley was soon entirely rid of the Indians. On October 10th a train of ninety-four wagons, with supplies, left Glendive for the cantonment at the mouth of the Tongue river, and was beset the same night by Indians, seven or eight hundred strong, under Sitting Bull, who so crippled it that it was forced to turn back to Glendive for re-enforcements. These obtained, it resumed its journey, the escort numbering eleven officers and 185 men, in the hope of getting the much-needed supplies to the garrison. On the 15th the Indians attacked once more, but were driven back at the point of the bayonet, while the wagons slowly advanced. In this way the train proceeded until the point was reached from which the return had been previously made. Here the Indians became more determined, firing the prairie, and compelling the wagons to advance through the flames. On the 16th of October an Indian runner brought in the following communication from Sitting Bull to Col. Otis, commanding the escort:

“YELLOWSTONE.

“I want to know what you are doing traveling on this road. You scare all the buffaloes away. I want to hunt in this place. I want you to turn back from here. If you don't, I will fight you again. I want you to leave what you have got here, and turn back from here. I am your friend,

“SITTING BULL.

"I mean all the rations you have got and some powder. Wish you would write as soon as you can."

Col. Otis replied to this cool request that he intended to take the train through, and would accommodate the Indians with a fight at any time. The train moved on, the Indians surrounding it, and keeping up firing at long range. Presently a flag of truce was sent in by Sitting Bull, who said that his men were hungry, tired of war, anxious for peace, and wished Col. Otis to meet him in council outside the lines of the escort. This invitation was declined; but the Colonel said he would be glad to meet Sitting Bull inside the lines. The wary savage was afraid to do this, but sent three chiefs to represent him. Col. Otis told them he had no authority to treat with them, but that they could go to Tongue river and make their wishes known. After giving them a present of hard bread and bacon, they were dismissed, and soon the entire body disappeared, leaving the train to pass on unmolested.

On the night of the 18th Col. Otis met Col. Miles, with his entire regiment, who had advanced to meet the train, being alarmed for its safety. Learning that Sitting Bull was in the vicinity, Col. Miles at once pursued him, and overtook him at Cedar creek. Here an unsatisfactory parley took place, Sitting Bull refusing peace except upon terms of his own making. The council broke up, the Indians taking position immediately for a fight. An engagement followed, the Indians being driven from the field, and pursued forty-two miles to the south side of the Yellowstone. In their retreat they abandoned tons of dried meat, quantities of lodge poles, camp equipage and broken-down cavalry horses. Five dead warriors were left on the field, besides those they were seen to carry away. The force of Col. Miles numbered 398 rifles, against opponents estimated at over 1,000. On October 27th over four hundred lodges, numbering about 2,000 men, women and children, surrendered to Col. Miles, and Sitting Bull, with his own small

band, escaped northward. He was vigorously pursued; but the trail was obliterated by the snow, and the troops returned to the cantonment. Again, in December, a portion of the command, under Lieut. Baldwin, left their quarters in search of Sitting Bull, who was found and driven south of the Missouri, retreating to the Bad Lands. Less than two weeks afterward the same command surprised Sitting Bull on the Redwater, capturing the camp and its contents, the Indians escaping with little besides what they had upon their persons, and scattering southward across the Yellowstone. Meanwhile, Col. Miles, with his main command, numbering 436 officers and men, had moved against the Sioux and Cheyennes under Crazy Horse, in the valley of the Tongue river; and, after repeated engagements, lasting from the 1st of January to the 8th of the same month, over fields covered with ice and snow to the depth of from one to three feet, completely vanquished the hostiles, and required them to surrender at the agencies. After the surrender of Crazy Horse, the band of Sitting Bull, in order to escape further pursuit, retreated beyond the northern boundary, and took refuge upon British soil, where this troublesome Indian remained until the spring of 1883, at which time he returned to the United States, and was assigned to the Standing Rock Indian Agency, in Dakota. In May, 1877, Col. Miles led an expedition against a band of renegade Indians, under *Lame Deer*, that had broken away from those who had surrendered at Tongue river. This band was surprised near the *Rosebud*; and, while negotiations for a surrender were in progress, the Indians, either meditating or fearing treachery, began firing, and ended the parley. The fight was resumed, and the Indians were driven eight miles, fourteen having been killed, including the chiefs *Lame Deer* and *Iron Star*, and 450 horses and mules, and the entire camp equipage fell into the hands of the troops. This band was afterward pursued so hotly that it eventually surrendered at the *Red Cloud* and *Spotted Tail* Agencies.

On the 18th of September, 1877, Col. Miles, having learned that the hostile Nez Percés, from Idaho, under Chief Joseph, pursued by Gens. Howard and Sturgis, were likely to reach the frontier before they could be overtaken, started out from his cantonment to intercept them. By a series of rapid marches on the flank of the hostiles, after traversing a distance of 267 miles, Col. Miles came up with the Nez Percé camp on the morning of September 30th at the Bear Paw Mountains, and compelled its surrender after a desperate resistance, with severe losses on both sides.

The troops under the command of Col. Miles, in their operations during the years 1876 and 1877, marched no less than 4,000 miles, captured 1,600 horses, ponies and mules, destroyed a large amount of camp equipage belonging to the hostiles, caused the surrender of numerous bands, and cleared the country of upward of seven thousand Indians. By this series of brilliant successes not less than 400 miles of the Yellowstone valley were opened to settlement.

Current Ferries.—On the Yellowstone river, as well as on many other Western streams, a method of ferrying is in vogue which presents some peculiarities to Eastern eyes. The swift current is used as a motor for swinging a flat-bottomed ferry-boat over the river. An elevated wire cable is stretched from shore to shore. Pulleys, attached by stout ropes to either end of the boat, are geared to the cable. The craft is shoved off from the brink at an angle oblique to the current, and starts languidly, the pulleys moving spasmodically at first. Presently the full force of the tide is felt, and the pulleys spin along the cable, carrying the boat across at fine speed. Then, reaching the slacker water near the opposite shore, the pulleys resume the jerky progress on their cable track, and the boat grates upon the beach or puts her broad nose gently upon the strand precisely where it is wanted. The steering is done by means of a wheel, or, rather, windlass, used to taughten or slacken the



Current Ferry over the Yellowstone.

pulley ropes, and so get the proper angle of resistance to the current. These ferry-boats scorn any suggestion of an ordinary rudder in the water. They are guided by the guy-ropes only. The ferry-men usually charge a dollar toll upon each horse and each wagon, which seems good pay for little labor. They lament, however, that the good old times are gone when five dollars was the ordinary tax for this service.

Fort Keogh (173 miles from St. Paul) is situated a mile and a half west of the Tongue river, and two miles from Miles City, in a beautiful and fertile portion of the Yellowstone valley. The fort was built in 1877 by Gen. N. A. Miles, and is the most important post in the Northwest, having a large garrison of infantry and cavalry, the numbers varying with the demands of other military stations on the frontier. Fort Keogh consists of a number of commodious barracks, hospital, school, chapels, and other buildings, besides sixteen attractive cottage residences for officers and their families. The fort draws its supply of water from the Yellowstone, and feeds a pretty fountain in the square, about which the residences are arranged.

Horton and **Hathaway** (distant respectively from St. Paul 782 and 791 miles) are stations established for the convenience of ranchmen in the fine grazing country southward.

Rosebud (802 miles from St. Paul; population, 150) is situated at the mouth of the Rosebud river. The extensive valley of this stream is admirably adapted to cattle-raising, and its plains are dotted with settlements.

Forsythe (815 miles from St. Paul; population, 500).—The place is named in honor of Gen. James W. Forsythe, who was the first officer to land by steamer at the present site of the town, and for a long time it was known as Forsythe's Landing. It is situated in a delightful valley immediately on the banks of the Yellowstone river, and is surrounded by trees and immense bluffs rising abruptly on the south and west. Forsythe



Big Horn River, Bridge and Tunnel.

is the end of a freight train division, and the supply point for the settlers of the Rosebud bottom, on the south side, and the Big and Little Porcupine rivers, on the north side, of the Yellowstone. The town has five general merchandise stores. The Northern Pacific Railroad Company has a round-house and repair shops here. Stock yards have been laid out to meet the needs of large cattle shipments from this point. Some land near Forsythe is under cultivation, yielding fair crops of grain and vegetables.

Howard, Sanders and Myers (distant respectively 826, 836 and 847 miles from St. Paul) are unimportant stations, serving to supply the needs of the settlers of the surrounding country.

Big Horn (858 miles from St. Paul, at the mouth of the Big Horn river) is the diverging point for a country well adapted to stock-raising. The valley of the Big Horn is fertile, and its inclosing hills are covered with excellent grazing.

The railroad crosses the turbulent waters of the Big Horn river, about two miles from the mouth of that stream, by a bridge 600 feet in length. Passing over the narrow intervening valley, it presently penetrates the bluffs which hem in the Yellowstone river, by means of a tunnel 1,100 feet long, and emerges into the comparatively small Yellowstone valley beyond.

Custer (864 miles from St. Paul).—The station is on the Crow Indian Reservation; the town is on the opposite side of the Yellowstone, and is called Junction City. It has a population of about 200. Custer is the station for Fort Custer, thirty miles distant, one of the largest military posts in the West, and situated near the scene of the Custer massacre. The large buildings at the station were erected by the Quartermaster's Department for storing army supplies. A daily stage runs from the station to the fort.



Pompey's Pillar, Yellowstone Valley, Montana.

Pompey's Pillar (888 miles from St. Paul) is a mass of yellow sandstone, rising abruptly to a height of 400 feet, its base covering nearly an acre of ground. About half way up, on the north side, is an inscription, of which the following is a miniature *fac-simile*,

W^m Clark
July 25[#] 1806_#

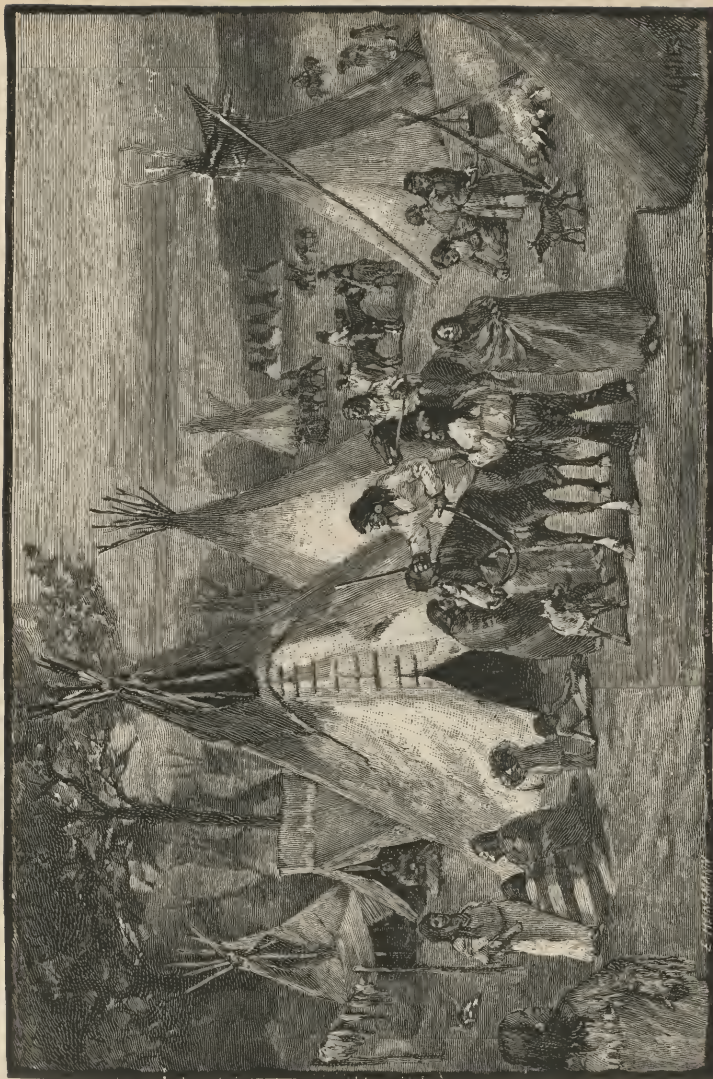
carved deeply in the rock by the explorer himself on his return journey across the continent. This inscription covers a space three feet long and eighteen inches high, and is surrounded by a border. It appears that Captain Clark and his party were coming down the Yellowstone river in a boat, when they were overtaken by a storm which suddenly burst upon them. After it had cleared, they landed to examine a very remarkable rock, situated in an extensive bottom on the right, a short distance from the shore. "This rock," wrote the explorer, "is nearly 200 paces in circumference, and about 200 feet high, accessible from the southeast only, the other sides consisting of perpendicular cliffs of a light-colored, gritty stone. The soil on the summit is five or six feet deep, of a good quality, and covered with a short grass. The Indians have carved the figures of animals and other objects on the sides of the rock. From this height the eye ranges over a wide extent of variegated country. On the southwest are the Rocky Mountains, covered with snow. There is a low mountain

about fifty miles distant, in a northwest direction, and at the distance of thirty-five miles the southern extremity of what are called the Little Wolf Mountains. The low grounds of the river extend nearly six miles to the southward, when they rise into plains reaching to the mountains, and are watered by a large creek, while at some distance below a range of highlands, covered with pine, stretches on both sides of the river in a direction north and south. The north side of the river for some distance is surrounded by jutting, romantic cliffs, succeeded by rugged hills, beyond which the plains are again open and extensive, and the whole country is enlivened by herds of buffalo, elk and wolves." After enjoying the prospect from this rock, to which Captain Clark gave the name of Pompey's Pillar, and carving his name and the date of his visit upon the stone, the explorer continued on his route. For the better protection of Captain Clark's name against vandals, who have already tried to cut their own insignificant designations within the border containing that of the heroic explorer, the railroad company has caused a screen to be placed over the relic for its protection.

The Crow Indian Reservation.—The entire southern shore of the Yellowstone river, from a point not far from Forsyth westward to the Big Boulder creek, and extending south to Wyoming, was set apart by Congress, in 1868, as a reservation for the Crow Indians. This is one of the most fertile and best watered areas in Montana, including the valleys of all the large streams which flow into the Yellowstone above the Rosebud river. The reservation stretches along the Yellowstone for 250 miles, and has an average width of about 75 miles. Upon this territory, which is nearly as large as the State of Massachusetts, live not more than 3,000 Indians, who gather about the agency during winter, subsisting on government beef and flour, and spend the summer in roaming about the country. They own 40,000 ponies, and are a very rich tribe

from every point of view. The Crows have long been friendly to the whites; but they are far inferior to their old enemies, the Sioux, in intelligence, handicraft and bravery. In 1882 they re-ceded to the government, for a handsome consideration in cash, a strip of the western end of their domain, about forty miles long by sixty wide, which embraces the Clark's Fork gold and silver mines, and it is only a question of time when the demands of the country for the release of all this valuable tract from its present possessors will be heard. Most of eastern Montana was originally claimed by the Crows, who at one time were a great and powerful nation. That the country was highly appreciated by these Indians is evidenced by the words of Arrapooish, a Crow chief, to the fur trader Robert Campbell, as told in "Captain Bonneville's Adventures," by Washington Irving.

"The Crow country is a good country. The Great Spirit has put it exactly in the right place. When you are in it, you fare well; whenever you go out of it, whichever way you travel, you fare worse. If you go to the south, you have to wander over great barren plains; the water is warm and bad, and you meet the fever and ague. To the north it is cold; the winters are long and bitter, with no grass; you can not keep horses there, but must travel with dogs. On the Columbia they are poor and dirty, paddle about in canoes, and eat fish. Their teeth are worn out; they are always taking fish-bones out of their mouths. To the east they live well; but they drink the muddy waters of the Missouri. A Crow's dog would not drink such water. About the forks of the Missouri is a fine country,—good water, good grass and plenty of buffalo. In summer it is almost as good as the Crow country; but in winter it is cold, the grass is gone, and there is no salt weed for the horses. The Crow country is exactly in the right place. It has snowy mountains and sunny plains, all kinds of climate, and good things for every season. When the summer heats scorch the prairies, you can draw up under the mountains, where the air is sweet and cool, the grass fresh, and the bright streams come tumbling out of the snowbanks. There you can



hunt the elk, the deer and the antelope when their skins are fit for dressing; there you will find plenty of black bear and mountain sheep. In the autumn, when your horses are fat and strong from the mountain pastures, you can go down into the plains and hunt buffalo or trap beaver on the streams. And when winter comes on, you can take shelter in the woody bottoms along the rivers; there you will find buffalo meat for yourself, and cottonwood bark for your horses. Or you may winter in the Wind river valley, where there is salt weed in abundance. The Crow country is exactly in the right place. Everything good is to be found there."

The Crows have always been friendly to the whites. In the early days of settlement of the Montana mining country they served as a barrier to protect the mining camps from the incursions of the hostile Sioux. Later, in the military campaigns for the conquest of the Sioux, they were of much value as scouts and allies to the troops.

Huntley (904 miles from St. Paul), a small trading town in the midst of a good stock-raising country. A stockade was built here to protect a frontier store in the days of the Indian occupancy of the Yellowstone country.

The Legend of Skull Butte.—The high and rugged elevation across the river to the left of the railroad, just before reaching Billings, is named Skull Butte. Tradition says that about seventy years ago several hundred lodges of Indians, belonging to the powerful Crow nation, were encamped on the river bottom, when small-pox broke out, and the ravages of the disease were so fearful that in a short time the tribe was decimated. To appease the anger of the Great Spirit, it was determined by the chief medicine man that forty young warriors should offer themselves as a sacrifice. Volunteers for this purpose were called for, and soon the allotted number of braves, who had recently passed through the ordeal of the "sun dance," and assumed the status of warriors, presented themselves.

With much ceremony the preparation for the sacrifice was conducted, and, after all the rites had been performed, the heroic band mounted their ponies, forded the river, ascended the steep heights opposite, and made themselves ready for their fate. It was determined that they and their horses should be blindfolded, and, rushing at full speed to the steep edge of the cliff, should plunge to the rocky strand hundreds of feet below. The word was given, and the forty braves, with tremendous shouts, urged their steeds to the brink of the cliff, and all went down to their destruction. For years afterward, bleaching skulls and bones of men and horses were found around the base of Skull Butte.

The railroad crosses to the north side of the Yellowstone upon a substantial truss bridge, near the old settlement of Coulson, at the foot of Skull Butte.



MONTANA DIVISION.

BILLINGS TO HELENA.—DISTANCE, 239 MILES.

Billings (917 miles from St. Paul; population, 2,500) is named in honor of Hon. Frederick Billings, late President of the Northern Pacific Railroad Company. It is situated at the foot of Clark's Fork bottom, on a beautiful plain, sloping down to the Yellowstone river, in the heart of the fertile and picturesque valley, and is the county seat of the new county of Yellowstone. The town was founded in the spring of 1882. Among the noticeable buildings are the handsome brick church edifice, the gift of Mrs. Billings; a large bank building, constructed in part of stone quarried in the neighboring cliffs; and a number of substantial brick business blocks. There are six hotels, three churches, two banks, two public halls, two brick yards, a brick and stone court-house, two daily and weekly newspapers, a flouring mill, and numerous stores of all branches of trade. The public school-house is a large two-story brick edifice. This is the terminus of the Yellowstone Division, and the beginning of the Montana Division, of the railroad. The company has built a substantial round-house, shops, etc., for the purpose of a division terminus. The Clark's Fork Bottom ditch, thirty-nine miles long, terminating at Billings, is designed to irrigate 100,000 acres of fertile soil. The valley in which lies Clark's Fork Bottom, contains over 125,000 acres



Valley of the Yellowstone above Billings, Montana.

of excellent land, capable of producing all kinds of cereals and vegetables. Billings has tributary to it the Barker and Maginnis gold mining region, situated about 100 miles to the northward (reached by stage), and the Rocky Fork coal mines to the southeast, which have recently been rendered accessible by a railroad built from Laurel, a station three miles west of Billings. On one side, to the westward, are the great Musselshell and Judith valleys; and on the other, to the eastward, are the Little and Big Horn valleys. Billings is a supply and trading post for a large extent of farming and grazing country within a radius of over 100 miles. It also receives the trade of the Stinking Water District, Wyoming Territory, a large and prosperous tract of country. The town possesses extensive cattle yards, and is one of the principal cattle-shipping points in Montana, great numbers of cattle being driven here for shipment from the Musselshell and Judith ranges. The Yellowstone river affords a fine water-power for manufactories, there being a fall of eleven feet in a mile. Large shipments of wool are made from here, and a good wool market is established.

Montana Stock and Sheep Raising.—Abundance of nutritious grasses, mildness of climate, and markets easy of access, are a combination of advantages which render Montana famous as a cattle-raising region. Montana steers command the highest prices in the Chicago cattle mart, and the Northern Pacific Railroad, with over 700 miles of track within the Territory, affords ready transportation from the grazing fields to the East. All the better varieties of grass do as well in Montana as elsewhere; but the most valuable of the native grasses is the bunch grass. This grows most luxuriantly upon the high rolling plains, of which a large part of the surface of the Territory consists. It begins to renew itself in the early spring, before the ground is yet free from frost, rapidly attains its growth, is early cured, and stands as hay through the remainder

of the year until the succeeding spring. Throughout the winter months it perfectly retains its sweet and nutritious qualities. The manner of its growth is similar to that of the short, curly and quickly cured buffalo grass of the plains. It stands in detached clusters or bunches, between which are visible interstices of bare ground. Its clusters, however, are finer, denser, of much taller growth, and cover the ground more closely and compactly than the tufts of buffalo grass. A single acre of bunch grass is fully equal to three acres of average buffalo grass in the quantity it furnishes of actual sustenance for cattle. It is, moreover, a stronger nutriment than ordinary plains vegetation, being unexcelled by the best cultivated grasses, timothy hay or clover.

The railroad, except where the main line crosses the mountain ranges, follows a system of valleys, unsurpassed in their broad, beautiful and fertile surfaces, and extending across the Territory from east to west. These valleys are free to all for pasture purposes. Over these great natural ranges the herds roam at will, being separated, or "rounded up," by their owners only twice a year,—in the spring to brand the calves, and in the fall to choose the fat steers for market. The principal cattle ranges of the Territory, aside from the great valley of the Yellowstone, are on the headwaters of the Little Missouri, in the southeast; the valleys of the Powder, the Tongue, the Rosebud, the Big Horn (still in possession of the Crow tribe of Indians), and the Clark's Fork, which meet the Yellowstone region from the south; the great valley of the Sun river, the broad basin of the Judith, the magnificent valley of the Musselshell, all situated northward of the Yellowstone, and intermediate between the Bull, Belt, Big Snowy and Little Rocky ranges; the valleys of the East and West Gallatin, Madison and Jefferson rivers, adjacent to the eastern bases of the Rocky Mountains; and the intramontane country of the Clark's Fork of the Columbia, westward.

The customary way of managing a band of cattle in Montana is simply to brand them and turn them out upon the prairie. Under this careless management some steers are lost, which stray away or are stolen. A more careful system is to employ herders, one man for every 1,500 or 2,000 head of cattle, whose duty it is to ride about the outskirts of the range, follow any trails leading away, and drive the cattle back, seeking through neighboring herds, if there are any, for cattle that may have mistaken their companionship. At the spring round-up a few extra men have to be employed for several weeks. No human being dare go among the cattle on foot. If he did he would be gored or trampled to death at once. The animals are only accustomed to horsemen, of whom they are in wholesome terror; but the sight of a person on foot instantly causes a rush toward the strange appearance, and death is certain to him who fails to find a place of refuge. In starting a new herd, cows, bulls and yearlings are bought; but calves under one year old running with the herd are not counted.

The average cost of raising a steer, not counting interest or capital invested, is from sixty cents to one dollar a year, so that a four-year-old steer raised from a calf and ready for market costs about \$4. A herd consisting of yearlings, cows and bulls, will have no steers ready for the market in less than two or three years. Taking into account the loss of interest on capital invested before returns are received, besides all expenses and ordinary losses, the average profit of stock-raising in Montana during the last few years, has been at least thirty per cent. per annum. Some well-informed cattle men estimate it at from thirty to forty per cent.

A flock of sheep containing 1,000 head and upward, in good condition and free from disease, are procurable in Western Montana for from \$2 to \$3 per head. They must be herded summer and winter in separate flocks of not more than 2,000 or 3,000 each, must be corraled every night, and guarded

against the depredations of dogs and wild animals. Hay must be provided to feed them while the ground is covered with snow, and sheds must be erected to protect them from severe storms. They must, however, be raised by themselves. Cattle and sheep can not live together on the same range. The latter not only eat down the grass so closely that nothing is left for the cattle, but they also leave an odor which is very offensive to the others for at least two seasons afterward. But, notwithstanding that the cost of managing sheep is greater than that of handling cattle, the returns from sheep-raising are quicker and larger. While a herd of young cattle begin to yield an income only at the expiration of three years, sheep yield a crop of wool the first summer after they are driven upon a range, and the increase of the band is much greater than that of cattle, being from seventy-five per cent. to 100 per cent. each year. The wool is of good quality, free from burs, and brings a good price on the ranch, agents of Eastern houses being always on hand eager to buy it. The profits of sheep-raising are generally estimated at a higher figure than those of cattle-raising. The lowest calculation is based upon a net profit of from twenty-five to thirty-five per cent. on the whole investment, although occasionally larger returns reward the fortunate stockman.

There are few large bands of horses in Montana; but breeding these animals is beginning to receive attention. Breeders estimate that fifty brood mares and a draught stallion, costing in all \$2,500, placed upon a stock ranch where the proprietor does his own herding, will in the course of five years be worth \$10,000. Horses are more hardy than sheep or cattle, being better able to endure cold weather, and to "rustle," or paw through the snow that covers their pasturage. But they are so much more valuable than other species of stock that most owners prefer to have their bands either fenced in or carefully herded. The best horse farms are those in small valleys, ten or twelve miles long, on whose sides the foot-hills extend up to high

mountains. By fencing across the ends of such a valley the horses are prevented from straying.

The Cow Boys.—As the train passes through the Yellowstone valley, it is no uncommon sight to see herds of sleek cattle contentedly grazing on the russet hills. Sometimes, also, droves of one or two thousand are noticed slowly advancing in a broad column from the direction of the distant mountains on their way to the railroad shipping stations. Such a drove is kept well in hand by a number of herders, picturesquely garbed in sombreros, gray shirts and leather breeches called “chapps,” each man being armed with revolver, bowie knife and a rawhide whip, and well mounted. If the drove of cattle has made a march of several hundred miles from the range, it will be pioneered by a large band of ponies, carrying camp equipage and supplies, and serving as remounts for the cow boys. These latter are usually brawny, clear-eyed fellows, civil enough to answer questions in spite of the fact that every fibre of both man and horse seems strained to its utmost tension in keeping the wilder and straying members of the drove within the bounds of the horned column.

Grand Mountain Views.—In passing up the valley, westward of Billings, there is a prospect from the car windows which combines more striking features of beauty and grandeur than could hardly be found elsewhere nearer than Switzerland. Beyond the smiling valley and the winding, glistening river, to the westward and southward, rise white, gigantic masses of mountains. These snowy ranges are so lofty, and, in some conditions of the atmosphere, so ethereal, that the surprise of an Eastern tourist, who had never seen high mountains before, was quite natural. Standing on the platform of a Pullman car, his eye caught the white, gleaming bulwark on the western horizon. “Conductor, those clouds look very much like mountains,” he said. “Clouds; what clouds?” replied the conductor, looking around the clear blue sky. “Out there;



Driving Cattle from the Range to the Railroad.

just ahead of us." "Those are not clouds; they are the mountains at the head of the valley." "Good gracious!" exclaimed the traveler, who had got his conception of mountains from the Alleghanies or the Adirondacks. "Those white things way up in the sky mountains! Well, well, this is worth coming all the way from New York to see." Passing the unimportant station of *Carlton*, 18 miles west of Billings, the next stopping place is at

Laurel (930 miles from St. Paul, 13 miles west of Billings), which is the junction point of the Rocky Fork & Cooke City Railroad, is situated in the fertile irrigated valley of the Yellowstone.



ROCKY FORK & COOKE CITY RAILROAD

[FROM LAUREL TO RED LODGE, DISTANCE 50 MILES.]

This road was built in 1888 and 1889 for the purpose of reaching the remarkable coal deposits on the Rocky Fork, south of the Yellowstone, and also, by an extension from that place, to afford railway transportation to the silver-mining camp of Cooke City, near the eastern borders of the National Park. The road was open for traffic in the spring of 1889 as far as the new town of Red Lodge, created by the coal mining operations. The road crosses the Yellowstone on the combination trestle bridge, and runs through a picturesque grazing country, reaching its present terminus by gradients of from 26 to 110 feet per mile.

THE ROCKY FORK COAL.—This coal is bituminous in its character and is so rich in combustible matter that pieces of it can be lighted with a match. The veins are from six to thirty feet in thickness and the out-croppings are on the sides of the hills, situated so that they can be economically worked by means of levels. The coal is mined in large quantities for railway consumption and is shipped for domestic fuel to all the Montana towns.

Red Lodge (50 miles from Laurel, population 500).—This active mining town was laid out in March, 1889, and developed with a rapidity rarely seen except in the mining camps where placer gold is found. The resources of the place in its inexhaustible coal mines, its abundant and easily utilized water-power, and in the grazing and farming regions surrounding it, indicate that it will soon become one of the most important towns in Montana.

MONTANA DIVISION.

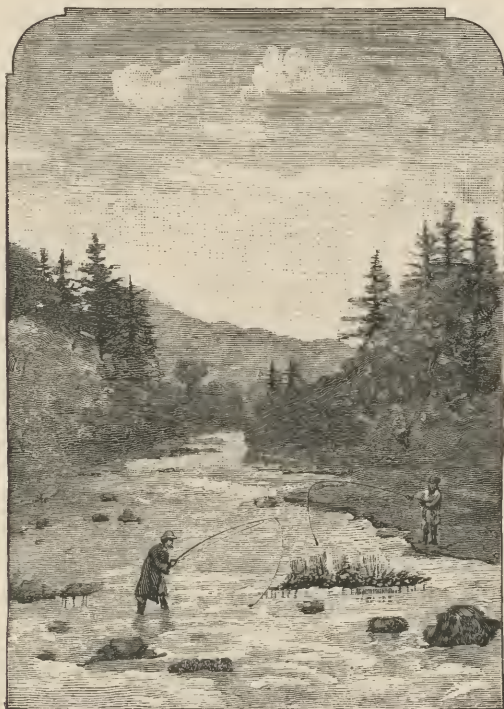
[Continued from Page 226.]

Park City (940 miles west of St. Paul; population, 250), at the head of the Clark's Fork bottom. Park City was settled in June, 1882. It is the centre of a large tract of agricultural land, the very last worthy of mention before the rough approaches to the Rocky Mountains are entered. Citadel Butte, three miles northeast of the town, commands from its summit, 400 feet above the plains, a fine view of the snowy peaks to the westward. Park City has an hotel, a school, and several stores.

Stillwater (957 miles from St. Paul).—This is an old trading post for Indians and hunters. The old Crow Indian Agency buildings are situated about twelve miles south of Stillwater. The agency has recently been removed to the Little Big Horn river, near Fort Custer. At this point the railroad crosses to the south side of the Yellowstone river, the bridge being known as the second crossing. *Merrill*, 966 miles from St. Paul, is a cattle shipping station. *Reed Point* and *Greycliff*, respectively 968 and 984 miles from St. Paul, are unimportant side tracks. *Dornix*, now called

Big Timber (998 miles from St. Paul).—This town is located near the mouth of Big Boulder creek, which flows into the Yellowstone from the south, and facing the mouth of Big Timber creek, which enters the river from the north. It has an hotel and a number of stores and shops, and a saw mill. An extensive grazing country in the valleys of the Big Boulder, the Yellowstone and the Big Timber, is tributary to this point.

Piscatorial.—The Yellowstone river, beyond its confluence with the Big Horn, flows with a strong current through a valley of varying breadth, and is fed by many beautiful mountain streams. Here trout are in abundance and give



Trout Fishing on the Big Boulder.

excellent sport. In passing over several hundred miles of the route in the autumn of 1882, before the railroad had got very far west of the Big Horn river, the writer had ample opportunity to indulge in the gentle pastime. The fish were plenti-

ful at every place of bivouac. On one occasion the Big Boulder river, a broad, clear, rushing stream, was reached half an hour in advance of the main party. Hastily putting a rod together, a cast of the fly was made, and the fish were found to be voracious. In forty minutes there were landed no less than seventeen beauties, several of which weighed two pounds each. This was done with due regard to sport. The tackle was delicate, and each fish had the chance to fight fairly for his liberty. Moreover, the fisherman was compelled to wade far out over the rough boulders in the river bed to reach his victims in their favorite haunt in a deep pool near the opposite shelving bank. This made it necessary to go back to the shore with each captive, after he was safe in the landing net, the passage being made over slippery rocks in a strong current, and consuming much of the time. Compared with its size, what tremendous power a two-pound trout exhibits after it detects its mistake in snapping the deceptive fly! There is nothing in the way of sport more exhilarating than to subdue this wild outburst of vigor.

Springdale (1,012 miles from St. Paul) is the station for Hunter's Hot Springs.

Hunter's Springs.—These celebrated hot springs are situated eighteen miles east of Livingston, at Springdale station, at the foot of the Crazy Mountains, on the north bank of the Yellowstone, one mile and three-quarters from the stream. They were noted for their wonderful healing virtues years before they became accessible by railroad, and, in fact, if the traditional reports of the aborigines may be credited, have been famous among all the Northern tribes from time immemorial. All the Indians in friendly relations with the Crows—within whose country the springs were situated until their reservation lines were fixed by the government—had for generations made pilgrimages to this natural sanitarium with their invalids, pitching their tepees around the fountains for the relief of their

sick, while their sore-backed ponies were healed by washing them in the healing waters below. Of course, the curative properties of the springs were the last hope for those at a great distance, whose afflictions had baffled the skill of their ablest "medicine men." No better proof than this of the healing properties of the water could be afforded, as the savage tribes acquire all their knowledge of the treatment of diseases from the experience of ages handed down from father to son. But there is abundant testimony, also, on the part of numbers of white men who have been restored to health by drinking and bathing in the water of these springs, that there was no superstition in the red man's faith in their remarkable curative powers. They are named Hunter's Springs in recognition of the fact that Dr. H. A. Hunter was the first white man to visit them and discover their medicinal qualities. The doctor, being in advance of the train with which he was traveling, and a mile north of its direct course,—his object in making the detour being to capture an antelope or deer for dinner,—was attracted to the springs by the cluster of Indian tepees which had been pitched around them. Eight or ten different tribes were represented in the concourse. He boldly rode into the promiscuous camp, and his friendly salutations were responded to in a spirit of equal friendliness. Being a physician, he perceived, by the bright iron-stains upon the rocks, the strong sulphur fumes of the ascending vapors, and the white soda and magnesia coating of the vegetation growing out of the sedimentary deposits, the medicinal value of the waters. He reached the spot in the early part of July, 1864, his train being one of the first that entered the then newly discovered gold mines of Montana by way of the Big Horn valley. Whoever may visit the now famous springs, and feast his eyes upon the beauties of the surrounding scenery, will not wonder that Dr. Hunter at once relinquished his bright hopes of winning fortune in the gold mines, and resolved, that, if any white man during

his lifetime should become possessed of these healing fountains, he himself should be that man. Dr. Hunter now enjoys the fruition of the hopes that inspired him nineteen years ago. The clay all around the springs is a blue, adhesive, argillaceous formation, thickly studded with pyritic iron, some of the cubes shining with a gold-like lustre; and in close proximity to the hot-water fountains there are copious springs, from which flow streams of pure water,—as cold in the hottest weather as ordinary ice water. But, valuable as his property is, Dr. Hunter has fully paid for it by the frequent risk of not only his own life, but of every member of his family. He moved his family to the springs in 1871, when marauding parties of Sioux Indians were constantly making raids throughout the country. For five long years, or until the year following the massacre of Custer and his command, the proprietor of the springs and his family were constantly “in the midst of alarms.”

Hunter's Springs are from 3,000 to 4,000 feet above the sea-level, and from fifty to 100 above the Yellowstone river. Their temperature ranges from 148° to 168° Fahrenheit, and they discharge at least 2,000 gallons a minute,—sufficient to accommodate all visitors, without the necessity of pumping. The water, hot or cold, is palatable, many who had used it while under treatment being regularly supplied with it by express, ordering it by the cask. The surrounding geological formations indicate that the springs have been flowing for many centuries. A chemical analysis shows sulphur to be the predominating constituent; but the water also contains magnesia, arsenic, iodine and lime.

The soil near Hunter's Springs is highly productive, being enriched with gypsum and other strong mineral fertilizers. Everything is produced in the gardens of this section that is cultivated in the States of Ohio, Indiana and Illinois. It is one of the best grazing localities in the

Yellowstone valley, the whole face of the country being heavily grassed.

Back in the bluffs, within easy walking distance of Hunter's Springs, there are still many antelope; while hares, ducks,



geese and other small game abound in the vicinity. Deer are occasionally "jumped up" in the groves in the Yellowstone, near the springs; and it is seldom that the sportsman walks far along its banks without having the opportunity to wing a

goose or duck. Elk are numerous in the mountains a few miles out. Few rivers are more thronged with trout than the Yellowstone. The angler must be unskillful indeed who fails to capture a handsome "string" in a couple of hours' fishing. The largest trout will weigh fully three pounds. Good coal has been found within two miles of Hunter's Springs; but the adjacent country has been only superficially prospected for minerals. Springdale station is about three miles from this place, and there is telephonic communication between the two points. Mails arrive and depart daily. Hacks are at the station on the arrival of every train to take tourists and invalids to the springs. There are distinct bath houses for the well and the sick, for male and female, and some of the tubs or tanks are large and deep enough for plunging and swimming. Visitors who prefer vapor baths are also accommodated; the medicated vapors, coming up freshly from the steaming waters, are regulated to any degree of temperature by cold-air jets.

Seven miles westward from Springdale is *Elton*, and five miles further is *Mission*, a new station, at which passenger trains do not stop.

Livingston (1,032 miles from St. Paul; population, 1,800).—This place is an important freight division and branch railroad terminus. It was founded in 1882. Here the main line makes its third and last crossing of the Yellowstone river, leaving the valley, along which it has run a distance of 340 miles westward from Glendive, and passing through the Bozeman Tunnel, in the Belt range of mountains, to the Gallatin valley beyond. The river at this point makes an abrupt turn, flowing from its sources in the mountains far to the southward, through the world-renowned region of the Yellowstone National Park. Three miles from Livingston the high mountains of the Yellowstone or Snow range open their portals just wide enough to allow the river an outlet, and through the cañon



Gate of the Mountains, near Livingston.

thus cut by the stream the branch railroad to the Yellowstone National Park is laid. Livingston is situated on a broad, sloping plateau, on the left bank of the Yellowstone river, directly at the foot of the Belt range. Large engine houses, machine and repairing shops, and other buildings for the use of the railroad, are situated here, on a scale only second in magnitude to those at Brainerd. Veins of fine bituminous coal have been opened eight miles distant, and ledges of good limestone are in the immediate neighborhood. The Clark's Fork mines, rich in silver, lie directly south, and the surrounding hills are occupied by cattle ranches. There is also much valuable mining territory on the Yellowstone river between Livingston and the northern boundary of the Northern Pacific. A number of mines are in successful operation. All these are items which combine to render Livingston an important point. Travel to the Yellowstone National Park must pass through Livingston, and a large business is done in furnishing supplies to tourists. Hotel accommodation has been already provided, and various extensive business enterprises have been established. Livingston is one of the most convenient places from which to leave for the Crazy Mountains and the country adjoining them, which are the favorite breeding grounds of the elk. There is fine trout fishing in the vicinity of the town. A semi-weekly stage runs to White Sulphur Springs and to the Neihart mines.

The Castle Mountain Mines.—Extensive mines of galena silver ore were discovered in 1886 at Castle Mountain, in Meagher county, about forty miles north of Livingston. The development of these mines has created an active town called *Castle*, which has a newspaper, two hotels, and a number of general merchandise stores. The ore is hauled in wagons down the valley of the Shields river for shipment at Livingston. The veins cover the slopes of a low mountain range for a dis-

tance of about ten miles. A railroad from Livingston to Castle to reach these mines has been projected and surveyed (1889). The route follows an easy grade up the Shields river valley through a fine grazing and farming country.



ROCKY MOUNTAIN RAILROAD OF MONTANA.—YELLOWSTONE PARK LINE.

FROM LIVINGSTON TO CINNABAR.—DISTANCE, 51 MILES.

This branch of the Northern Pacific system was built for the purpose of facilitating tourist travel to the National Park. After leaving Livingston it runs through the lower cañon of the Yellowstone, and then through a narrow but fertile valley, and terminates at Cinnabar, just north of the northern boundary of the park. The scenery along the road is among the most picturesque and beautiful to be found in the entire Rocky Mountain region. The mountain peaks on the eastern side of the valley are singularly bold and impressive. Their summits are crowned with beetling crags of massive rock and are covered with snow for the greater part of the year.

Horr, two miles from the terminus of this branch, is a lively coal-mining village, where thirty-six coke ovens are in operation, making coke equal in quality to the famous product of Connellsville, Pennsylvania. The coal is mined in five entries on the side of a steep bluff. It resembles closely the bituminous coal of Western Pennsylvania and Eastern Ohio. All the coke produced commands immediate sale at the smelters in Butte and Anaconda. The village has a population of about 300.

Cinnabar, the terminus of the Park Branch, derives its importance from its railway business, and from the teaming to

the Cooke City silver-mining district. Stages leave Cinnabar, connecting with each arriving train, for the Mammoth Hot Springs hotel, which is the rendezvous and distributing point for all the tourist travel in the National Park

Yellowstone National Park.—It does not come within the plan of this volume to describe the remarkable features of the Yellowstone National Park. It is believed that the convenience of the tourist has been best regarded by setting forth in detail the chief attractions of the Park in a separate book.*

Across the Belt Range.—After leaving Livingston the railroad runs for twelve miles from the valley of the Yellowstone to the approach of the Bozeman Tunnel, on a grade of about 116 feet to the mile. The tunnel pierces the mountains a distance of 3,500 feet, at an elevation of 5,572 feet above the ocean. Some months before the completion of the work a short, steep-grade track was laid over the summit of the pass for temporary use. It is far more agreeable to ride over the mountain than through it, and there are glorious views in every direction. The train runs down the western slope in the wild defile of Rock Cañon, passing out into the broad, fertile valley of the West Gallatin, at Elliston, near the military post of Fort Ellis, twenty-two miles from Livingston. The scenery in Rock Cañon is remarkably grand and impressive. Enormous precipices of gray rock with castellated seams rise high above the dark forests which clothe the sides of the narrow ravine. The rocks have been worn by the action of the weather into many singular and fantastic shapes. At several places massive walls run up the mountain sides, so regular in their appearance that they seem to have been built by human hands.

* Tourists are recommended to obtain a "Manual," for sale on the trains, descriptive of the Yellowstone National Park, profusely illustrated.

Hopper's Mine and *West End* are unimportant stations on the eastern slope of the range.

Timber Line (1,047 miles from St. Paul) is a busy coal-mining town, with about 400 inhabitants. The mines furnish the railroad with coal, and also most of the Montana towns reached by rail.

Bozeman (1,057 miles from St. Paul; population, 4,500), the county seat of Gallatin county, is situated near the end of the Gallatin valley, at its narrowest point. North of the city the mountains are about three miles distant; but the range suddenly diverges in the same direction, and afterward the valley becomes twenty miles in width. Bozeman is the oldest established town on the line of the Northern Pacific Railroad in Montana, the town site having been laid out in July, 1864. In August of that year a well-known frontiersman, John Bozeman, reached the place in charge of a party of emigrants, who were so impressed with the beauty and fertile soil of the valley that they determined to go no further. The town was named in honor of this pioneer, who was murdered three years afterward by Indians in the Yellowstone valley. In 1865 a mill was put in operation, and two years afterward Fort Ellis, situated two and a half miles east of the town, was established, and garrisoned by three companies of the United States troops. The post was abandoned in 1887. The gradual increase of population in the Gallatin valley was soon evident, settlers coming in from the surrounding country, and making Bozeman their trading centre. The city presents a very attractive appearance with its many substantial brick structures, among which are business blocks, churches, two graded schools, and a fine court-house, while on every side appear handsome residences, and neat, cozy cottages. Large mercantile establishments form a prominent feature. The city has also two flouring mills, two newspapers, two banking houses, seven hotels, two planing mills, and sash and door factories. Ex-

cellent brick is manufactured and used in the construction of the buildings. Lumber is abundant and cheap.

Bozeman owes much of her solidity to her agricultural resources. The Gallatin valley is about thirty-one by twenty miles in extent, with a soil composed of a rich, dark vegetable mould. The scenery surrounding Bozeman is very picturesque. Thermal Springs, said to contain medicinal properties, are within an hour's drive. Matthews' Hot Springs, with an hotel and bath house, are seven miles distant. Mystic Lake, twelve miles from the town, covers about eighty acres, and is a beautiful sheet of water. On the mountains around Mystic Lake, and in the vicinity of Bozeman, are forests of stately pines. Among the rivers in Gallatin county are the West Gallatin, Middle Fork and East Gallatin, the Madison, Yellowstone, Shield's river, Big and Little Timber, Sweet Grass, White Beaver, Kiser, Emigrant, Milk, Skull, Big and Little Boulder creeks, Stillwater, and many others of less importance. All these are stocked with trout and some other kinds of fish. Bozeman has remarkable advantages as a summer resort. The air is cool and invigorating. The mercury seldom goes up as high as 85°, and the nights are always cool. There are numerous pleasant drives in the vicinity, and interesting excursions are made to the wild cañons of the Bridger and Gallatin Mountains.

The Bozeman Coal Fields.—In the immediate vicinity of Bozeman, on the slopes of the Bridger and Belt Mountains, is an extensive field of bituminous coal, at which a number of mines have been opened. This field has been traced for a distance of thirty miles. The outcroppings are in the Bridger and Rocky Cañons, on the western slopes of the mountains; and also on Traill creek, on the eastern slope. The largest mining development is at Timber Line, on the railroad, immediately west of the tunnel.

The Bozeman coal is a true bituminous coal, and not a lignite.

The analysis shows about fifty-five per cent. of fixed carbon. There are three seams, the upper one being four and one-half feet thick, the middle one ten feet, and the lower seam sixteen feet. A good coke is made from this coal, and is used for the purpose of smelting ores. The coal is largely used for locomotive purposes, and also for domestic fuel in Bozeman, Helena, and other towns.

After leaving Bozeman, the railroad traverses the broad, level valleys watered by the East and West Gallatin rivers. Farming is carried on by irrigation, the gentle slope of the valley being very favorable for the construction and management of ditches. The average yield of wheat and oats on irrigated land is about double that raised on Eastern farms. *Belgrade* and *Central Park* (1,067 and 1,072 miles respectively from St. Paul) are unimportant side-track stations. *Moreland* (1,076 miles from St. Paul) has an hotel and two stores, and is surrounded by a rich agricultural and stock-raising country.

Gallatin (1,086 miles from St. Paul) has an hotel, and is the station for old Gallatin City, at the three forks of the Missouri, and for the new town of Three Forks, established by a number of enterprising English settlers in 1884. Gallatin City was formerly a commercial town of some importance, but is now merely a decayed hamlet of half a dozen buildings. Within a few hundred yards of this place there is a rocky elevation from which may be seen the meeting of the waters which form the Missouri river. The Madison and Jefferson unite about half a mile south of this promontory, and are joined by the Gallatin a short distance north of the rock. When Lewis and Clark ascended the Missouri river on their exploring expedition, in 1806, they were unable to determine which of the three streams should be regarded as the Missouri, and therefore concluded to give a separate name to each. Later explorations showed that the Jefferson was in reality the



main river, being considerably longer than either of the other two streams, and carrying a larger volume of water. Lewis and Clarke, therefore, robbed the Missouri of over 300 miles of its length, by confining its name to its course below the junction of the Three Forks. A branch road is under construction (1889) from Gallatin to Butte to form a short line between the latter city and points east of Gallatin, and to open up a number of rich mining districts. Shortly after leaving Gallatin, the railroad enters a savage gorge of weather-worn rocks, showing stains of iron and copper, and rising to the height of several hundred feet above the track. On one side of the road runs the swift, clear current of the Missouri, and on the other, tower enormous precipices. The scenery in this cañon is among the finest on the whole line of the road. *Magpie* and *Painted Rock* (1,096 and 1,103 miles, respectively, from St. Paul) are side-track stations.

Toston (1,113 miles from St. Paul, population 200) is a town at the head of what is known as the Missouri valley. This name is locally applied to a stretch of rich bottom lands, about thirty miles long, and from three to five in width. There is a smelter at Toston which uses the ores found a few miles distant on the opposite side of the Missouri river in combination with ores brought from the Cœur d'Alene mining district in Northern Idaho. There is a ferry at Toston, which gives access to the valley of Crow creek, in which lies the old mining town of Radersburg, once a populous placer-mining camp, but now having scarcely a hundred inhabitants.

Townsend (1,122 miles from St. Paul) has a good situation near the centre of the Missouri Valley, and is a place of considerable trade. The upper and middle portions of the valley are irrigated from small streams running out of the defiles in the Belt Mountains, and the lower portion gets water from a ditch taken out of the Missouri. Townsend has two hotels, three general merchandise stores, two livery stables,

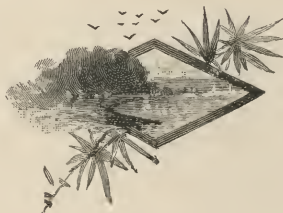
agricultural implement establishments, a weekly newspaper, and drug and hardware stores. The town was established in 1883. There is a daily stage line to White Sulphur Springs, the county seat of Meagher county, forty miles distant, on the other side of the Belt Mountains. White Sulphur Springs has a population of about 500, and is an important trading point for a large district of grazing country. The springs are renowned in Montana for their curative properties, and are much visited by invalids. Good hotel accommodations can be had. The Neihart silver mines are also reached by stage from Townsend, a distance of sixty miles. These mines yield a high grade of silver ore.

Across the Missouri valley from Townsend, in a northeasterly direction, a series of deep gorges, or cañons, has been cut by the waters in the faces of the precipitous mountains. Crowning the summits of the first range skirting the valley is a gigantic ledge of lime rock. This ledge has been thrown up in places to a great height with almost vertical sides, which are partly smooth, partly seamed and gashed by ages of storms, and sometimes cut through from top to bottom by the streams, forming narrow gorges of fantastic shapes. Avalanche Cañon is of great note from its wild beauty and extensive and rich placer mines. This cañon received its name from the frequency of avalanches, or snow slides, which rush down its almost perpendicular sides in winter, sometimes completely filling the gorge. Hell Gate Cañon, about two miles westward, while having a peculiarly suggestive name, amply merits the appellation. Perhaps in no other accessible spot in Montana is there as much rugged beauty in so small a place. The cañon forms the tortuous passage of a silvery stream through a series of gates cut in very high walls. These gates are so narrow that a man can span their width with extended arms. The walls are only a few feet in thickness, but of a surprising height. On each side of the main gorge are smooth

fissures, called Devil's Slides, and every nook is filled with bright mosses and lichens.

Bedford (1,125 miles from St. Paul) is an old mining town, with a small hotel and a few business houses. Some placer mining is carried on in the neighboring gulch. In the early days of mining in Montana, there were two placer camps near Bedford, with the singular names of "Hog'em" and "Cheat'em." *Placer* is a small station, 1,137 miles from St. Paul. *Clasail* (1,144 miles from St. Paul) is a small station on Bedford creek, a stream affording water for a narrow stretch of farming country.

Prickly Pear Junction (1,150 miles from St. Paul) is the point of divergence of the Helena & Jefferson County Railroad, which runs to the important mining district of *Wickes*, on the eastern slope of the Rocky Mountains, twenty miles distant, and also to Boulder, the county seat of Jefferson county, and the centre of a productive silver-mining district. A large smelting plant is located at Prickly Pear Junction and is owned by Helena capitalists. Ores are brought by rail to these works from nearly all the mining districts of central and western Montana.



ROCKY MOUNTAIN DIVISION.

HELENA TO HOPE.—DISTANCE, 298 MILES.

Helena (1,155 miles from St. Paul; population, 18,000).—This is the terminus of the Montana Division, and the beginning of the Rocky Mountain Division, of the railroad. Helena, the capital of Montana, is pleasantly situated at the eastern foot of the main chain of the Rocky Mountains, in latitude $46^{\circ} 30' N.$, and longitude $112^{\circ} 4'$ west of Greenwich, on both sides of the famous Last Chance Gulch, from which at least ten millions of dollars' worth of nuggets and gold dust have been taken, and which still yields annually a considerable amount of the precious metal. So large was the influx of miners at this point in 1864, that the United States Government felt compelled to establish a postoffice for their accommodation. Until then the camp had been known as "Crab Town;" but a meeting was called for the purpose of selecting a better name, and the majority of those assembled decided upon christening it after Helen of Troy. The city is the commercial and financial centre of the State, and the converging point of railroad, stage, express and telegraph lines. It contains a public and also a Territorial library, a classical school, a graded public school, with fine school-houses in different parts of the city; a theatre, with seating capacity for 1,200 people; a handsome court-house, built of Rocky Mountain granite and sandstone, and used for the capitol of the State as well as for the county



The Gates of the Rocky Mountains, Missouri River, near Helena, Montana

offices and courts; six churches; and the United States Assay Office. There are four national banks, with over \$3,000,000 on deposit, a Board of Trade, a well-organized fire department, equipped with three engines and electric fire alarms; a horse railroad and two steam motor railroads, German singing and turner societies, an art club, a social club, and a Masonic Temple, several good hotels, imposing business blocks, and many beautiful private residences. Pure, cold spring water is abundantly supplied from the surrounding mountains, and the streets are illuminated by electric lights. Foundries, saw, grist and planing mills, wagon factories, a smelter, and other industries are situated near the city; and there is telephone communication within the city, and also with Deer Lodge and Butte, and with the mining camps within a radius of fifty miles. Perfect drainage is insured by the fact that Helena lies on a long slope, at the root of which spreads out the beautiful Prickly Pear valley, twenty-five miles long by twelve wide, oval in shape, and thickly studded with farms, the soil of which has produced 100 bushels of oats to the acre.

Helena is surrounded by mountains, rising one above the other until the more distant are lost among the clouds, forming a view of striking beauty and grandeur, which is visible from every part of the city. To the south and west these mountains recede in long, picturesque, timbered ridges, to the main range of the continental divide. The Missouri river is only twelve miles distant, and eighteen miles north of the city begins the famous cañon of the Missouri river, named by Lewis and Clark's expedition in 1805, "The Gates of the Rocky Mountains." Here the river has forced its way through a spur of the Belt Mountains, forming cliffs, frequently vertical, from 500 to 1,500 feet high, which rise from the water's edge for a distance of twelve miles. Near the lower end of this wonderful cañon, in plain view of Helena, thirty miles distant,

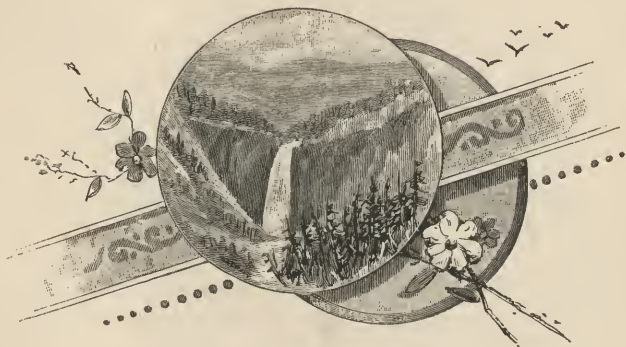
is the jagged peak called by the Indians "The Bear's Tooth," rising abruptly from the river to a height of 2,500 feet, and almost hanging over the head of the voyager as he floats down the stream.

To the left of this curious object a few miles, and breaking through the same range of stratified mountains, is the cañon of Little Prickly Pear creek, a magnificent chasm some fifteen miles long, with an endless variety of views of lofty cliffs crowned with pines, and romantic dells and gorges, where the cottonwood and the alder hang over deep, shady pools, in which hundreds of trout await their destiny in the shape of the man with a bamboo rod and book of flies. This cañon, with hotel accommodation at each end of it, is accessible by rail. "The Gates of the Rocky Mountains" are reached either by carriages to the upper end of the cañon, or by boat through the cañon itself.

Among the other attractions of Helena are the Hot Springs, situated in a romantic glen, four miles west of the city, which are much resorted to by persons afflicted with rheumatism. The temperature of the water as it bubbles up from the earth varies from 110 to 140 degrees Fahrenheit.

About four miles southwest, at the head of Grizzly Gulch, is a group of rich quartz mines, and also some placer diggings, both of which have been extensively worked. There are here many quartz mills, and the drive from the city is through pleasant mountain scenery. Twenty miles to the northwest, over a fine road, are several mining districts, in which are some of the richest gold and silver mines in the Territory. These are worked by a number of large quartz mills, around which have grown up picturesque mountain villages that will amply repay the trouble of a visit. Twenty-five miles by rail to the southwest are the mining towns of Jefferson City, Wickes and Clancy, in the vicinity of which are a great number of rich and extensive silver mines. Fifteen miles west, at the head of Ten-Mile creek,

is a rich belt of silver mines. Thus Helena is surrounded on all sides by rich mining districts, which are in a great measure tributary to her. Helena is the most important railway center in Montana. The main line of the Northern Pacific runs east to St. Paul, and west to the Pacific Coast. Branches of the Northern Pacific run to Wickes, Boulder, and Butte in a southwestern direction; to Rimini in a northern direction, and to Marysville in a northeastern direction.



THE HELENA & JEFFERSON COUNTY BRANCH.

HELENA TO WICKES.—DISTANCE, 25 MILES.

This branch leaves the main line at Prickly Pear Junction, five miles south of Helena, and extends twenty miles in a western direction, along the valley of the Prickly Pear creek, up into the heart of the Rocky Mountains. It was built for the purpose of taking supplies to the mines and reduction works at Wickes, and hauling out their products. The maximum grade is 150 feet to the mile. The mountain scenery is really fine.

Clancy ($14\frac{1}{2}$ miles from Helena) is a small village with two stores and a blacksmith shop.

Alhambra Springs (17 miles from Helena) has an hotel, and hot mineral springs, with a plunge bath.

Jefferson (20 miles from Helena ; population, 200) is an old mining town, once the centre of considerable trade, and was a large placer mining district, but is now almost entirely worked out. The place contains two hotels and a number of stores.

Corbin (22 miles from Helena) is the station for the concentrating works and the Alta, Montana and Rumley mines, about a mile distant on the mountain-side. The concentrating works have a capacity of 150 tons per day.

Wickes (25 miles from Helena ; population, 1,200) is the terminus of the Branch Railroad. The reduction works of the Helena Mining and Reduction Company are located here. The

works contain both smelting and amalgamating plants, and their output of precious metals is about \$100,000 per month. They use the ores of the Comet, Northern Pacific, Alta-Montana and Rumley mines, belonging to the same company, and also the ores from more distant mines. The company employ in their mines and works about 500 men, and their monthly pay-rolls aggregate about \$50,000.



HELENA, BOULDER VALLEY & BUTTE RAILROAD.

This branch of the Northern Pacific system leaves the Helena and Jefferson county branch at Jefferson, 20 miles from Helena, and running up a narrow valley for a few miles, crosses a spur of the Rocky Mountains by a high grade line, showing some very bold and successful engineering work. It then descends into the Boulder valley to the town of

Boulder (37 miles from Helena)—the county seat of Jefferson county, which has a population of about 1,200. It is situated in a fine agricultural valley and is the central trading town for a number of productive silver mines. It has two hotels, a weekly newspaper, three churches, a court house and jail, and about a dozen general merchandise stores and shops. Four miles distant are the Boulder Hot Springs, where there is a good hotel and a bathing establishment, with a large plunge bath. Good accommodations for tourists and invalids. The waters are much used in cases of rheumatism.

From Boulder the railroad is now (1889) being constructed over the main divide of the Rocky Mountains to Butte, and will form a line between Helena and Butte about 25 miles shorter than the present route by way of Garrison. A railroad is also being built as a branch of the Northern Pacific system down the Boulder valley from Boulder to a junction with the Northern Pacific main line near Three Forks, with a branch to the Pony and Red Bluff mining districts.

HELENA & RED MOUNTAIN AND HELENA & NORTHERN RAILROADS.

FROM HELENA TO RIMINI.—DISTANCE, 17 MILES.

This branch of the Northern Pacific system is a mining road, which leaves the main line at Helena, and terminates at Rimini, on the eastern slope of the main divide of the Rocky Mountains. The stations are *Kessler's*, *Thermal Springs*, *Gold Bar*, and *Rimini*, the latter being a central transportation point for the ores of the important group of mines.

FROM HELENA TO MARYSVILLE, 20.4 MILES.

This line runs in a northerly direction from Helena at the base of the Rocky Mountains, and ascends to the mining village of *Marysville*, population 1,100. The stations are Clough Junction and Cruse. There are many important mines near Marysville, the most productive of which is the famous Drum Lummon, which in 1887 yielded over \$2,000,000 of gold and silver.

ROCKY MOUNTAIN DIVISION. MAIN LINE.

[*Continued from page 251.*]

Across the Main Divide.—About twenty-one miles from Helena the main range of the Rocky Mountains is crossed by the railroad at the Mullan Pass, so named after Lieut. John Mullan, U. S. A., who in 1867 built a wagon road from Fort Benton, Mont., to Fort Walla Walla, W. T., thus bringing these distant military posts into direct communication. Here there is a tunnel 3,850 feet in length, and 5,547 feet above the level of the ocean, lower by more than 2,500 feet than the highest elevation of the Union Pacific Railroad, and 1,200 feet below the highest elevation on the line of the Central Pacific. The route from Helena to the Mullan Pass is through the charming valley of the Prickly Pear, across Ten-Mile creek, and up, past heavy growths of pine and spruce and masses of broken boulders, the narrow basin of Seven-Mile creek to the eastern portal of the tunnel. The scene from above reveals one of the most picturesque regions in Montana, in which mountain and valley, forest and stream, are all conspicuous features. Describing this region, Mr. E. V. Smalley wrote:

“Approached from the east, the Rocky Mountains seem well to deserve their name. Gigantic cliffs and buttresses of granite appear to bar the way and to forbid the traveler’s further progress. There are depressions in the range, however, where ravines run

up the slopes, and torrents come leaping down, fed by melting snows. Over one of these depressions Lieut. John Mullan built a wagon road a score of years ago, to serve the needs of army transportation between the head of navigation at the Great Falls of the Missouri and the posts in Oregon. Mullan's wisdom in selecting the pass, which bears his name, was indorsed when the railroad engineers found it to be the most favorable on the Northern Pacific line. The road is carried up ravines and across the face of foot-hills to a steep wall, where it dives into the mountain-side, runs under the crest of the Divide through a tunnel three-quarters of a mile long, and comes out upon smiling green and flowery meadows to follow a clear trout stream down to a river whose waters seek the mighty Columbia. The contrast between the western and eastern sides of the Main Divide of the Rockies is remarkable. On the eastern slope the landscapes are magnificently savage and sombre; on the western slope they have a pleasant pastoral beauty, and one might think himself in the hill country of western Pennsylvania, instead of high up on the side of the great water-shed of the continent. The forest tracts look like groves planted by a landscape gardener in some stately park, and the grassy slopes and valleys, covered with blue and yellow flowers, and traversed by swift, clear brooks, add to the pleasure-ground appearance of the country. What a glorious place this would be for summer camping, trout fishing, and shooting, is the thought of every traveler as he descends from the summit, with his hands full of flowers picked close to a snow-bank. Snow Shoe Mountain rises just in front, across a lovely, verdant valley. Powell's Peak, a massive white pyramid, cuts the clear sky with its sharp outlines on the further horizon, and a cool breeze blows straight from the Pacific Ocean."

Passing down the western slope, the descent is made to the valley of the Little Blackfoot river. This valley is open and well grassed, with cottonwood on the stream, and pine on the slopes of the hills. The river received its name from the Blackfeet Indians, who often passed down the valley to make their raids upon the settlers in Deer Lodge and Missoula counties.

There is good ruffed grouse shooting in the valley, and

also a great many blue grouse in the neighboring cañons. In October black-tailed deer are plentiful, and elk are also found in the mountains. Even a few bison manage to conceal themselves in the mountain fastnesses. Bear—black, grizzly and cinnamon—can be found.

The stations between Helena and the tunnel are *Birdseye* and *Butler* (1,163 and 1,168 miles, respectively, from St. Paul).

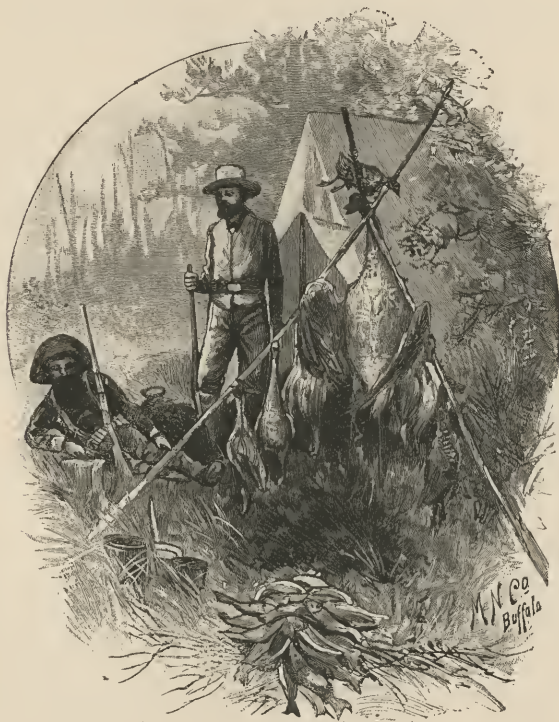
Frenchwoman's.—The first station west of the tunnel is near Frenchwoman's creek. The creek derives its name from the tragic fate which met a Frenchwoman who kept the stage station here many years ago. One morning she was found murdered, and some hundreds of dollars, which she had hoarded, were missing. Suspicion naturally fell on the woman's husband, who disappeared at the time of the murder; but he was not captured and brought to justice. The grave of the victim, inclosed by a wooden paling, is seen on a grassy height, just above the house where the crime was committed, and serves as a pathetic reminder of the event.

Leaving Frenchwoman's, the route follows the winding valley of the Little Blackfoot by an easy down grade to the confluence of this stream with the Deer Lodge river.

Elliston (1,184 miles from St. Paul; population, 300) is situated in the picturesque valley of the Little Blackfoot river. Some farming is done in this valley in connection with stock-raising in the neighboring ranches. Important discoveries of carbonate silver ores were made in the spring of 1889, on the slope of the mountains about three miles from Elliston. The ore resembles in quality and in character of formation the ores of the famous Leadville district in Colorado, and at the date of this work there promises to be a rapid and remarkable development of mining industry at this place.

Avon, 1,193 miles from St. Paul, is an unimportant station.

Garrison (1,206 miles from St. Paul; population, 200), in the valley of the Deer Lodge river, is the junction of the Montana Union Railroad with the Northern Pacific. Garrison was named in honor of William Lloyd Garrison, the eminent leader of the anti-slavery movement in the days before the civil war. It has an hotel and a few stores, and derives its importance chiefly from the transfer of freights and other railroad business.



MONTANA UNION RAILROAD.

FROM GARRISON TO BUTTE CITY—DISTANCE, 51 MILES; AND
FROM STUART TO ANACONDA—DISTANCE, 8 MILES.

The Montana Union is a short railroad owned jointly by the Northern Pacific and Union Pacific Companies. It runs from Garrison to Butte City, a distance of 51 miles, with a branch from Stuart (33 miles from Garrison) to Anaconda (8 miles from Stuart). Its principal business is the transportation of ore from the mines of Butte to the great smelters and reduction works at Anaconda, and the hauling of timber for fuel to both of those towns. It has also considerable passenger business, and passes through the fertile agricultural valley of the Deer Lodge river for a considerable part of its length. At Silver Bow the road connects with the Utah Northern line of the Union Pacific Company, which runs to Pocatello on the Oregon Short Line, and to Ogden on the main line of the Union Pacific.

Deer Lodge (1,218 miles from St. Paul; population, 1,500) derived its name from the abundance of deer that roamed over the broad open prairie, and from a mound which, on a winter's morning, bore a resemblance to an Indian lodge when the steam issued from the hot spring on its summit. Deer Lodge is the seat of Deer Lodge county, and appears quite attractive, nestled midway in the valley, 4,546 feet above the sea. The town is well laid out, and, with its public square, large public

buildings, court house, jail, churches and educational establishments, makes a good impression. There are four hotels, several wholesale and retail business houses, shops and a weekly newspaper. There is a Presbyterian college of Montana for both sexes, located here. This is the only college institution in Montana, and is the most important for high education in the Territory. There is also a Catholic school for the education of girls, conducted by the Sisters of Charity; and a hospital, under the charge of the same sisterhood, which is an excellent benevolent institution. The Montana penitentiary, located at Deer Lodge, is constructed with two wings, containing eighty-four cells. Deer Lodge has four churches, Catholic, Episcopal, Presbyterian and Christian. A handsome brick public school building has been erected at a cost of \$50,000. With these facilities, Deer Lodge is very properly the educational centre of Montana.

The town is a general supply and distributing point for several fertile valleys and the surrounding mining districts. Deer Lodge valley extends fifty miles southward, and is composed of farming and grazing lands. The latter rest on the foot-hills and mountains, while the former are lower down, adjacent to the mouths of the streams. There are remarkable boiling springs in the valley. Many bright mountain trout streams course through its broad expanse, some having their sources eastward in the Gold Creek Mountains, and others coming from the west through the low, rolling, open country between the Deer Lodge and Flint creek valleys. Deer Lodge county is noted for the number, extent and richness of its placer mines, and for years it has led the production in placer gold. Among the surrounding mountains, Powell's Peak, twenty miles west of Deer Lodge City, and 10,000 feet in height, is prominent. There are many small lakes in the mountains, which are full of trout, and large game also abounds. *Dempsey* and *Race Track* are small stations.

Warm Springs (26 miles from Garrison) is principally important as the site of the Montana Insane Asylum, which occupies a number of buildings surrounding the copious spring of warm sulphur water. The mineral water is used beneficially in the treatment of insane patients. The valley narrows in a short distance above Warm Springs. The débris of old placer mining can be seen at many places along the river.

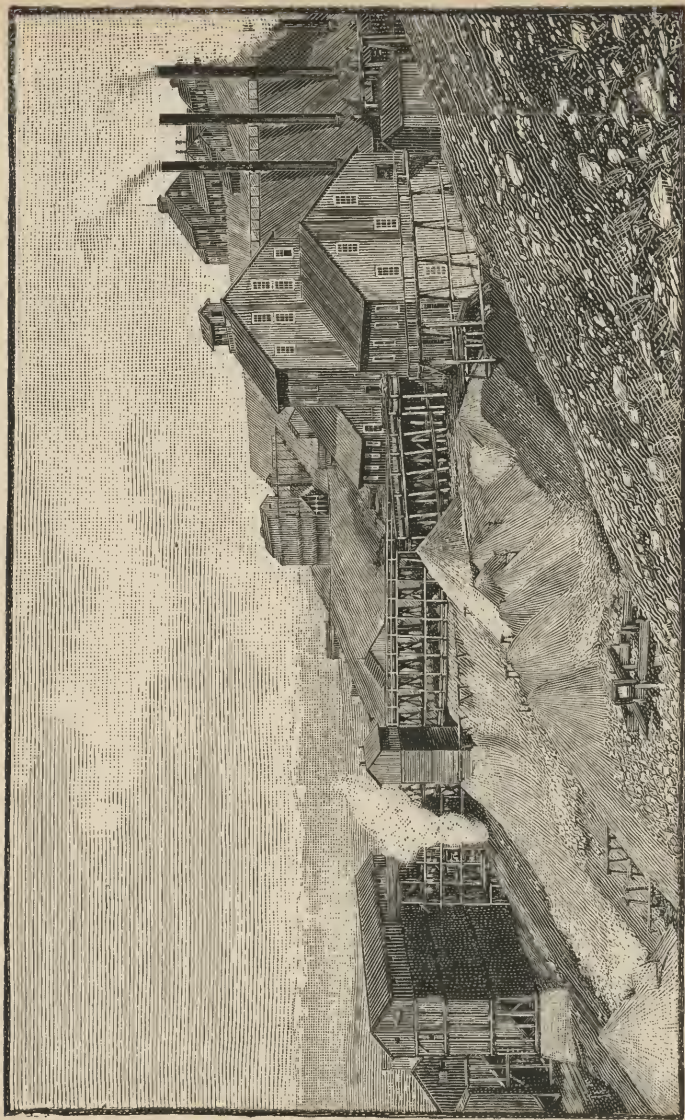
Stuart (33 miles from Garrison).—This is the junction of the branch to Anaconda, and is a small station surrounded by farms and stock ranches.

Anaconda (population, 2,000; 41 miles from Garrison).—The town is picturesquely situated at the head of a small mountain valley in the midst of magnificent scenery. It is well built, having a number of brick blocks. It has a newspaper, opera house, three churches, and a large number of stores and shops. The great smelting and reduction works of the Anaconda company are the life of the place. These works were established at this point on account of convenience for procuring fuel, the slight expense for which ores could be run down grade from the mines in Butte, the abundance of pure water, and the excellent location for a town. The annual out-put of copper matte is greater than at any other point in the world. Two groups of enormous structures about two miles apart constitute the works that employ about 300 men. The fuel used is coke, coal and pine wood, the wood being brought from the mountain gulches down a long flume into which a stream has been diverted, the flowing water performing the work of transporting the sticks of wood.

Silver Bow (44 miles from Garrison) is the junction point of the Montana Union with the Utah Northern, and has a population of about 100, chiefly engaged in railroad work.

Butte City (51 miles from Garrison and 1,258 miles from St. Paul; population, 20,000) is situated near the head of Deer

Lodge valley, and about fifteen miles west of the Pipestone Pass of the main range of the Rocky Mountains, on ground sloping to the south. It is the county seat of Silver Bow county, and is famous for its quartz mines, which are so largely developed as to make Butte the most important mining centre in Montana. In 1875 the first mill was constructed for working the silver ores of the camp, and the population did not exceed 200. To-day Butte City counts its inhabitants by thousands. Up to within a short time little foreign capital was invested in the mills and smelters of the camp; but it is now beginning to come in. The rapid growth of population and wealth in Butte has few parallels in the mining annals of the country, and the prospect is that within a few years the town will be the most productive mining centre in the United States. A peculiarity of the Butte mines is that, almost without exception, wherever a shaft has been sunk, it has paid a handsome profit over and above the cost of working. To the north of the town the ground rises 500 feet higher to the Moulton, Alice and Lexington mines. Besides these mines, or lodes, there are many others, among which are the Shonbar, Bell, Parrott, Gagnon and Original. The veins are true fissures, yielding largely of copper and silver, and assaying well. It is estimated that there are over 300 miles of veins in the district, varying in width from thirty to fifty feet, and developed to a depth of 600 feet. The city is substantially built with large business blocks and fine residences, which, together with its churches, school buildings and hotels, present an attractive appearance. Butte has two daily newspapers, an opera house, a handsome court-house, built of brick and stone, a street railroad system, water-works, using the water pumped from one of the mines, gas and electric light, and is, in short, a brisk and busy city. The great silver mines and mills are on the immediate outskirts of the city, and each is the centre of a populous village of workmen and their families.



Silver Mine and Mill at Butte, Montana.

ROCKY MOUNTAIN DIVISION.

[Continued from page 259.]

From Garrison Westward.—After leaving Garrison, there are fine views of mountain scenery, especially on the left hand, where the snow-mantled peaks of Mount Powell appear. The railroad passes along near the Deer Lodge river, which skirts the heights to the right. The entire region is noted for the richness and extent of its placer mines. Some distance southward are the Gold Hill Mountains, where the diggings are still profitable; and the valleys of Rock, Willow and Squaw creeks, streams which flow into the Deer Lodge, have also produced large quantities of fine gold.

Below the mouth of the Little Blackfoot, Deer Lodge river changes its name to Hell Gate river. The valley here rather abruptly narrows, its breadth for seven or eight miles scarcely exceeding a single mile, with mountains on the right hand and bold bluffs on the left; but it again becomes broader where the waters of Flint creek flow from the south and swell the volume of the river. *Lloyd* (1,207 miles from St. Paul) is an unimportant station.

Gold Creek (1,215 miles from St. Paul) is the station for the old mining town of Pioneer, about three miles distant. On Gold creek the first discovery of gold within the present limits of Montana was made in 1862. At the mouth of the stream there are enormous bars of gravel and boulders produced by

the hydraulic and sluice washings in the region above. There is still some placer mining done on this creek.

Near Gold Creek station the ends of the track of the Northern Pacific Railroad, advancing from the east and the west, were joined in September, 1883. The event was made the occasion of a remarkable celebration, which was attended by many distinguished guests of the railroad company from England, Germany, and from the principal cities of the East, and also from the Pacific Coast. The eastern guests arrived in four immense trains, and were joined by a fifth train loaded with guests from Portland and other towns on the Pacific Coast. This opening excursion of the Northern Pacific was the most extensive and liberal affair of the kind known in railway annals. The first iron spike driven in the construction of the Northern Pacific Railroad was used as the last spike, and was driven by Henry Villard, at that time president of the railroad company.

Drummond (1,227 miles from St. Paul; population 300) has two hotels, four stores, a school, and church, and is the junction of the Drummond & Philipsburg Railroad. Considerable sluice and hydraulic mining is done in the neighborhood, and the valley of Flint Creek, which joins the river opposite the town, contains many well-cultivated farms.



DRUMMOND & PHILPSBURG RAILROAD.

FROM DRUMMOND TO RUMSEY.—DISTANCE, 31.4 MILES.

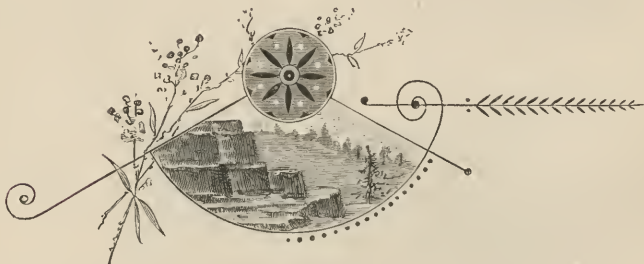
This branch of the Northern Pacific system was constructed in 1887 to afford an outlet for the productive mining district of Philipsburg and Granite Mountain. It follows the valley of Flint Creek to Philipsburg, and then by higher grades reaches the terminal station of Rumsey, in the immediate vicinity of the Granite Mountain and other mines.

New Chicago (three miles from Drummond) is a mercantile town, with an hotel and three stores. *Stone* and *Flint* are small stations in a farming and stock-raising section.

Philipsburg (25 miles from Drummond; population, 1,000) is one of the oldest mining towns in Montana. The first silver mill in Montana was established at this place in 1866. The mill and mine are still owned by the original company, called "The Hope Silver Mining Company," and is still in successful operation. Philipsburg has a weekly newspaper, two hotels, a school, two churches, and about a dozen stores. Beside the trade of the surrounding mines there is considerable ranch country tributary to the town.

Granite Mountain (population 500, near Rumsey station, 31 miles from Drummond).—This is a mining village created by the prosperous activity of the Great Granite Mountain

mine, and of several other mines in the immediate vicinity. It is reached by a good but steep road from Philipsburg at the foot of the mountain, and is a unique little town, built among the huge granite boulders and rocks on the mountain side, partly hiding in the crevices, partly clinging to the precipitous wall where there is only room for one side of a street. Most of the inhabitants work under ground in the mines, or in the huge silver mill near by. The scenery is superb. The savage peaks of the main divide of the Rocky Mountains with their snowy summits look almost as grand as the famous Swiss Alps, and the bright green valleys below make a pleasing contrast with the rugged slopes of the mountains. The Granite Mountain mine is the most valuable silver mine in the world. It was discovered in 1872, but was first profitably developed in 1883. It has since paid to its stockholders up to 1889 over \$3,000,000 in dividends. The ore is base, containing silver, antimony, arsenic, zinc, and copper as sulphides, and native silver in considerable quantity. The average assay value of the ore is 145 ounces of silver to the ton.

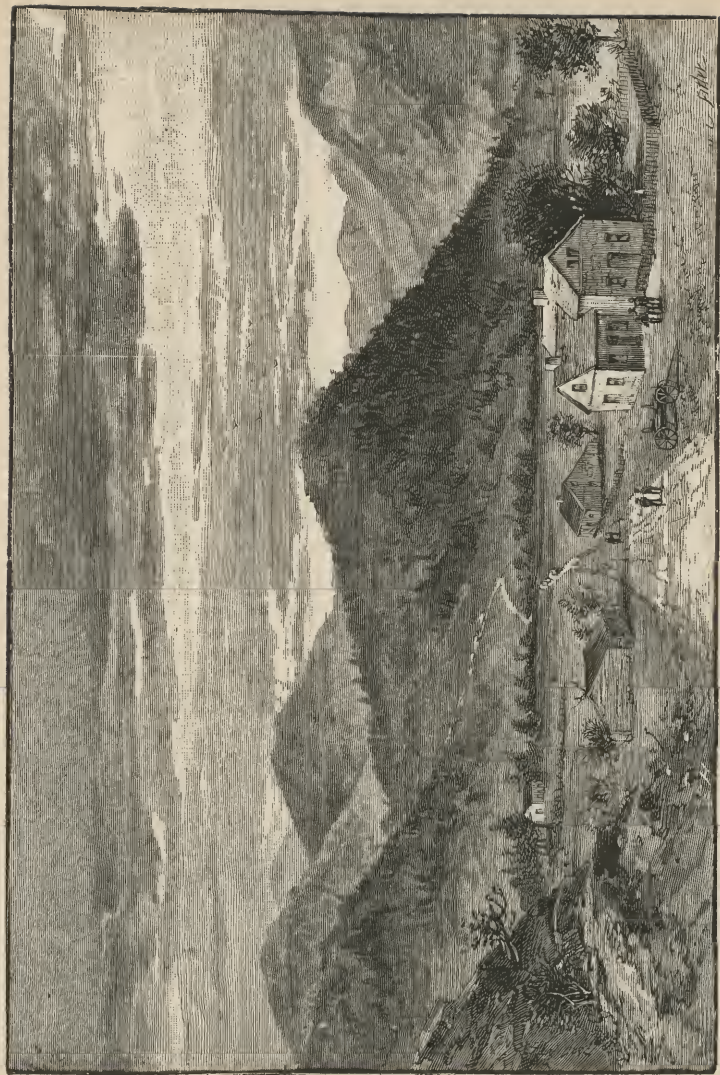


ROCKY MOUNTAIN DIVISION.

[Continued from page 266.]

Bearmouth (1,239 miles from St. Paul) was formerly a station on the stage road between Deer Lodge and Missoula, and is now a shipping point for a small extent of farming and cattle country.

A short distance below Bearmouth the Hell Gate Cañon is entered. This is, however, no narrow mountain pass, as its name would indicate, but, rather, a valley from two to three miles in width, extending a distance of forty miles to the junction of the Hell Gate river with the Big Blackfoot, after which it widens to unite with the valley of the Bitter Root, whereon Missoula stands. The scenery along the Hell Gate Cañon is very fine, often grand. Rock-ribbed mountains rise on either hand, their slopes black with noble specimens of yellow pine, and flecked in autumn with the bright gold of giant tamaracks. The stream itself is deep and swift, quite clear also, except where it receives the murky waters of its many tributaries, which latter in summer are always coffee-colored from the labors of the gold-washers in the mountains. Many islands covered with cottonwood and other deciduous growths, lie in the crooked channel, adding to the general picturesqueness. Two-thirds of the way down the cañon, Stony creek, a fine, bold mountain stream, enters from the southwest, after flowing eighty miles through the range between the Deer Lodge and Bitter Root valleys. The water teems with trout. The Big Blackfoot, Hell Gate's largest tributary, comes in from the



east, with a valley eighty miles long and varying from half a mile to twelve miles in width, considered one of the finest grazing and agricultural sections in Montana. Many good quartz and galena leads have been discovered in the mountains, and the Wallace district, near Baker station, is especially promising.

There are several large saw-mills in the Hell Gate Cañon, which obtain their logs from the cañon itself and from the neighboring mountains. The principal market for the lumber is in Butte, where it is in demand, not only for building purposes, but in large quantities for supports to roofs of the mines. *Carlan*, *Bonita*, and *Wallace* (1,247, 1,255, and 1,263 miles, respectively, from St. Paul) are unimportant stations.

Bonner (1,273 miles from St. Paul; population, 150) is a saw-mill village near the crossing of the Big Blackfoot river. The mills at this place are the most important in western Montana. Logs are floated down the Big Blackfoot river from the slopes of the main divide of the Rocky Mountains.

Beaver Hill—A Legend.—In traveling between Deer Lodge and Missoula, twenty-eight miles from the latter place, at Kramer's Ranch, a remarkable ridge or tongue of land is seen stretching across the valley of the Hell Gate river from the east side, almost in the form of a beaver *couchant*. It is known as Beaver Hill, and it projects so near to the mountains on the west side of the valley as to nearly dam up the river, which is here compressed into a narrow, rocky channel. There is a legend connected with this hill, which is about as follows :

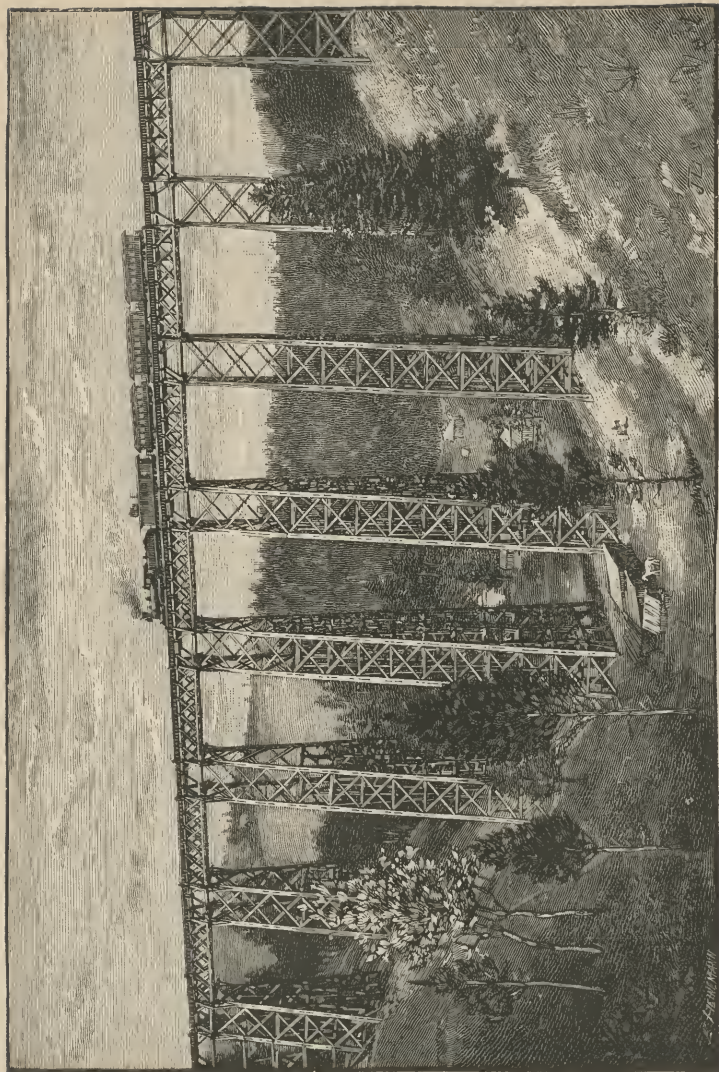
A great many years ago, before the country was inhabited by men, the valleys along the whole length of the river and its branches were occupied by vast numbers of beavers. There was a great king of all the beavers, named Skookum (which in Indian means "good"), who lived in a splendid winter palace up at the Big Warm Spring Mound, whereon the Territorial

Insane Asylum is now situated. One day the king received word that his subjects down the river had refused to obey his authority, and were going to set up an independent government. In great haste he collected a large army of beavers, detachments joining him from every tributary on the way down. On arriving at the great plain now crossed by Beaver Hill, he halted his army, and demanded of the rebels that they pay their accustomed tribute and renew their allegiance. This they insultingly refused to do, saying they owned the river below to the sea, that it was larger and longer than that above; and, as they were more numerous, they would pay tribute to no one. The old king was able and wily, and immediately sent for every beaver under his jurisdiction. When all had arrived he held a council of war, and said, that, as he owned the sources of the great river, he would dam it at that point, and turn the channel across to the Missouri. This would bring the rebels to terms below, because they could not live without water. He so disposed his army that in one night they scooped out the great gulch that now comes in on the north side of Beaver Hill, and with the earth taken out the hill was formed in a night, and so completely dammed up the river that not a drop of water could get through. When the rebellious beavers below saw the water run by and the river bed dry up, they hastened to make peace, paid their tribute (internal revenue tax, perhaps), and renewed their former allegiance. So King Skookum had the west end of the dam removed, and ever since that time the river has run "unvexed to the sea." To commemorate the event, he had the earth piled up on top of the hill to resemble a beaver in form, and it can be seen either up or down the river a long way. The Indians who first settled up the valley got this legend from the beavers, their cousins, more than a thousand years ago; for in those ancient times they could converse together, and did hold communication until some young and treacherous Indians made war on the

beavers for their furs, when the beavers solemnly resolved never to converse with them again, and have steadfastly kept their word.

Missoula (1,280 miles from St. Paul; population, 3,000) is the county seat of Missoula county, and the junction of the Bitter Root Valley Railroad. It is beautifully situated at the western gateway of the Rocky Mountains, on a broad plateau on the north side of the Missoula river, near its junction with the Bitter Root and the Hell Gate, and commands a lovely view of the valley and the surrounding mountain ranges, that stretch away as far as the eye can see. This town used to be as isolated and remote a frontier post as could be found in the Northwest; but the railroad has converted it into a stirring place. It contains an opera house, one of the largest and best appointed hotels in Montana, railroad repair shops, three churches, a national bank, two weekly newspapers, a large and handsome public school building; a female seminary, conducted by the Sisters of Charity, which occupies a new and spacious brick structure; a hospital, also under the charge of the same sisterhood, and also a sanitarium of the Western Division of the Northern Pacific Railroad, conducted on the same plan as the sanitarium at Brainerd, Minn., which takes charge of sick and injured employes on the Eastern Division of the road. It has many attractive and substantial business blocks and residences. There are also a flouring mill and saw mills.

The fertile lands of the plain near by, and the large and rich valley of the Bitter Root, already well settled, over eighty miles long, with an average width of about seven miles, besides other agricultural districts to the northward, all make a lively trade. The altitude of this region is about 3,000 feet. The climate is not as cold as in a similar latitude east of the Rocky Mountains, and the soil produces readily a great variety of cereals, fruits and vegetables.



Marent Gulch Bridge.

The country surrounding Missoula has been the scene of many fierce conflicts between the Indians. Before the whites inhabited the Territory the Blackfeet Indians ambushed Chief Coriakan, of the Flatheads, in a defile fourteen miles north of the city, with a portion of his tribe, and massacred nearly every man. A few years later the Flatheads avenged their chief's death by killing a like number of Blackfeet in the same defile, which now bears Coriakan's name.

Missoula county embraces the large and fertile valleys of the Bitter Root and Jocko. The county is heavily timbered, and is rich in mineral and grazing lands. It contains also many beautiful lakes, well stocked with fish, and frequented by water fowl. Good trout fishing, as well as various other kinds, is obtained in the Missoula, the Bitter Root, Jocko, Lo-Lo, Flathead, Big Blackfoot and Pend d'Oreille rivers, and in Stony and Ashley creeks. The mountain goat is in abundance, and can be found in the vicinity.

Fort Missoula, a garrison of the U. S. troops, is pleasantly situated about half an hour's drive from the town in the Bitter Root valley.



BITTER ROOT VALLEY RAILROAD.

FROM MISSOULA TO GRANTSDALE.—DISTANCE, 50 MILES.

This is a new branch, built in 1887, from Missoula, on the Northern Pacific main line, 1,280 miles from St. Paul, up the picturesque and fertile valley of the Bitter Root river, as far as the new town of Grantsdale, 36 miles, and to be extended about 26 miles further to the head of the valley. The Bitter Root is in some respects the best agricultural valley in Montana. It is lower by nearly 1,000 feet than the valleys near Helena, and has a much warmer climate. Apples and small fruits are successfully grown. There are some valuable mining properties in the mountain range on the western side of the valley. The streams abound in trout, and the mountains in large game, such as Rocky Mountain goats, elk, and bear.

Tyler (28 miles from Missoula) is the station for Stevensville on the opposite side of the river, a prosperous agricultural town, with a population of 300. Close to the town is the St. Mary's Mission, the oldest of the Jesuit missions in Montana. It was established by Italian priests nearly twenty years before there were any white settlers in the region. The old church, mill, and mission house are still standing.

Victor (36 miles from Missoula), is a new town created by the railroad, and has a population of 500. Silver mines and a fine agricultural country promise to make of it an important place.

Grantsdale (50 miles from Missoula) is the present terminus of the Bitter Root Valley Road, which will be continued to the Mineral Hill mining district near the head of the valley. Grantsdale is a new town, surrounded by a very attractive country of irrigated farms and stock ranges. Numerous mineral locations have been made on the slopes of the neighboring mountains, which promise an important mining development.



ROCKY MOUNTAIN DIVISION.

[Continued from Page 275.]

Leaving Missoula, the railroad passes westward across the northern edge of the plain, over a low and well-timbered divide, which separates the waters of the Missoula river (the continuation of the Hell Gate) from those which drain into the Flathead. Fourteen miles from Missoula the road enters the Coriakan Defile, and crosses the Marent Gulch by means of an iron bridge 866 feet in length and 226 feet in height. The Coriakan Defile is surmounted by a grade of 116 feet to the mile, the whole length of the heavy grade being thirteen miles, ascending and descending. The track follows no valley, but proceeds along the faces of hills, which are covered with fir, pine and tamarack, down into the valley of the Jocko river, where the agency of the Flathead Indians is established.

The stations between Missoula and the summit of the Coriakan Defile are *De Smet* (1,286 miles from St. Paul), *Evano* (1,296 miles from St. Paul), at the foot of the steep grade going westward; and *Arlee* (1,307 miles from St. Paul), named in honor of the chief of the Flatheads. The agency buildings are in sight, about five miles distant, at the foot of the Mission Mountains.

The Flathead Indian Reservation.—This reservation extends along the Jocko and Pend d'Oreille rivers a distance of sixty miles. It contains about 1,500,000 acres, which, if divided among the 1,200 Flathead, Pend d'Oreille and half-breed Indians who hold the tract, would give 5,000 acres to each family of four persons. A large part of the reservation con-

sists of a mountainous area, with a growth of valuable timber; but there is also a fair quantity of fine grazing land, as well as many well-sheltered, arable valleys. Mr. E. V. Smalley visited the reservation in the summer of 1882, and gave the result of his observations in the *Century Magazine* for October of that year as follows:

"The Flathead Agency is under the control of the Catholic church, which supports a Jesuit mission upon it, and has converted all of the inhabitants to at least a nominal adhesion to its faith. At the mission are excellent schools for girls and boys, a church, a convent and a printing office, which has turned out, among other works, a very creditable dictionary of the Kalispel or Flathead language. The agent, Major Ronan, has been in office over five years, and, with the aid of the Jesuit fathers, has been remarkably successful in educating the Indians up to the point of living in log houses, fencing fields, cultivating little patches of grain and potatoes, and keeping cattle and horses. The government supplies plows and wagons, and runs a saw mill, grist mill, blacksmith shop and threshing machine for their free use. There is no regular issue of food or clothing; but the old and the sick receive blankets, sugar and flour. Probably nine-tenths of those Indians are self-sustaining. Some persist in leading a vagabond life, wandering about the country; but these manage to pick up a living by hunting, fishing, and digging roots, and sell ponies enough to buy blankets, tobacco and powder. But even the best civilized, who own comfortable little houses, with plank doors and porcelain door knobs, got from the government, like to keep their canvas lodges pitched, and prefer to sleep in them in summer time. Farming is limited to a few acres for each family; but herding is carried on rather extensively. Thousands of sleek cattle and fine horses feed upon the bunch pastures along the Jocko and the Pend d'Oreille, on the Big Camas prairie, and by the shores of Flathead Lake.

* * * Probably there is no better example of a tribe being brought out of savagery in one generation than is afforded by the Flatheads, and their cousins, the Pend d'Oreilles. Much of the credit for this achievement is, no doubt, due the Jesuit fathers, who, like all the Catholic religious orders, show a

faculty for gaining an ascendancy over the minds of savages, partly by winning their confidence by devoting themselves to their interests, and partly, it may be, by offering them a religion that appeals strongly to the senses and superstitions. These Indians boast that their tribe never killed a white man. They are an inoffensive, child-like people, and are easily kept in order by the agent, aided by a few native policemen. Life and property are as secure among them as in most civilized communities. With them the agency system amounts only to a paternal supervision, providing implements and machinery for husbandry, and giving aid only when urgently needed. It does not, as upon many reservations, undertake the support of the tribe by issuing rations and clothing. Instead of surrounding the agency with a horde of lazy beggars, it distributes the Indians over the reservation, and encourages them to labor. It ought to result in citizenship and separate ownership of the land for the Indians. Many of them would now like deeds to the farms they occupy; but they can not get them without legislation from Congress changing the present Indian policy. Practically, they control their farms and herds as individual property; but they have no sense of secure ownership, and no legal rights as against their agent or the chief. Some of them complain of the tyranny of the native police, and of the practice of cruelly whipping women when accused by their husbands of a breach of marriage vows,—a practice established, it is charged, by the Jesuits; but in the main they seem to be contented and fairly prosperous. Among them are many half-breeds who trace their ancestry on one side to Hudson's Bay Company servants or French Canadians,—fine-looking men and handsome women these, as a rule. They are proud of the white blood in their veins, and appear to be respected in the tribe on account of it; or perhaps it is their superior intelligence which gains for them the influence they evidently enjoy. Shiftless white men, drifting about the country, frequently attempt to settle in the reservation and get a footing there by marrying squaws; but they are not allowed to remain. The Indians do not object to their company so much as the agent."

Flathead Lake, a magnificent sheet of water, twenty-five miles long and six miles wide, is situated on the reservation.

The fertile lands at the lower end of the lake are occupied by Indians, whose farming operations are well conducted. At the upper end of the lake there is a fine fertile valley drained by the Flathead river, which flows into the lake. This valley contains six or eight townships of excellent agricultural land, and is pretty well settled by white farmers. A steamboat plies upon the lake and affords transportation to this region. No irrigation is required in this valley, and the country is well adapted for general farming and stock-raising. The lake is noted for its picturesque scenery. Wooded islands dot its waters, and large landlocked salmon live in its crystal depths. The Flathead or Pend d'Oreille river issues from the lake, and flows with strong current, and with a fall of fifteen feet at one point in its course, to its junction with the Jocko, thirty miles below. Near the Mission of St. Ignatius are the cascades known as the "Two Sisters," a visit to which Gen. Thomas Francis Meagher, acting Governor of Montana, who was drowned at Fort Benton in 1867, eloquently described. He wrote:

"Topping a low range of naked hills, we had a sight which made the plastic heart of the writer dilate and beat and bound and burn with rapture. Beyond there, walling up the horizon, were the Rocky Mountains, rearing themselves abruptly from the plains and valleys,—no foot-hills, no great stretches of forest, to detract from the magnificent stature with which they arose and displayed themselves unequivocally, with their bold and broken crests, with their deep and black recesses, with their borders of white cloud in all their massiveness and stern, cold majesty, in the purple light of a midsummer evening, the calmness and the glory of which were in full consonance with the dumb, gigantic features of the scene. Right opposite, leaping and thundering down the wall of a vast amphitheatre that had been scooped out of the mountains, was a torrent, bounding into the chasm from a height of fully two thousand feet, but looking as though it were a bank of snow lodged in some deep groove, so utterly void of life and voice did it ap-

pear in the mute distance. A mass of trees blocked the bottom of the amphitheatre; and following the torrent which escaped from it after that leap of two thousand feet, thousands and tens of thousands of trees seamed the valley with a dark green belt, all over which the hot sun played in infinite reflections and a haze of splendor. The path to this chasm lies through a dense wood, the beautiful and slender trees in which are closely knitted together with shrubs and briars and snake-like vines; while vast quantities of dead timber and immense rocks, slippery with moss, and trickling streams, thin and bright as silver threads, encumber the ground and render it difficult and sore to travel. There are few tracks there of wild animals, and all traces of the human foot are blotted out, so rarely is that solitude visited even by the Indian.

"As we neared the foot of the Elizabeth Cascade,—for such was the name given to the headlong torrent,—great was our surprise to find another torrent equally precipitous, but still more beautifully fashioned, bounding from the edge of the opposite wall; and, as a jutting rock, sceptred with two green trees of exquisite shape and foliage, dispersed its volume, the torrent spread itself into a broad sheet of delicate foam and spray, white and soft, and as full of light and lustre as the finest lace-work the harvest moon could weave upon calm waters. This cascade is completely hid from view until one stands close under it, and the fathers of the mission, strange to say, knew nothing of it until our explorers told them exultingly of their discovery. To this they gave the name of the Alice Cascade, christening them both the Two Sisters."

Ravalli (1,317 miles from St. Paul) is the station for the Saint Ignatius Mission. It was named in honor of Father Ravalli, an eminent philanthropic missionary who labored among the Flatheads and their allied tribes for about forty years, and died in 1884. The Saint Ignatius Mission, six miles from the station, is, with the exception of the Saint Mary's of the Bitter Root valley, the oldest Catholic mission in the northern Rocky Mountain region. It was established in 1854. It consists of a church, a school for girls, a school for boys, a dwelling for the missionary fathers, and numerous shops and mills.

Mission valley is one of the loveliest in Montana, and is well worthy the attention of tourists. The Mission Mountains, which bound it on the east, are unsurpassed for grandeur of scenery in the entire Rocky Mountain chain. They contain numerous cañons and water-falls. Flathead Lake is easily reached from the mission by a drive of about thirty miles over a good road.

The railroad follows the beautiful valley of the Jocko river to its confluence with the Flathead, forty-four miles from Missoula. The Flathead for the next twenty-five miles, until its waters are united with those of the Missouri, is now called the Pend d'Oreille river. Keeping along the left or southern bank of this stream for seventeen miles, the road sweeps around a grand curve, and crosses to the right bank over a fine truss bridge, which, with its approaches, is about 800 feet long. Eight miles beyond the crossing, the muddy waters of the Missoula, pouring in from the south, mix with the bright flood of the Pend d'Oreille, and the united streams now take the designation Clark's Fork of the Columbia. This name is retained, except where the river widens out into Lake Pend d'Oreille, 100 miles westward, until the waters mingle with those of the Columbia river, in the British Possessions, northward.

Jocko, Duncan, Perma and Olive (1,324, 1,331, 1,339 and 1,345 miles respectively from St. Paul) are unimportant stations.

Paradise Valley and Horse Plains.—Two small and charming valleys soon appear to vary the fine mountain views. They are Paradise valley and Horse Plains, both celebrated among the Indians as wintering places for their ponies. Paradise valley is seven miles westward of the junction of the rivers. It is two by four miles in extent, and well deserves its name. Six miles beyond is Horse Plains, a circular prairie, six miles across, containing a township of fertile land, situated in the midst of very wild scenery. High mountains stand around, and lend the warmth of spring, while their own sides are white

with snows. These valleys are the only spots on the immediate line of the railroad for over a hundred and fifty miles that invite cultivation. The oldest inhabitant of this region is one Neptune Lynch. He drifted hither almost twenty years ago, and was content to own a few cows and let them roam the wilderness. The small herd of sixty cows grew and thrived. They summered in the mountains, and wintered in the valleys, where snow seldom falls over four inches in depth. Lynch's stock, which roam for a hundred miles, have made him and his sons rich. The land of Horse Plains produces everything desirable in a northern latitude, under irrigation; but in some seasons irrigation is not needed. At Horse Plains there is a post office, school, hotel, and two stores, and a prosperous community of farmers and stock men.

Leaving Horse Plains, and crossing Clark's creek, with Lynch's Buttes visible to the right, the railroad continues westward along the right bank of the river through an unbroken mountain region; which affords magnificent views at every turn. The mountains tower on either side. There is no bench land, much less any fertile bottoms, though sometimes level spots of a few acres are heavily timbered. Room is not always found for the track, which is often blasted out from the points of the hills. The grand surroundings of the route at times produce remarkable effects.

Weeksville, Eddy and Woodlin (1,365, 1,372 and 1,378 miles respectively from St. Paul) are side-track stations for railroad operations.

Thompson River station, thirteen miles from Kitchen's, and a mile or so west of the point where the track crosses that stream, is placed on a plateau which is planted by nature with scattering pines, and surrounded by a grand cordon of mountains. For several miles here the scenery is very fine, equal to any views to be seen upon the road.



Thompson's Falls, Clark's Fork of the Columbia, Montana

Thompson's Falls (1,382 miles from St. Paul; population, 300) is beautifully located at the falls of the Clark's Fork river, has two hotels, a livery stable and a number of mercantile houses. The river furnishes a remarkable water-power, which has not yet been utilized.

Grand Scenery.—Everywhere along the Clark's Fork of the Columbia there is magnificent scenery. Cottonwood grows close to the river, and firs and pines clothe the benches and mountain-sides, except where the latter are so nearly vertical that forests can not grow. Magnificent vistas are presented as the train moves along, changing and wearing new forms at every turn. The mountains are conical, and sometimes vertical, as where the river has cut through them with tremendous force. The constant succession of towering hills, grouped in wild array, is never wearying, and is sometimes startling in effect, as when some tributary from the north or south tears its way to the greater stream, and offers a vista, reaching far through the deep-worn cañon or ravine, along which the heights are ranged as far as eye can see. One of the most striking of these side effects is where Thompson's river comes in from the north, and you look up the long and sharp ravine to catch a momentary glimpse, from the trestle bridge, of the foaming water-fall and the heights that wall it in.

Views on the Clark's Fork.—Reaching the second crossing of the Clark's Fork, there is seen a navigable stretch of water that was utilized by placing a small steamer on it at the time the railroad was under construction. East of the second crossing, the mountains close in upon the view, often abruptly. West of it the valley widens. There is no land to style it a valley; but the gorge is wider and the river less turbulent. The scenery has the same features, but in rather quieter lines, as the heights do not crowd the river so much. The road is now on the south side of the stream. West of Second Crossing, about ten miles, the track follows a high bench, and a view is shown

of the river where its waters have cut a deep channel far below. Mountains on the north stand imminent, and make a striking picture.

Good Hunting and Fishing.—Another feature of this



Along the Clark's Fork.

mountain region, which is likely to attract the attention of lovers of sport, is that abundance of game is found among all the ranges. There is no other region that can surpass it for the presence of wild and game animals, as well as birds and

fish. Bears are very common; elk, caribou or moose haunt these mountains, and deer of various kinds abound. There are many of the fur-bearing animals, such as otter, beaver and mink; while grouse, pheasants, ducks, geese and other fowl are plentiful in their season. The waters abound in the finest trout of various varieties, from the little speckled beauties of the mountain rills to the great salmon trout found in the larger streams and lakes.

After coursing along the northern and southern banks of the Clark's Fork of the Columbia for a hundred miles, the views of mountain and forest sometimes broadening, sometimes narrowing, and the river alternately showing a wooded reach of smooth water and a stretch of tumbling breakers, the mountains again crowd together near Cabinet Landing. The stations on the next thirty-seven miles after passing Thompson's Falls are *Belknap*, *White Pine*, *Trout Creek*, *Tuscor* and *Noxon*. These stations are either for the convenience of the railroad employés or for the shipment of lumber, and in every other aspect are at present of not sufficient importance to be described. Belknap was for a short time an important shipping point for the Cœur d'Alène mines, but was destroyed by fires in 1884, and has not been rebuilt. At several points on the line the track is carried across lateral streams by massive trestle bridges, the one over the deep gorge of Beaver creek being especially noticeable from its height and graceful curve. These frequent bridges, as well as many deep cuttings through the spurs of the mountains, attest the difficulties which the engineers were required to surmount in constructing the line.

IDAHO.

The Northern Pacific Railroad passes over a very narrow strip of northern Idaho,—scarcely a degree of longitude,—between the eastern end of Lake Pend d'Oreille, and to a point near Spokane Falls, Washington. Idaho is bounded on the east and northeast by Montana and Wyoming, from which it is separated by the winding chain of the Bitter Root or Cœur d'Alène Mountains. On the south it follows the forty-second parallel along the line of Utah and Nevada. On the west lie Oregon and Washington, and on the north the British Possessions. Idaho is embraced between the forty-second and forty-ninth parallels of latitude, and between the 111th and 117th meridians of longitude, west of Greenwich. Its area is 86,294 square miles, or 55,228,160 acres. The northern part of the Territory is quite mountainous, some of the highest altitudes reaching 10,000 feet. Mountain and valley alike are covered with a dense growth of coniferæ. The principal ranges are the Bitter Root and the Salmon Mountains, the latter traversing the central portion of the Territory. South of this mountain range, stretching nearly across the Territory, is the Snake river plain, the surface of which is either level or gently undulating. Still further south is an elevated plateau, which merges in the southwest into an alkaline desert. Idaho is, on the whole, well watered. Its principal stream is the Snake or Lewis Fork of the Columbia, which, with its many affluents, drains about five-sixths of the Territory. This stream, generally confined within high walls

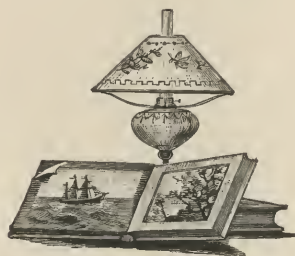
of basalt, pursues a tortuous and tumultuous course, from its sources in Wyoming, of about 1,000 miles, interrupted by many falls of considerable height. It is only navigable from a short distance above Lewiston, near which city it leaves the Territory, to its junction with the Columbia river, at Ainsworth, less than 100 miles distant. The principal tributaries of the Snake river are the Salmon, the Boisé, the Owyhee and the Clearwater, the Salmon river draining the central part of the Territory.

The arable lands of Idaho are estimated at ten per cent. of its area. There are fine small valleys in the northern part on all the streams flowing into the Snake river from the east, with an abundance of water. In the south there are also good valleys which could be cultivated by irrigation. The grazing lands of Idaho cover a great area, especially in the southern part of the Territory. All the level country of the Snake river plains is valuable for pasturage, as well as the mountain ranges to the south and southeast, which are covered with bunch grass.

The Territory was organized in 1863, having been cut off from Oregon, although a part of it was subsequently given to Montana. The mineral resources of the Territory are very great; but as yet they have been only slightly developed. The principal yield has been from the placers along the Snake and other rivers, which has amounted to about \$75,000,000 since operations were begun. There was no railroad in Idaho before 1880, at which date the Utah & Northern Railroad ran its line through the southeastern part, and has since extended its system to Montana. The Oregon Short Line, a branch of the Union Pacific Railroad, diverging from Granger, in Wyoming, meets the Oregon Railway and Navigation Company's system at Huntington, on Snake river. The gradual failure of placer mining has very much stimulated the prospecting for lodes of gold and silver, and valuable

discoveries of these metals have been made in all of the mountain ranges, requiring only better transportation facilities for their development.

The population of Idaho is estimated to be near 100,000, exclusive of the Indians, who number about 5,000. These Indians consist of the Nez Percés, Bannacks and Shoshones. The former, numbering 2,807, have a reservation of 1,344,000 acres on the Clearwater, near Lewiston, toward the northern part of the Territory. The two latter tribes, numbering 1,500, jointly occupy a reservation of 18,000 acres in the southeastern part of the Territory, on the Snake and Portneuf rivers. There is also a reservation near Lemhi, in the Salmon River Mountains, where 677 Indians are reported as having their homes.



ROCKY MOUNTAIN DIVISION.

[Continued from page 288.]

This division formerly ended at Heron (1,429 miles from St. Paul) and a small town of railway employ  s grew up at this point upon a plateau in the midst of a dense forest. The division terminus was removed in 1889 to Hope, twenty-four miles further west, on the northern shore of Lake Pend d'Oreille. Since then Heron has been almost deserted.

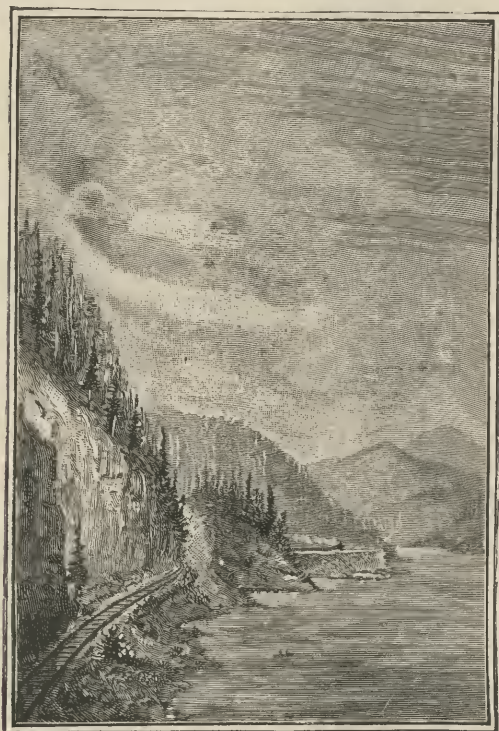
Cabinet Landing.—At this point, six miles west of Heron, the river is confined in a rocky gorge, through which it dashes at tremendous speed. The columnar rocks that hem in the torrent are from 100 to 150 feet in height, their brows crowned with pin  s, and the romantic wildness of the gorge is of surpassing beauty. The bold, fluted pillars of rock are not unlike those of the "Giant's Causeway" in Ireland. Cabinet Landing derives its name, in part at least, from the fact that here the Hudson's Bay Company, in carrying up goods by boat from the foot of Lake Pend d'Oreille to Horse Plains, was compelled to make a portage. From Cabinet Landing the train runs through solid rock cuttings, the walls of which tower far above the rushing, tumbling stream below. *Clark's Fork*, a station on the confines of Idaho, eight miles from Cabinet, is next passed; and ten miles further the pleasant town of *Hope*, on the strand of Lake Pend d'Oreille, is reached.

Lake Pend d'Oreille.—This beautiful lake may be likened to a broad and winding valley among the mountains, filled to the brim with gathered waters. Reaching the lake,



Cabinet Gorge, on Clark's Fork.

the railroad crosses the mouth of Pack river on a trestle one mile and a half in length, and skirts the northern shore for upward of twenty miles. The shores are mountains; but, wherever there is a bit of beach, it is covered with dense forest.

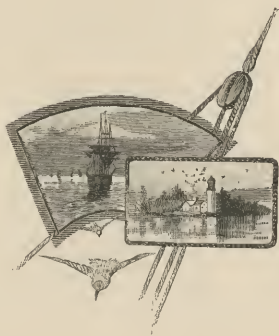


Skirting the Clark's Fork.

The view of the lake from the car windows, with its beautiful islands and its arms reaching into the surrounding ranges, is superb. The waters stretch out south, and fill a mountain cove to the southwest before those of the Clark's Fork meet them.

From this point the river makes the lake its channel, and passes out at the western end on its flow northward to meet the Columbia, just over the boundary line in British Columbia. The whole length of the lake, following its curves and windings, must be nearly sixty miles. In places it is fifteen miles wide, and in others narrows to three miles.

The circuit of the lake shore is full of surprises. The mountains are grouped with fine effect, and never become monotonous. Along the lake the most prominent features of civilization are the saw mills, which supplied material for railroad construction, and are now employed manufacturing lumber for shipment. The forest is interminable; but, where the mountains are abrupt, the trees do not grow large enough and clear enough to make good lumber. The benches and levels along the streams are generally thickly studded with giant pines or firs, and these trees also tower in the ravines. These spots of good timber are selected as sites for saw mills, and the carrying of lumber will be an important branch of traffic. The Northern Pacific Road reaches its farthest northern limit at Pend d'Oreille, and thence turns south and west.



IDAHO DIVISION.

FROM HOPE, IDAHO, TO WALLULA JUNCTION, WASHINGTON,
246 MILES.

Hope, Idaho (1,453 miles from St. Paul; population, 500) is beautifully located on high ground on the northern shore of Lake Pend d'Oreille. It was formerly only a fishing and hunting resort, with a small hotel for sportsmen; but the removal of the Northern Pacific division terminus from Heron in 1888, and the discovery of important mines of silver ore on the south shore of the lake, have caused a rapid growth, and the new town promises to become, in a few years, a place of considerable importance. Beside the mines on the lake it is the nearest point on the Northern Pacific for the Kootenai valley mining and stock region which extends northward into British Columbia. Three steamers cross the lake to the new mines, called Chloride and Weber. The landing for the mines is at the mouth of Gold Creek, about thirty miles by water from Hope. About four miles up a narrow valley from the lake is situated the mining town of Chloride, with a population in 1889 of 300. Across a mountain range is the Weber group of mines, and a small town of the same name. The ore veins of both Chloride and Weber are true fissures, with some chloride silver in the out-croppings, and with black sulphates of silver and galena further down. Some of the ore yields as high as \$500 to the ton.

Kootenai (1,464 miles from St. Paul).—At this station the Pack river enters Lake Pend d'Oreille, and from here an old fur-trading and mining trail leads to the Kootenai river, a distance of about thirty miles. The Kootenai is an eccentric stream, running first south, and making a long bend, and afterward flowing due north far into British territory. The Kootenai is navigable for 150 miles, for 100 miles of which it expands into a deep, narrow lake. Numerous large veins of galena silver ore are found along the shores of Kootenai Lake and river, and are the basis of several important mining enterprises. A small steamer runs upon the Kootenai. Travelers going to the Kootenai country should leave the railroad at *Hope* or *Sand Point*.

A company of Portland business men has recently placed a small steamer upon this river, and design to open a regular route of travel from the Northern Pacific Railroad northward, by way of the Kootenai, to the Canadian Pacific Railway, the purpose being chiefly to develop the mining and agricultural resources in the valley of the Kootenai.

Sand Point (1,468 miles from St. Paul), on the shore of Lake Pend d'Oreille, was a place of importance during the time of railroad construction. It is also a good point to lie over for a day's hunting, or for catching some of the trout with which the lake abounds. A wagon road has been made from Sand Point to the Kootenai river, a distance of about forty miles. *Algoma* station is six miles beyond.

Cocolalla (1,481 miles from St. Paul).—This station derives its euphonious Indian name from the bright sheet of water which lies near the track. The lake is several miles long, but not wide. On approaching it, a charming view of wave, wood and mountain will be caught. But we are passing out of Wonderland. Mountains no longer seem to overtop us. The train sweeps on toward the southwest, following a natural pass between the ranges, presently entering a valley a few miles wide.

There is no settlement along the road, and no cultivation. The forests sometimes break away and give space for open country; but there is little except continuous woods. The only improvements we see are the railroad stations every few miles, and occasionally a saw mill. These are the pioneers of civilization in the Northwest. The stations have musical Indian names, such as *Chilco* and *Calispel*, and little else. Continuing southwestwardly, the road clings to a mountain side. *Loana* is passed, and, seven miles beyond, the Spokane valley is entered, near

Rathdrum (1,510 miles from St. Paul) is a small town situated on the northeastern verge of the great Spokane Plain, has a population of 300. There is considerable good farming land near by, much valuable timber, and some excellent range for stock.

Hauser Junction (1,518 miles from St. Paul) is the point of the divergence of the Spokane Falls & Idaho Railroad.





Lake Pend d'Oreille, Idaho.

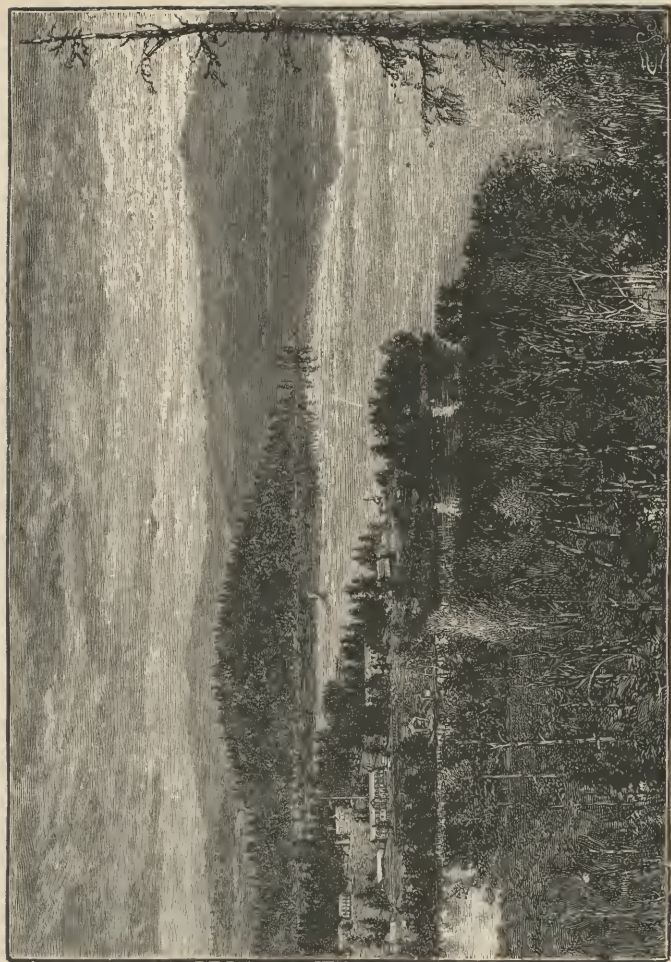
SPOKANE FALLS & IDAHO RAILROAD.

FROM HAUSER JUNCTION TO CŒUR D'ALÈNE CITY.—

DISTANCE, 13.3 MILES.

At Hauser Junction, 19 miles east of Spokane Falls, a branch road diverges and runs south to the foot of Lake Cœur d'Alène. Trains on this branch are made up at Spokane Falls, which is the terminus for operating purposes.

Cœur d'Alene City (32 miles from Spokane Falls; population, 500) is beautifully located in the pine forests at the foot of the lake of the same name, and in the immediate vicinity of Fort Sherman, one of the most attractive military posts in the United States. Lake Cœur d'Alène is one of the most beautiful mountain lakes to be found anywhere in the world. It is surrounded by the spurs and foot-hills of the Bitter Root and Cœur d'Alène Mountains, and its shores are covered with open and park-like forests. Its length is about thirty miles, and it receives two navigable streams, the St. Joseph river and the Cœur d'Alène river. The latter, in connection with the lake, furnishes the water highway to the rich and prosperous mining region. Steamboats leaving Cœur d'Alène City, run up the lake and the Cœur d'Alène river to Mission, a distance of sixty miles, where they connect with trains which run to the towns of Wardner, Wallace, Burke and Ryan, in the South Fork mining district.



Lake Cœur d'Alene, Idaho.

CŒUR D'ALENE RAILWAY & NAVIGATION COMPANY'S ROAD.

FROM MISSION TO RYAN, 31.6 MILES, WITH A BRANCH FROM
WALLACE TO BURKE, 7 MILES.

This important line of road was built by D. C. Corbin of New York City in 1887, and was transferred in 1888 to the Northern Pacific Company. A connecting link is being constructed (1889) between Cœur d'Alène City and Mission, in order to make an unbroken rail route from the Northern Pacific main line to the Cœur d'Alène mining towns and camps.

A trip to the Cœur d'Alène mining region can be strongly commended to the tourist, who admires picturesque lake, river, and mountain scenery, and to the business man, who is interested in the development of the new and important mining region. The trip by steamer on Lake Cœur d'Alène and the river, is hardly equaled for beauty of natural scenery by any water journey of equal length in the United States, unless it be on the Hudson river. The old Jesuit church at the Mission, built in 1847, is an interesting building to visit.

Mission is on the Cœur d'Alène Indian Reservation, and no business growth is possible until the reservation is opened to the public. Besides the old Mission Church the only buildings are the railway warehouses and a small hotel.

Kingston (5 miles from Mission) is handsomely situated on a broad plateau on the south bank of the Cœur d'Alène river. It has some lumbering industry and a little farming land.

Wardner Junction (13 miles from Mission) is the station for Wardner about four miles distant.

Wardner is an important mining town of 1,500 inhabitants, situated in a narrow gulch shut in by high mountains. On the slopes of these mountains in the immediate vicinity of the town are several important silver mines. The most productive of these are the Sullivan and Bunker Hill. The ores from these mines are concentrated before shipment to Montana and eastern reduction works. Wardner has four hotels, two banks, a newspaper, and a long street of business houses. It is connected by telephone lines with all the towns of the Cœur d'Alène region and also with Spokane Falls.

Osborne (19 miles from Mission; population 250) is situated in a pleasant open valley, and is the point of departure from the railroad for Murray, the central town of the gold-mining district, 25 miles distant. The well-built mountain road crosses two ranges, passes through the mining village of Delta, on Beaver creek, at the mouth of Trail creek, and descends into the valley of Pritchard creek, three miles below Murray.

Murray is an active business town of 1,000 inhabitants, surrounded by huge gravel piles from the placer diggings. It is built on gold, literally as well as figuratively, for not only does it depend solely on the gold mining for existence, but the whole gulch where its buildings stand is valuable placer ground. Besides the placer diggings where the earth and gravel is washed in sluices to separate the nuggets and gold dust, there are three quartz mills for crushing and pulverizing the gold-bearing quartz. Murray is the county seat of Kootenai county, and has two weekly newspapers, two hotels, a bank, and a score of business houses.

Placer gold was discovered in 1883 on Pritchard creek, a tributary of the Cœur d'Alène river. Early in 1884, there was

a remarkable movement of miners, tradesmen and adventurers, to this hitherto wilderness region. What is called in mining camps a "stampede" took place. From two to three thousand people made their way through the depths of the forests during February and March to the valley of the Cœur d'Alène and its tributaries, dragging their supplies with them on toboggan sleds. A number of camps were speedily established, and the development of the region began; but, owing to the fact that the gold was found in soil from six to twelve feet deep, with gravel and boulders, the development was slow. Many of the first comers were forced to leave for want of means to open claims. The district has, however, made steady progress, and now yields a large and constantly increasing amount of gold.

Wallace (25 miles from Mission) is the business centre of a number of mining gulches, and the point of division of the branch road which runs up a narrow valley to Burke, 8 miles distant. Wallace has a newspaper, bank, three hotels, and a number of stores and mechanics' shops. Its population is about 500.

Burke (7 miles from Wallace) is a mining town created by the activities of the Tiger and Poorman mines, located on the mountain side just above the place. These mines are among the most productive in the entire Cœur d'Alène region. Burke has a large hotel. Its population is about 800.

Ryan, formerly Mullan (31.6 miles from Mission) is situated on a small prairie, and is surrounded by mountains in which many veins of silver ore have been opened. The most valuable mine is the Hunter, owned by Dennis Ryan, of St. Paul. The population of Ryan is about 500. The railroad will in time be continued eastward from Ryan across the Bitter Root mountains and down the valley of the St. Regis de Borgia to the Missoula valley and the station of Missoula.

WASHINGTON.

The new State of Washington lies between the parallels of $45^{\circ} 32'$ and 49° N., and the meridians 117° and $124^{\circ} 8' W.$ Its boundaries are: north by British Columbia, east by Idaho, south by Oregon, and west by the Pacific Ocean. The State ranges from 200 to 250 miles in breadth from north to south, and its greatest length from east to west is about 360 miles. Its area is 69,994 square miles, or 44,796,160 acres. Washington Territory was organized in 1853, and at that time included much of what is now Idaho. Its admission to the Union was provided for by the act of Congress passed in the winter of 1889. Its present population (1889) is about 200,000.

The Cascade Mountains, a broad volcanic plateau, with many lofty, snow-clad peaks, rising high above the general level, divide both Washington and Oregon into two unequal parts, which differ widely in surface, climate and vegetation. Westward of this mountain chain, from forty to seventy miles, is still another and lower range, lying along the ocean shore, known as the Coast Mountains in Oregon, and the Olympic Range in Washington.

Between these two mountain ranges spreads out the basin of Puget Sound, and the valleys of the Cowlitz, Chehalis, and other rivers. The entire region west of the Cascade Mountains, including the slopes of these elevations, is covered with dense forests, mainly of coniferæ, which constitute a large source of wealth, especially in the Puget Sound district.

The climate of this section is mild and equable, with slight ranges of temperature, showing a mean deviation of only 28° during the year, the summer averaging 70° , and the winter 38° . There is an abundant rainfall, and the wet and dry seasons are well marked. The rains are more copious in December, January and March than at any other time. But the rain falls in showers rather than continuously, with many intervals of bright, agreeable weather, which often last for days together. Snow rarely falls in great quantities, and it soon disappears under the influence of the humid atmosphere. During the dry season the weather is delightful. There are showers from time to time; but the face of the country is kept fresh and verdant by the dews at night, and occasional fogs in the morning. The soil of the valleys of Western Washington is generally a dark loam, with clay subsoil, and in the bottom lands near the water-courses are rich deposits of alluvium. These soils are of wonderful productive capacity, yielding large crops of hay, hops, grain, fruits and vegetables.

The area east of the Cascade Mountains, by far the larger portion of Washington, presents features in marked contrast to those which have been already outlined. This is not only true of the climate, but also of the soil and topography, fully warranting the popular division of the country into two sections, known as the coast region and the inland region, which are essentially dissimilar in aspect.

The area east of the Cascade Mountains extends to the bases of the Blue and Bitter Root ranges. A broad strip on the north is mountainous and covered with forest; but the greater portion embraces the immense plains and undulating prairies, 250 miles wide and nearly 500 miles long, which constitute the great basin of the Columbia river. Within the limits of this basin are a score of valleys, many a one of which is larger than some European principalities, all of which are well watered, and clothed with nutritious grass.

In the eastern section the temperature is decidedly higher in summer and lower in winter than in the western section,—the average indicating respectively 85° and 30° . The rainfall is only half as heavy; but it has proved sufficient for cereal crops. From June to September there is no rain, the weather being perfect for harvesting. The heat is great, but not nearly so oppressive as a much lower grade would be in the Eastern States, and the nights are invariably cool. The winters are short, but occasionally severe. Snow seldom falls before Christmas, and sometimes lies from four to six weeks, but usually disappears in a few days. The so-called "Chinook," a warm wind which blows periodically through the mountain passes, is of great benefit to the country. It comes from the southwest across the great thermal stream known as the Japan Current, and the warm, moist atmosphere melts the deepest snow in the course of a few hours.

The soil is a dark loam, of great depth, composed of alluvial deposits and decomposed lava overlying a clay subsoil. The constituents of this soil adapt the land peculiarly to the production of wheat.

Agriculture is the leading industry at present, and wheat is the principal product of the entire country. Its superior quality and great weight have made it famous in the grain markets of the world. The entire surplus of the wheat crop is exported by sea to Liverpool and other European markets, from the shipping ports of Tacoma and Portland. Oats and barley also yield heavily. Hops are a very important product, and widely cultivated in the Puyallup and White River valleys, on Puget Sound, and in Yakima county, east of the Cascade Mountains. Vegetables of every variety, and of the finest quality are produced. Fruits of many descriptions, all of delicious aroma and flavor, grow to a remarkable size. Among them are apples, pears, apricots, quinces, plums, prunes,

peaches, cherries and grapes. Strawberries, raspberries, blackberries, gooseberries and currants are also abundant.

An important industry is the raising of cattle, sheep and horses. This is only second to agriculture, and is pursued in all parts of the Pacific Northwest. The horses are of excellent race, and excel in speed. Sheep husbandry has proved very profitable, especially among the Blue Mountain ranges.

It would scarcely be possible to exaggerate the extent and value of the forests. East and west of the Cascade Mountains there are large tracts of timber lands. The Blue Mountains and eastern slopes of the Cascades are thickly clothed with pine timber, and west of the Cascade Mountains there is an inexhaustible supply. Perhaps the finest body of timber in the world is embraced in the Puget Sound district. The principal growths are fir, pine, spruce, cedar, larch and hemlock, although white oak, maple, cottonwood, ash, alder and other varieties are found in considerable quantities.

The mineral wealth of Washington is large and diversified. Coal takes a foremost rank among the mineral resources of the country. Immense beds of semi-bituminous and lignite coal are found west of the Cascade Mountains, and also east of those mountains, in the Upper Yakima valley. This mineral exists in Oregon in different localities; but the coal fields of Washington are far more extensive. The principal mines are on the Puyallup, Carbon and other rivers flowing into Puget Sound, near Tacoma, Seattle and Whatcom, and also at the head of the Yakima Valley, at Roslyn. Iron ores—bog, hematite and magnetic—exist in great masses, and are found in both Oregon and Washington.

Silver ore is successfully mined in the Colville Valley, about 100 miles north of Spokane Falls, and also on the Conconully river, one of the tributaries of the Okanogan river. Gold is obtained by washing auriferous earth on the Swauk and Te-anaway, small streams which flow into the Upper Yakima.

Copper has been found in the Peshastin range of mountains north of Ellensburg. There are also extensive iron ledges in those mountains.

The waters of all the rivers of Washington flow into the Pacific Ocean, the largest of which, the Columbia, is navigable for a distance of 725 miles. The Snake river comes next in importance, and there are many other streams navigable for short distances.

Puget Sound is a beautiful archipelago, covering an area of over 2,000 square miles. Its waters are everywhere deep and free from shoals, its anchorage secure, and it offers every facility that a great commerce demands.

There are several commodious harbors for vessels of light draft on the coast line, exclusive of those found at the mouths of the several rivers. At these places a thriving trade is carried on in lumbering, coal mining, fishing, oystering, dairy-ing and agricultural products.

These waters abound in fish, of which many varieties are of great commercial value. Particularly is this the fact with regard to salmon. Extensive establishments for canning are carried on at several places on the Columbia river, where the business of salmon packing is the principal industry. The far famed reputation which the Columbia river fish has acquired secures it a large market in the eastern States, and it is sold extensively in Australia, England and other European countries.

The remarkable variety of resources offered by this great new State, its peculiarly agreeable and healthful climate, its strikingly beautiful landscapes of snow-capped mountains, noble rivers, great estuaries of the sea, magnificent forests, charming lakes and fertile prairies, combine to make it a region particularly attractive to all who seek new homes in the great Northwest. Every settler can find the particular character of

country best suited to his tastes, and the climate best adapted for his health and well-being.

The numerous growing towns invite mercantile, manufacturing and professional enterprises. There are fertile lands for the farmer, forests for the lumberman, coal and iron for the manufacturer, veins of gold and silver ore for venturesome prospectors and miners, vast natural pastures for stockmen, bays, rivers and sounds for the fisherman, in short, almost every natural advantage for the development of a populous community of varied industries and rapidly accumulating wealth.



IDAHO DIVISION.

[Continued from page 298.]

The Spokane Valley and Lake Cœur d'Alène.—One of the most singular districts of this country is the Spokane valley. It is thirty miles long, and three to six miles in width, surrounded by the western ranges of the lower Cœur d'Alène or Bitter Root Mountains. The Spokane river rises in Cœur d'Alène Lake, close under the timbered mountains, in Idaho, about ten miles south of the railroad. The lake extends south at least forty miles, and has long arms reaching in among the mountains. A rich agricultural region lies close to it on the west, in great part contained in the Cœur d'Alène Indian reservation. The Indians have always been at peace. Under the religious control of the Roman Catholic church, they have been well taught, and have become civilized, so that they are self-supporting. They market considerable wheat, and have extensive timothy meadows on the bottoms of the St. Joseph and Cœur d'Alène rivers, which drain the mountains for 100 miles into Cœur d'Alène Lake.

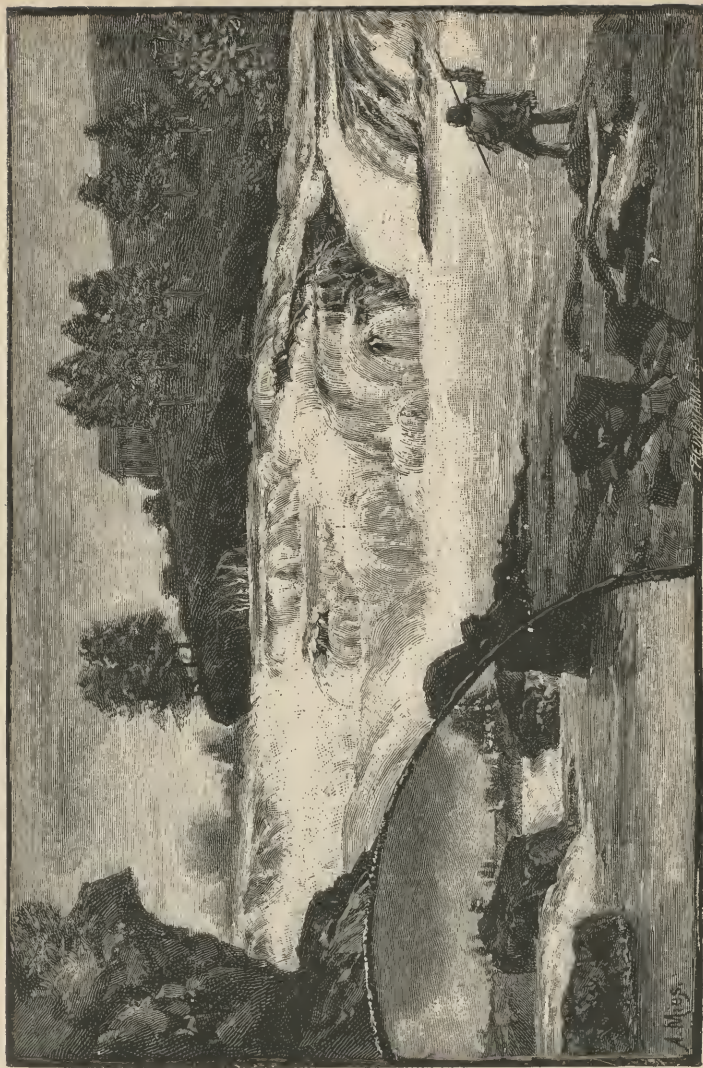
The rivers that drain the western water-shed of the Cœur d'Alène Mountains pour immense volumes into the lake; but the Spokane river, the lake's only outlet, is comparatively small in size, with no tributaries of importance. Still, thirty miles below the lake, this stream becomes a roaring cataract at the

town of Spokane Falls. The theory is advanced that the region around the lake and all the upper Spokane valley consists of a deep gravel deposit. Time has made for the lake a water-tight bottom, and a well, dug within a rod of its shores, will not furnish water, and no well can be dug in all the Spokane valley. The water furnished by the mountains soaks through this immense bed of gravel, making Spokane river, in its upper reaches, so puny a stream. Eight miles below the lake, there are the Little Falls, where the river flows between rocks very close together. Thirty miles below the gravel deposit ends, and basaltic shores close in upon the stream. Gradually, as the lower valley is reached, the river is increased in volume as the flow is forced to the surface, and, at the falls, it is all gathered well in hand, and makes a tremendous leap, with a force far greater than would be believed after seeing the Little Falls.

In spite of the gravelly character of the entire plain, there are many large patches and strips where a rich soil has been deposited. This is especially true of the upper end of the valley, and the people near Rathdrum are raising good vegetables and other crops.

Spokane Falls (1,537 miles from St. Paul; population, 20,000).—This is the first point of importance reached in Washington. It has, in some remarkable respects, more claims to consideration than any other place east of the Cascades. Its situation—upon the gravelly plains just above where Hangman's creek joins the Spokane river—is very beautiful, looking out upon the hills, with the grand, roaring water-fall in its midst. Spokane Falls is the oldest town in northeastern Washington, the only one that preceded the railroad. Enterprising men were early attracted to the place, not alone by its natural beauty, but also by the wonderful water-power, so easy of control, and so abundant.

The educational facilities of the town are remarkably good.



Spokane Falls, Washington Territory

It has a large public school building; the Spokane Methodist Episcopal College, which occupies a handsome building on the north bank of the river; a Roman Catholic College, having a large new brick building, and being for the north Pacific coast what the Santa Clara College is for California; and also a number of private schools. There are eight churches. The milling and manufacturing establishments include three flouring mills, the largest of which has a building six stories high, with a capacity of 800 bushels per day; a saw mill, a sash, door and blind works, a planing mill, fence works, carriage works, an oatmeal mill, a pottery, and a bottling establishment. The press is represented by two daily and six weekly newspapers. The river is crossed by bridges. There are water-works, with the Holly system of supply from the Spokane river, electric light employing the water-power, three street railways, a cable road, and a steam-motor road. The city is solidly built and contains many substantial business blocks built of brick with stone trimmings. There are three large hotels, and numerous small ones. Spokane Falls is a junction point with the main line for trains on three branches of the Northern Pacific, the Spokane & Palouse, the Spokane Falls & Idaho, and the Spokane Falls & Northern. It is by far the most important railroad centre in eastern Washington, and also the most important and populous commercial centre. The city is sustained by the trade of a large agricultural region, called the Palouse Country, lying south of it; an equally extensive agricultural district, called the Big Bend Country, lying west of it, and by the business of the Cœur d'Alène, Chloride, Colville, and Okanogan mining districts, which are all tributary to it. It has four national banks, and one private bank. The surroundings of the city are exceedingly picturesque, and there are many beautiful drives along the banks of the Spokane river and Hangman's creek, and across the beautiful flowery prairies north and east of the city.

The falls, seen when melting snows swell the flow and the banks are brimming with the hurrying flood, are a sight never to be forgotten. Basaltic islands divide the broad river, and the waters rush in swift rapids to meet these obstructions. A public bridge crosses from island to island. The width of the river is nearly half a mile. There are three great streams curving toward each other, and pouring their floods into a common basin. Reunited, the waters foam and toss for a few hundred yards in whirling rapids, and then make another plunge into the cañon beyond. Standing on the rocky ledge below the second water-fall, and looking up the stream, a fine view is obtained of the wonderful display of force. All things are weak and trivial compared with the tremendous torrent that heaves and plunges below, and the grand cascades that foam and toss above. Eternal mist rises from the boiling abyss, and sunshine reveals a bow of promise spanning the chasm.



SPOKANE & PALOUSE RAILROAD.

FROM SPOKANE FALLS TO GENESEE.—DISTANCE, 112 MILES.

The traveler who desires to form anything like an adequate conception of the agricultural wealth of Washington Territory, should not fail to leave the main line of the Northern Pacific at Spokane Falls and make a journey over this branch through the wonderfully fertile Palouse country, which stretches at the foot of the mountains, in a belt about fifty miles wide, as far south as the Snake river. From the deep cañon of the Snake, a region of like fertility and general characteristics, generally known as the Walla Walla country, extends over 100 miles further, following the trend of the Bitter Root and Blue Mountain ranges. The Palouse country is upheaved in gentle grassy hills with rounded tops, and every acre is highly fertile, the summits of the hills being fully as valuable for grain fields as the slopes in the valleys which lie between. Wheat yields from twenty-five to fifty bushels to the acre, and oats, barley and rye do proportionately well. The whole country in its natural state is covered with a luxuriant growth of bunch grass, on which cattle and horses pasture the year round. The winters are mild and the snowfall light. The Spokane Falls and Palouse branch diverges from the main line at Marshall Junction, a small town 8.7 miles from Spokane Falls.

Spangle (20 miles from Spokane Falls) is an active trading point with a population of about 500. It has a weekly paper, and a number of general merchandise stores and grain-buying houses.

Oakesdale (46 miles from Spokane Falls; population, 450) has sprung up since the railroad was built, and is already an important trading point. *Belmont* (51 miles from Spokane Falls) has a population of about 200.

Garfield (58 miles from Spokane Falls; population, 700) has a weekly newspaper, and is the point where the Spokane and Palouse crosses the Farmington Branch of the Columbia & Palouse Railroad.

Palouse City (68 miles from Spokane Falls) is the oldest town in the Palouse country, and has a population of 1,000, with two weekly newspapers, three saw mills, two hotels and a bank, and a number of mercantile and manufacturing establishments. Logs are floated down the Palouse river to this place from the slopes of the neighboring mountains. Considerable placer gold is mined on the waters of the Palouse. The country around Palouse City is exceedingly fertile and picturesque.

Pullman (84 miles from Spokane Falls; population, 650) is the point where the Spokane & Palouse road crosses the Moscow Branch of the Columbia & Palouse Railroad, and is a growing trading town, central to an extensive region of excellent farming country.

Colton (101 miles from Spokane Falls) has a newspaper, a flouring mill, several stores, and a population of about 300.

Uniontown (103 miles from Spokane Falls) is an old agricultural town with a newspaper, two hotels, a number of stores, and a Catholic Seminary for young ladies. *Leon* is an unimportant station.

Genesee (112 miles from Spokane Falls) the present terminus of the Spokane Falls & Palouse road, has a population of about 500, and like all the other towns on this branch is supported by an excellent country for general farming and stock raising.

Lewiston, Idaho (about 15 miles from Genesee) is an old and prosperous town, situated at the junction of the Snake and Clearwater rivers. The Spokane & Palouse road will eventually be extended to this place, and will also throw a branch eastward up the valley of the Clearwater. Lewiston has a population of 1,500, and has a large trade with the surrounding farming country, and with the mining districts of Northern Idaho. Steamboats run up the Snake river, and also, at high water, on the Clearwater river.

The drive from either Uniontown or Genesee to Lewiston is one of the most strikingly picturesque that can be found in the whole range of western travel, and tourists are strongly advised not to omit it. The road passes over a beautiful rolling and fertile country for the first five or six miles, and then comes suddenly out on the brink of an enormous and precipitous declivity overlooking the valleys of the Snake and Clearwater rivers, and a vast extent of hilly country stretching off to Craigs Mountain on the south and Blue Mountains on the southeast. Lewiston seems to be within rifle-shot distance, at the foot of the precipice, but is only reached by a zig-zag drive of over five miles down the mountain side. The valley in which Lewiston is situated is fully half a mile in vertical distance below the general level of the rolling plains country north of it.

SPOKANE & NORTHERN RAILROAD.

FROM SPOKANE FALLS TO COLVILLE — DISTANCE 90 MILES.

This road was built in the spring and summer of 1889, by D. C. Corbin, of New York City, as an independent line, and is an important feeder of the Northern Pacific system. After crossing the Spokane river just above the city, and traversing the gravelly Spokane Prairie for a distance of about six miles, the road enters a pine forest region, crosses the Little Spokane river and Sheep creek, and strikes into the Colville valley near its head. From that point it follows the valley down to the town of Colville, and will be extended to the mouth of the Colville river, near Kettle Falls, about ten miles further. A branch will also be built from Colville to the Little Dalles of the Columbia, a distance of about thirty miles. From the Little Dalles there is a good navigable stretch of water on the Columbia and the Arrow lakes, as far north as Revelstoke, where the Canadian Pacific crosses the Columbia river.

The Colville Valley is a narrow strip of level country varying in width from one to three miles, and has a very deep, fertile soil, which produces a heavy yield of wheat, oats, corn, barley and timothy hay. There is considerable good farming land in the valleys of the tributary streams, and also on the bench lands along the Columbia river near the mouth of the Colville. The principal towns on the new line of road are Chewelah and Colville. Chewelah is a silver mining town with

a population of about 500, supported by several productive mines.

Colville, the chief town of the valley, has a population of about 800, and is the county seat of Stevens county, the largest political division in Washington. The oldest of the productive silver mines in the vicinity is the "Old Dominion," about ten miles from Colville. Colville has a court-house, a newspaper, a public school, two hotels, and a number of mercantile stores. Six miles distant down the Colville river is one of the oldest Indian missions in the Pacific Northwest, which was established in 1847. It is managed by the Jesuit Order, and has separate boarding schools for boys and girls, where Indian pupils are supported and trained. A short distance below the mission the Colville makes a perpendicular fall over fifty feet in height, and furnishes water-power for a flouring mill. Just a short distance above the mouth of the Colville are the Kettle Falls of the Columbia, one of the most strikingly picturesque spots on that great river. The perpendicular fall is only about thirty feet, but the river bed is blockaded with immense rocks, and the scene is peculiarly savage and magnificent. Two miles above the Kettle Falls is the old Hudson's Bay trading-post, Marcus, where there are two stores and a small settlement. The old Hudson's Bay stockade is still standing, and there are other structures of historical interest erected by the International Boundary Commission, the employes of which passed a winter at this place while running the boundary between Washington and British Columbia.

IDAHO DIVISION.

[Continued from page 315.]

Marshall (1,546 miles from St. Paul; population, 250) is the station where diverges the Spokane Falls & Palouse Railroad, which runs in a southerly direction through a rich farming and grazing district to the "Palouse Country" and the Snake river.

Cheney (1,553 miles from St. Paul; population, 1,600).—This is an important and wheat-shipping point, in the midst of a rich farming country. Very little of this farming country is seen from the car windows, the railroad running through a belt of timber land. Cheney has three hotels; a steam flour mill; numerous stores, representing all branches of trade; two newspapers, four churches, a grain elevator, and a handsome Academy, erected by the beneficence of Benjamin P. Cheney, of Boston, one of the directors of the Northern Pacific Railroad, and after whom the town is named. The wheat shipments amount to about one hundred thousand bushels a year. The agricultural country tributary to Cheney consists of rolling and hilly plains, with a rich soil, highly productive of wheat, oats, barley, rye and potatoes. In its natural condition the surface of this region is covered with a flourishing growth of bunch grass, which affords excellent pasturage for stock. Cheney has an attractive situation in the midst of a grove of pine trees and on the borders of the prairie country. From the high ground north of the town there is a superb view

southward over more than fifty miles of rolling prairie country to Steptoe Butte, a conspicuous elevation on the southern horizon. Cheney is the junction point of the Central Washington Railroad which runs northward and westward through the Big Bend Country.



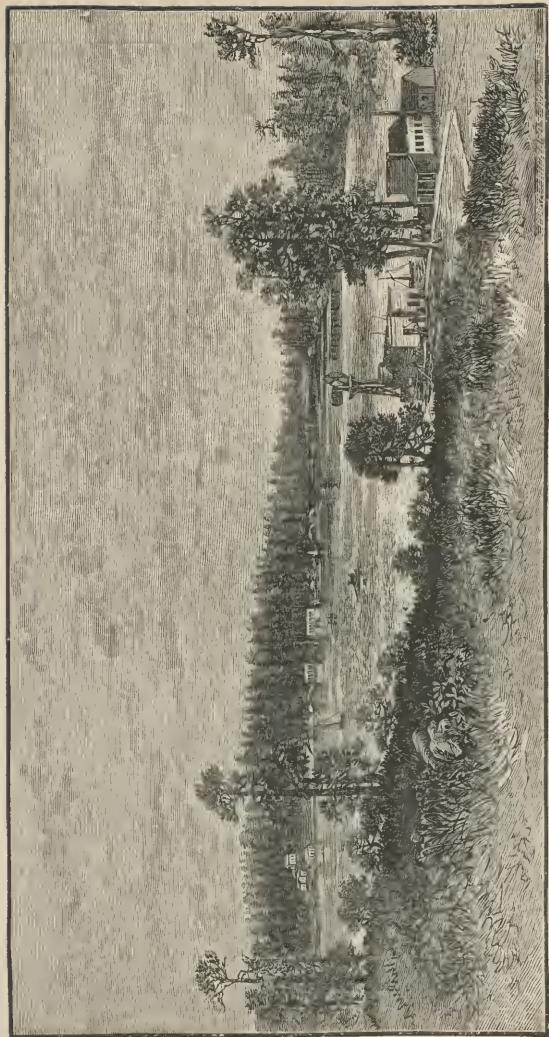
CENTRAL WASHINGTON RAILROAD.

FROM CHENEY TO WILBUR, 71 MILES.

This road was built as a feeder to the Northern Pacific as far as Davenport in 1888 (41 miles) and extended in 1889 to Wilbur, 31 miles further. It traverses, for its entire distance, a fertile rolling or hilly prairie country, diversified with occasional small groves of pine timber, and yielding large crops of all the small grains. This region is generally known as "The Big Bend Country," from the fact that it is surrounded on the north and east by the big bend of the Columbia river. It has a mild, agreeable climate, and is well adapted for general farming, the raising of cattle, horses and sheep, and also for fruit culture.

Medical Lake (10 miles from Cheney; population, 1,000) is situated in the midst of a group of small lakes, three of which having great depth, are very strongly impregnated with alkaline salts, and their water has remarkable curative properties. One in particular attracts hundreds of invalids, especially persons affected by rheumatism, skin diseases, and nervous complaints. Many undoubted cures of a remarkable nature are recorded. This medical lake, *par excellence*, has a medium strength of salts, while another has a very strong impregnation, and the third is very weak. The region is delightful, and can be made a very pleasant resort. The country people come and pitch their tents and take their baths as they choose.

The early history of this lake is this: A Frenchman, named



Lefevre, who was sorely afflicted with rheumatism, was tending sheep around the shores of the lake. He found, that, after washing the sheep in the lake water, his rheumatism was less painful; so he began to bathe his shrunken limbs, for one arm was wasted away and was carried in a sling. The result was a perfect cure of the rheumatism, and restoration of the wasted arm to its natural size. Lefevre still lives at Medical Lake in perfect health, no longer a poor shepherd; for the increase in value of lands from the discovery of the medical properties of the water has made him independent.

The town of Medical Lake is situated on the eastern shore of this lake; it has three hotels, a newspaper, a soap-making establishment, which uses the waters of the lake, and an establishment for evaporating the waters and producing a salt which is sold for medical purposes. Medical Lake is much resorted to by invalids, and is a favorite camping ground and excursion place for the country people in the vicinity.

Deep Creek (15 miles from Cheney) is an active country trading town, surrounded by a well-settled farming district, and having a small but valuable water power from the creek for which it is named. It has a mill, two hotels, livery stable, four stores, and a population of about 300. *Fairweather* and *Mondovi* are wheat-shipping stations, surrounded by a rich farming country.

Davenport (41 miles from Cheney) is the central town of the Big Bend Country, and was established in 1883, long before a railroad was projected through this region. It has a weekly newspaper, three hotels, a bank, two churches, and a dozen stores. It is the diverging point of numerous stage and mail routes. Fort Spokane, 25 miles north of Davenport, at the junction of the Spokane and Columbia rivers, is a United States military post, garrisoned by two companies of infantry. The soldiers are stationed at this point to keep an eye on the

Indians on the neighboring reservations north of the Spokane and west of the Columbia rivers.

Wilbur (71 miles from Cheney) is the present terminus of the Central Washington Railroad, and is a new town of about 500 inhabitants. The surrounding country is rolling prairie. Stages run to Waterville, on the extreme western border of the Big Bend Country—a town of 500 people, also to Conconully and Ruby City, in the Okanogan mining district. A few miles west of Wilbur is the Grand Coulee, the most remarkable scenic feature of the Big Bend Country. It is a profound volcanic crevice, extending across the country for a distance of seventy-five miles, and reaching the Columbia river at both extremities. Its walls are of basaltic rock, and of an average height of about 800 feet. The floor of this great chasm varies in width from a few hundred feet to half a mile, and contains many alkali ponds. At only two places are there natural crossing points for wagon roads. At these places, known as the “Middle” and “Upper” crossings, the walls of the cañon have been broken down by volcanic action.



IDAHO DIVISION.

[Continued from page 322.]

The first station west of Cheney is *Tyler* (1,564 miles from St. Paul).

Sprague (1,578 miles from St. Paul; population, 1,500) is the county seat of Lincoln county, and headquarters for the Idaho Division of the Northern Pacific Railroad, and the location of the division shops. The shops include a car shop, a machine shop and a round-house, and employ a large number of workmen in car building, repairing locomotives, etc. Sprague has three hotels, seven general merchandise stores, two hardware stores, three agricultural implement stores, two drug stores, a brewery, a newspaper and a bank, three churches, and a large public school building.

A singular fact in relation to all this upper country is, that the railroad for hundreds of miles either way follows the banks of rivers or the dry beds of old water-courses. The traveler does not see any good arable land as he journeys through it. At Sprague, looking eastward, there is a range of purple hills a few miles distant that are the western boundary of the fertile Palouse country. The level land between these heights and the railroad is rocky, with frequent ponds, and *Lake Colville*, two miles west of Sprague, lies along the road for eight miles.

The old water-courses are called coulées. The road follows them, from the time it leaves Spokane Falls until it reaches the Columbia river at Ainsworth, for 150 miles. Timber is abundant east of Sprague; but not a tree is afterward seen before

the Columbia river is sighted, over 100 miles beyond. The coulées are rocky and desolate. There are stations all along, every few miles, and the company has planted shade trees at each of them, to show that, desert as this region appears, it only needs water and care to make the land productive.

Ten miles from Sprague the station *Harriston* is passed, and fourteen miles beyond Harriston the train reaches

Ritzville (1,602 miles from St. Paul; population, 700), the county seat of Adams county, and a point of departure for the agricultural and stock-raising country of Crab creek, north of the railroad, and in the Big Bend of the Columbia. It has a newspaper, two hotels, and a number of stores. Beyond Ritzville the country traversed by the railroad is mainly too dry for agriculture, but is covered with bunch grass, and is valuable for stock-raising.

The next stations are *Lind* and *Hatton* (distant 1,619 and 1,638 miles respectively from St. Paul).

Connell (1,647 miles from St. Paul) is in the midst of a dry, unsettled country, and is important only as the junction of the Columbia and Palouse Railroad running eastward, eighty miles, to Colfax, the county seat of Whitman county, whence it diverges into two branches, one running to Moscow, Idaho, and the other to Farmington, Washington. The Palouse country, drained by the Palouse river, is reached by this road, and is a remarkably fertile region, extending from the base of the Cœur d'Alène Mountains westward sixty miles, and lying partly in Idaho and partly in Washington. The principal town on the Palouse Branch is Colfax, a place of about 2,000 inhabitants, having flour and saw mills, and carrying on an extensive trade in the neighboring farming country. *Moscow* is a town of about 1,000 inhabitants, situated about ten miles from the foot of the mountains. *Farmington* has 600 people.

Lake, Eltopia and *Glade* (1,656, 1,665 and 1,675 miles respectively from St. Paul) are unimportant stations.

Pasco (1,682 miles from St. Paul; population, 400) is the point of divergence for the Cascade Division of the Northern Pacific Railroad. Wheat, corn and oats are successfully raised on the sage brush land near Pasco.

Ainsworth (1,685 miles from St. Paul) is at the confluence of the Columbia and Snake rivers, and, at the time of the ferry transfer of trains across the Snake river, and during the construction of the great bridge, was a place of importance. It is now nearly deserted.

The Snake River Bridge.—Next to the great bridge across the Missouri river at Bismarck, this is the most important bridge structure on the Northern Pacific Railroad. It was completed in 1884. The superstructure is of iron, resting upon granite piers.

Hunt's Junction (1,698 miles from St. Paul) is the connecting point with the Northern Pacific of two lines of the Oregon & Washington Railroad, one running southward to Centerville and Pendleton, and the other eastward through Eureka Flat to Walla Walla. These roads were built in 1887 and 1888, by George W. Hunt, to furnish a competing system with the lines of the Oregon Railway & Navigation Company. They traverse an exceedingly productive wheat country.

Wallula Junction (1,699 miles from St. Paul), fourteen miles below Ainsworth, and 214 miles from Portland, situated on the south bank of the Columbia, is the western terminus of the Idaho Division of the Northern Pacific Railroad. The main line of the Oregon Railway & Navigation Company passes through Wallula on its way to Walla Walla, Dayton, and other points in the fertile belt lying between the Snake river and the Blue Mountains. Wallula has a population of about 800, most of its inhabitants being employed on the railroads centering here.

CASCADE DIVISION.

FROM PASCO TO TACOMA.—DISTANCE, 254 MILES.

The Cascade Division of the Northern Pacific is the most recently constructed of all the divisions of the main line. It was mainly built in the years 1885, 1886, and 1887, and the great tunnel under the Cascade Mountains was completed in June, 1888. The road crosses the Columbia river between Pasco and Kennewick on a combination iron and wood bridge, which spans the broad, blue flood of this mighty stream just about the mouth of its principal affluent, the Snake river, and follows the valley of the Yakima river, which empties into the Columbia a few miles above Kennewick, all the way up the sources of the former stream in the Cascade Mountains. Along the lower Yakima the country is dry and covered with sage brush, but the soil is fertile and irrigating-ditch enterprises will soon convert the entire region into a thickly settled farming country. For about 30 miles the road runs through the Simco Indian reservation, which is well settled and contains many irrigated farms and large stretches of verdant pasture land. Mt. Adams, one of the highest snow peaks of the Cascade range, is in plain sight from the train while passing across the Simcoe Reservation. This mountain is over 9,000 feet high, and its base is about 50 miles distant from the nearest point on the railroad. Passing Union Gap through a low mountain range the road enters a well-cultivated basin, where the Natchess and other tributaries of the

Yakima furnish abundant water for irrigation. Continuing northwestward, the road winds for many miles through the profound and picturesque defiles of the Yakima Cañon, and then emerges into the Kittitas valley which is watered by the Yakima and numerous tributary streams, and is well settled by farmers engaged in raising grain and stock. Considerable placer mining is done on the headwaters of the Teanaway and the Swauk, two large creeks which rise in the Peshastin Mountains. These mountains run across the head of the Kittitas valley, and present a magnificent spectacle of lofty rocky peaks crowned with snow, which can be enjoyed from many points on the railroad. The highest of these peaks is Mt. Stuart, which has an altitude of over 12,000 feet. The Peshastin range is a granite formation, entirely different in its geological character from the Cascade Mountains, which are basaltic, and of which it seems to form a spur. Near the base of the Peshastin Mountains lies an extensive coal field. The ascent of the Cascade Mountains is made by the Northern Pacific road up remarkably light grades, the heaviest of which does not exceed two feet to the hundred, or 116 feet to the mile.

The first town on the Cascade Division, after crossing the Columbia river, is *Prosser* (1,723 miles from St. Paul) which has a mill run by the water-power of the Yakima river, two stores, an hotel, and a livery stable, and is the point of departure from the railroad to an extensive grazing and farming region, called "The Horse Heaven Country," which lies just south of the low range of grassy mountains that rise immediately back of the town. The country north of the Yakima, stretching out to the Rattlesnake Mountains, is known as the "Sunnyside Country." The land is very fertile in spite of its desert-like appearance, and will soon be reclaimed by irrigating canals and ditches, and will in time become a well-settled and very productive farming region. After passing several

stations on the Indian Reservation, established for the shipment of cattle and horses and for side-tracks for passing trains, the railroad runs through Union Gap and enters the Yakima Basin.

The Yakima Basin.—This is a highly fertile region, enclosed by low ranges of mountains which are covered with bunch grass to their summits. It is watered by the Yakima and by its tributaries, the Naches, Cowlitz and the Attanum. The three smaller streams are fed by springs and melting snows in the Cascade Mountains, and carry the largest volume of water during the hot season. They furnish abundant water for irrigation purposes to the lands along their banks. West of the Yakima river the basin extends for a distance of about twenty miles, and a large part of it is irrigated by a big ditch taken from the Yakima. This district is known as the "Moxee Country." The Yakima Basin greatly resembles many of the California valleys. The winters are short and mild and the summers long and sunny. The soil produces, under an inexpensive system of irrigation, very heavy yields of hops, wheat, oats, barley, Indian corn, millet, clover, timothy, and vegetables of all kinds; and all fruits of the temperate zone grow to perfection. Grapes are beginning to be cultivated for wine-making purposes, and it is believed that the valley will in time rival some of the best wine districts of California. Tobacco culture has been successfully tried in recent years, and a high grade of tobacco is raised for the manufacture of cigars. The land was originally occupied in large farms, but is now being cut up into small farms of from ten to forty acres each for the cultivation of fruits, vegetables, hops, tobacco, etc. On the neighboring foothills and mountain ranges there is a luxuriant growth of bunch grass, and the raising of cattle, sheep, and horses is a profitable industry. During open winters stock feed upon the ranges without any care, but prudent farmers

put up a small quantity of timothy or alfalfa hay for feed in case of severe snow storms.

North Yakima (1,772 miles from St. Paul; population, 2,500) is the county seat of Yakima county and the trade centre for all the valleys embraced in the Yakima Basin. It has a large brick hotel and several smaller hotels, a handsome public school building, built of brick, a Catholic seminary, which is also a large, substantial structure, two banks, a flouring mill, run with the water-power of the irrigation ditch taken from the Naches river, three weekly newspapers, a United States land office, and about fifty mercantile establishments. A good creamery is located in the neighborhood, just across the Yakima river. Travelers, who desire to see irrigation farming on a large scale, are advised to visit the Moxee Farm, just west of the Yakima river, about four miles distant from the town. This farm embraces about two thousand acres under ditch and cultivation, and with an extensive stock range of many thousand acres. It is owned by a company in which Gardner Hubbard, of the Bell Telephone Company, is the principal stockholder. Irrigation is carried on by both the flooding and small-ditch systems. Tobacco, hops, wheat, oats, corn, barley, are the principal crops.

After leaving North Yakima the railroad runs through a gap in a low mountain range, passes the outlet of the Wenass valley, another strip of agricultural lands along the Wenass river, and then enters the Yakima cañon, a profound gorge in the Umpatnum Mountains.

The scenery in this cañon is peculiar and impressive. Some washing for gold is done by Chinamen along the banks of the river. The railroad emerges from the cañon into the great Kittitas Basin.

The Kittitas Basin.—This is the largest in extent of the fertile valleys traversed by the Yakima river. It is about



View in Yakima Canyon, Washington.

twenty miles long, with an average width of ten miles, and can all be seen from the railway platform at Ellensburg. It is bounded on the west by the Cascade Mountains, above whose green heads can be seen the white top of the great snow peak, Mt. Tacoma. On the north the basin is bounded by the Peshastin and Wenatchee Mountains. The former range is a mass of rock and snow, and its highest peak, Mt. Stuart, has an elevation of 10,000 feet above the sea, and resembles somewhat the famous Matterhorn of the Swiss Alps. This region is rich in mineral wealth, containing coal, iron, copper, gold and silver. The Wenatchee Mountains are timbered to their summits and reach to the Columbia river. The Umpthanum Mountains, which shut in the basin on the south, are about 3,000 feet high and are covered with bunch grass. The Kittitas Basin has an altitude about 800 feet greater than the Yakima Basin, and the climate has more of a mountain character, the nights being cool and the summer days not as warm. The farming lands in the basin are irrigated by ditches taken from creeks running into the Yakima. They have a rich alluvial soil and produce heavy crops of small grains and vegetables. The raising of horses and cattle is the chief industry, and much attention is paid to blooded and grade stock. Cattle are shipped to the markets of the cities on Puget Sound and in British Columbia.

Ellensburg (1,809 miles from St. Paul; population, 3,000) is the county seat of Kittitas county and the headquarters of the Cascade Division of the Northern Pacific Railroad. It has a court-house, two large hotels, several small hotels, an academy, Masonic temple, Odd Fellows' hall, two flouring mills, an opera house, two banks, a planing mill, an iron foundry, three newspapers, and is well-supplied with mercantile concerns and mechanics' shops. It has had a great growth since the railroad passed through the valley, and is a very ac-



Eastern Slopes of Cascade Mountains, near the Stampedo Tunnel.

tive, prosperous town. Stages run to Port Eaton on the Columbia river, from whence there is a steamboat which runs on the Columbia and Okanogan rivers to the Okanogan mining district. A railroad is projected (1889) to run to the Columbia river at *Port Eaton*.

Clealum (1,834 miles from St. Paul) is the junction of the short branch road which runs to the Roslyn coal mines. Extensive beds of iron ore have been found in the vicinity of Clealum, and preparations are now (1889) being made for the establishment of an important iron and steel manufacturing plant at this place under the management of an English company. The population of Clealum is about 300.

Roslyn (1,838 miles from St. Paul and 4 from Clealum) is the terminus of the Roslyn Branch, and has a population of about 1,600. It is the most important coal-mining point on the entire line of the Northern Pacific. The coal is a superior hard, black lignite, and is used for locomotive fuel and also for domestic fuel in all the towns of eastern Washington. About 500 tons a day are mined.

Easton (1,847 miles from St. Paul) on the eastern side of the Cascade Mountains, is a small railroad town at the commencement of the mountain grade.

The Great Tunnel.—The mountains are crossed at Stampede Pass, through the sharp comb of which a tunnel almost two miles long has been excavated. This tunnel is, with one exception, the longest in America, being surpassed only by the Hoosac Tunnel in Massachusetts, which is three miles in length. The Hoosac Tunnel was excavated from both ends and from a central shaft, but the mountain over the Cascade Tunnel was too high to admit of a shaft, and the whole of the excavation was done at the ends. In view of this fact, and also of the wildness of the country, and the distance from sources of supplies, the Cascade Tunnel may fairly be regarded as a greater



Western Portal of Stampede Tunnel

work of engineering than the famous tunnel under the Hoosac Mountains. During the progress of the work on the tunnel, a switch-back line was built over the summit of the Stampede Pass, with maximum grades of 290 feet to the mile, and was successfully operated for over a year, trains being hauled over the mountains by decapods, or ten-wheeled engines, the heaviest ever built in America.

Weston (1,865 miles from St. Paul) is a small railroad town in the dense forests on the western slope of the Cascade Mountains, at the foot of the mountain grade.

Along Green River.—After emerging from the tunnel, the railroad descends by grades no steeper than those on the east side of the mountains into the valley of the Green river, in the midst of superb mountain scenery. Green river is a beautiful mountain stream, well stocked with trout, and flowing through dense forests of fir, cedar, and spruce.

In the Puyallup Valley.—After leaving the Green river, the road crosses two divides, first to the White river and then to the Puyallup, a picturesque stream fed from the glaciers on the slopes of Mt. Tacoma. The important coal mines of Carbonado, South Prairie, and Wilkeson are situated at the headwaters of this river. Its lower course is through the most productive hop region in the world, where the possession of a few acres in hops makes the farmer independent for life.

Puyallup (1,927 miles from St. Paul) is essentially a hop town, being the trading point for all the hop-raising country in the valley of the Puyallup, Stuck, and White rivers. It has a population of about 1,200, a weekly newspaper, two hotels, a graded school, bank, and numerous stores. The hop fields extend up to the very door-yards in the village, and the drying houses on the near hop farms are among the most conspicuous objects in the landscape. The tourist who has time to spare is advised to stop a day in Puyallup and investigate the very



View on Green River, Washington.

interesting industry which has created the town. The soil in this hop-growing valley seems to be inexhaustible. Wild land valuable for hop culture near Puyallup is worth from \$75 to \$100 per acre, and costs about \$100 more per acre to clear. It is said that, taking an average of a period of years, every acre cultivated in hops will yield a net profit of at least \$100. The price of hops varies widely from year to year, and is mainly dependent on the German crop. Some years it is claimed there is no profit at all in hops raised in Washington, but in the long run the hop farmers all become comfortably well off. There are few forms of agricultural industry where so much money can be made from an acre of ground.

After leaving Puyallup the railroad traverses for about eight miles the Puyallup Indian reservation. These Indians own their land in severalty, and are, as a rule, industrious farmers. Their children are educated in the agency school, and the good order of the reservation is enforced by a justice of the peace and constables elected by the Indians themselves.

Tacoma (1,935 miles from St. Paul; population, 25,000) is the western terminus of the Northern Pacific Railroad and the point where it meets the commerce of the Pacific Ocean. It is situated upon the tide water of the Pacific near the head of Puget Sound, and occupies a commanding position both as a seaport and a railroad centre. The arm of the Sound upon which the city fronts is called Commencement Bay, and furnishes an excellent harbor, where the largest ocean steamers and sailing vessels lie at anchor or receive their cargoes of coal, lumber, wheat, and other products of the region, at the spacious wharves, coal bunkers and warehouses.

Tacoma has had an extraordinarily rapid growth. When selected (1872) as the Pacific Coast terminus of the Northern Pacific Railroad, the site was covered with a dense forest. The population in 1875 was only 300, in 1880 it was 760, in 1886 it



Hop Picking in the Puyallup Valley, Washington.

was 6,907, in 1887, 9,000, in 1888, 15,000, and in 1889, 25,000. The city is built upon a succession of benches or plateaux beginning at the head of Commencement Bay, and sloping gradually upward to an elevation of about 300 feet, at the point where the Bay joins the broader waters of Puget Sound. The landscapes and water views are superb. The Cascade range can be seen for nearly a hundred miles from north to south, and Mt. Tacoma, one of the loftiest snow peaks in the United States, rises to a height of 14,444 feet, 10,000 feet of which are covered with snow fields and glaciers. This superb mountain, which has no rival in the world for beauty and grandeur is in plain view from all the terraces of the new city. Tacoma is, next to San Francisco, the most important wheat-shipping port on the Pacific Coast. It also ships more lumber and more coal than any other port on that coast. The wheat goes around Cape Horn to Liverpool. The lumber goes to California, Mexico, South America, China, and Australia, and the coal is chiefly consumed in San Francisco. Lumber is manufactured at three large mills, one of which is the largest on Puget Sound. The coal is brought in by rail from mines about thirty miles distant in the foot-hills of the Cascade Mountains. The principal mining towns are *Carbonado*, *Wilkeson* and *Spring Prairie*. It is also brought from *Bucoda*, south of Tacoma, on the Pacific Division of the N. P. R. R. Wheat is received from all parts of the great wheat-producing region east of the Cascade Mountains, and is stored and handled in enormous warehouses. Tacoma is the distributing point for emigration coming from the east and from California, and destined to all parts of Washington. It is also an attractive resort for tourists.

It has the largest and best-equipped hotel on the Pacific Coast north of San Francisco, "The Tacoma," which stands on a high plateau overlooking Commencement Bay, and a full

view of the enormous snow peak of Mount Tacoma. There are also ten other hotels, fourteen churches, several handsome public school buildings, and an Episcopal seminary for girls, called the "Anna Wright" Seminary, in honor of the deceased daughter of Charles B. Wright, of Philadelphia, ex-President of the Northern Pacific Railroad, who has liberally endowed the institution. The Episcopal Church is a beautiful stone structure, erected by Mr. Wright as a monument to the memory of his wife. Tacoma is the headquarters of the Western Divisions of the Northern Pacific Railroad, and has extensive car and repair shops. Pacific Avenue, the principal business street, is a broad thoroughfare, with many substantial brick business blocks, and considerable wholesale trade is done here. The town has water-works and gas-works, is well drained, and is remarkably healthy.

Tacoma has three daily newspapers, four national banks, one private bank, one savings bank, two steam-motor street railroads, and several horse railroads, a handsome club house, churches of all denominations, and numerous manufacturing establishments. It has considerable wholesale trade. There are daily steamboats to Seattle, Port Townsend, Victoria, Olympia, and other places on the sound. There is also regular weekly connections with San Francisco by large ocean steamships.



THE SEATTLE BRANCH.

MEEKER TO SEATTLE.—DISTANCE, 31 MILES.

This branch, built in the summer of 1883 to connect Seattle with the Northern Pacific system, leaves the Cascade Division at Meeker, ten miles from Tacoma, and runs in a northerly direction through the valleys of the Stuck and White rivers to Seattle, traversing a highly productive agricultural region largely engaged in the raising of hops. Several small towns are located on the line. There are two daily trains each way between Tacoma and Seattle.

Seattle (41 miles from Tacoma, and 1,956 miles from St. Paul via the Cascade Division; population, 25,000).—This handsome and prosperous city is one of the oldest places on Puget Sound, and was an important centre of trade before Tacoma was founded. Its steady growth has not been checked by the rapid rise of the new city on Commencement Bay. It is charmingly situated on a succession of high terraces which rise from the shores of Elliot Bay. The city is laid out for a distance of three miles from the bay to the shores of Lake Washington, a fine body of fresh water, twenty miles long by about three miles wide. A similar lake, called Lake Union, connects with Lake Washington, and also with the sound, and the suburbs of the city in a northeastern direction advance to its shores. Seattle is the centre of a



remarkably complete system of steam navigation, which embraces all the towns and lumbering camps on the Sound, and also the navigable rivers of the region. A fleet of twenty-five steamboats is engaged in the local trade of the Sound, running to Tacoma, Olympia, Hood's Canal, Port Townsend, La Conner, Whatcom, and many minor points, and also up the White, Snohomish, Skagit, and Snoqualmie rivers. Ocean steamers run regularly to San Francisco. Steamboats of large size run to Victoria, B. C. Seattle has twenty-three churches; sixteen hotels, four of which are of large size and well appointed; four daily newspapers; four national and two private banks; and an opera house, with a seating capacity of 1,200. Educational facilities are provided by the Territorial University; by the public schools, which occupy large and costly buildings; the Yesler College, an institution for boys; an academy for young ladies; a business college; and several private and denominational schools. There are sixty-three manufacturing concerns in the city, most of which are engaged in industries connected with the lumber trade. A street railroad connects the principal wharves with the north-eastern suburbs of the city. The neighboring coal fields are one of the chief elements which contribute to the prosperity of Seattle. The mines now worked are chiefly in the vicinity of Renton and Newcastle, and are reached by a narrow-gauge railroad, twenty miles long. There are extensive coal fields, which have been explored, and are being developed, lying on the Green and Cedar rivers, near the base of the Cascade Mountains. Coal is brought to the wharves in Seattle, and shipped by a line of steam colliers to San Francisco. Both the mining and shipping operations, as well as narrow-gauge railroad, are in the hands of the Oregon Improvement Company. There is considerable agricultural land tributary to Seattle in the valleys of White, Green and Snoqualmie rivers,



Loading Lumber at Tacoma.

Other Towns on Puget Sound.— Besides Tacoma, Olympia and Seattle, which have been described in the preceding pages, the important towns on Puget Sound are *Port Townsend*, *La Conner* and *Whatcom*. *Port Townsend* is sometimes called the "Gate City of the Sound." It is situated at the entrance of Admiralty Inlet, on the Strait of Juan de Fuca, and is the port of entry for the entire Sound district. It has about 4,000 inhabitants, and its principal trade is in supplying the ships which enter and clear at its custom house. An iron furnace in the vicinity manufactures pig iron from hematite ore. There is a military post about three miles distant. The harbor of Port Townsend is an excellent one, being well sheltered from the north and west winds. *La Conner*, on the eastern shore of the Sound, is a lumbering town with considerable agricultural country tributary to it. *Whatcom*, on the Lower Sound, is the last town before the British line is reached. It has a population of about 700, with considerable agricultural country tributary to it, and with large undeveloped fields of deposits of coal and iron. This is the first point on the Sound where coal was mined. A railroad is being built (1889) from Seattle to a connection with the Canadian Pacific line and with a branch to Whatcom.

Victoria (117 miles from Tacoma) has a population of about 10,000, and is the seat of government for the Province of British Columbia. It is situated on the southern extremity of Vancouver's Island, on a small, landlocked bay which puts in from the waters of the broad Strait of Juan de Fuca. Esquimault Bay, five miles distant, is a station for the British navy, and has a large and extensive dry dock, constructed by the British Government. The climate of Victoria is mild in winter, and cold in summer, and the place is a favorite resort for tourists. Excellent roads lead into the country in every direction, and the scenery, especially along the shores of the



Glaciers of Mount Tacoma.

strait, from whence the lofty and rugged range of the Olympian Mountains is seen, is strikingly picturesque. Steamers leaving Tacoma in the evening arrive at Victoria the next morning. From Victoria, there is steamship connection with San Francisco, and also with Sitka, Alaska, and steamboats run across the Gulf of Georgia to Vancouver and New Westminster, on the main land. Vancouver, the western terminus of the Canadian Pacific Railway, has a population of 8,000. New Westminster is an old town on the Fraser river, with 3,000 people. There is regular steamboat service between Tacoma, and Vancouver. Steamships sail from Vancouver to China and Japan.





Glaciers of Mount Tacoma.

PACIFIC DIVISION.

PORTLAND TO TACOMA.—DISTANCE, 145 MILES.

The Pacific Division of the Northern Pacific Railroad, from Kalama, on the Columbia river, to Tacoma, on Puget Sound, was built in 1872 and 1873, and was put in operation in 1874. Until 1884, the distance of thirty-eight miles between Kalama and Portland by river was covered by means of the steamboats of the Oregon Railway & Navigation Company. In that year the link from Portland to a point on the Columbia river opposite Kalama was completed. The transfer of trains is effected by means of a large transfer steamboat, called the "Tacoma," which has three tracks on its deck, and ferries over the longest trains at one passage.

The railroad runs in a southerly direction after leaving Tacoma, until it reaches the Columbia crossing; thence to Portland the direction is nearly east.

At Lake View (9 miles from Tacoma), in the Nisqually valley, the last station before Tacoma is reached, there is a group of beautiful lakes, surrounded by pine groves and stocked with fish. Some gentlemen have chosen this spot for a summer resort, and built cottages around Gravelly Lake, and on the shores of American Lake there is a suburban village. This is considered one of the pleasantest summering places on the north coast. There are fine drives over the level prairie, and the ever-changing views of Mount Tacoma are magnificent,



Mount Tacoma From Commencement Bay.

Yelm Prairie (25 miles from Tacoma) is a small station. Here there is a revelation of unsurpassed grandeur, provided the sky be cloudless, in the view of Mount Tacoma, the loftiest of all the snow mountains. As the train rushes onward, occasional breaks in the forest allow the sight of this snow-clad peak to a great advantage. It is about forty miles distant, although its vast bulk is so distinct that it seems much nearer than that.

Tenino (39 miles from Tacoma). — The Olympia & Chehalis Valley Railroad, a narrow-gauge line, fifteen miles long, owned by an independent corporation, connects *Olympia*, the capital of Washington, and the county seat of Thurston county, with the track of the Northern Pacific Railroad at Tenino. The road passes through a dense forest, touching the stations *Gillmore*, *Spurlock*, *Plum*, *Bush Prairie* and *Tumwater*, the latter a lively manufacturing village, with fine water-power, on the outskirts of Olympia.

Olympia (122 miles from Portland; population, 4,000) is the capital of Washington, and is the oldest town in the country west of the Cascade Mountains. It is beautifully situated at the head of the crescent-shaped body of water which was originally named Puget Sound by an English explorer named Vancouver. The name is now generally applied to the whole body of water from the Straits of San Juan de Fuca to Olympia. Vancouver called the main body Admiralty Inlet, and gave separate names to the smaller inlets, bays and channels. Olympia is an attractive place, with broad and well-shaded streets, and an abundance of fruit trees and flowers. It has six churches, good public schools, four newspapers, a bank and several hotels. Steamboats run daily to Tacoma and Seattle. There is also steamboat connection with the saw-mill towns and lumbering camps on Hood's Canal. Thurston county, of which Olympia is the county seat, is densely wooded,

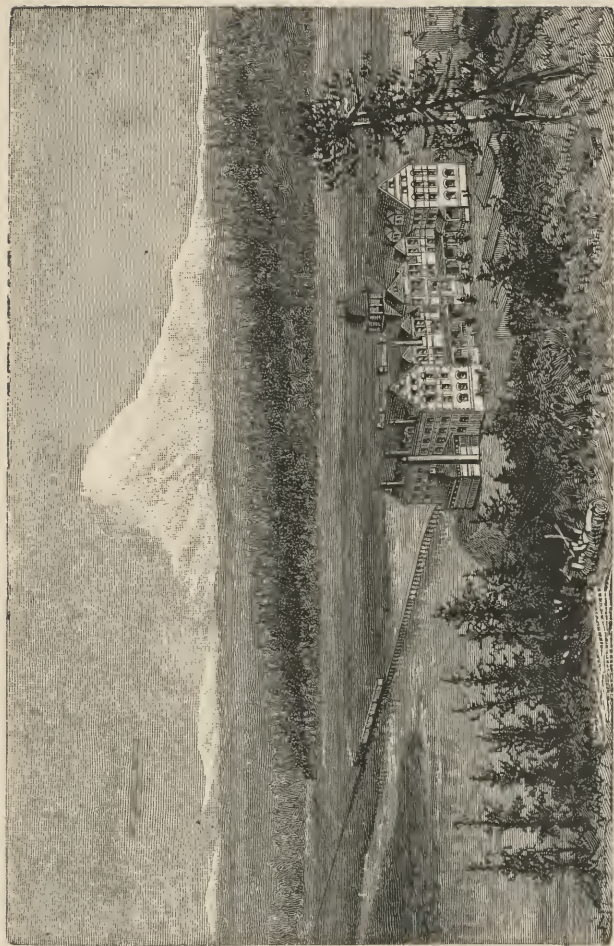
and lumbering is a leading industry. There is a great extent of prairie and bottom land in the county adapted to stock-raising and mixed farming.

Centralia (51 miles from Tacoma; population, 1,200) is an active trading town, doing business with the farmers in the Chehalis country. The neighboring valley lands produce large crops of all the small grains, Indian corn and potatoes. Apples, plums and pears, and the smaller fruits, flourish. Centralia has a newspaper, two hotels, three churches, a graded school and about a dozen stores.

A fine view of Mount Adams, away to the eastward, on the further side of the Cascade range, is to be obtained at several points as the train goes southward. It is seen across the wooded valley of the Nisqually, its white mass in bold relief against the sky, its sides seamed in summer with outcropping rock ridges, the hollows between being filled with never-melting snow.

Chehalis (55 miles from Tacoma; population, 1,200).—This is a thriving town, supported by the fine agricultural country of the Chehalis valley. It is the county seat of Lewis county, and has two hotels, two newspapers, five churches and a number of mercantile establishments. A railroad is projected to the mouth of the Chehalis at Gray's Harbor. A few miles south of Chehalis the railroad crosses a low divide between the Chehalis river and the Cowlitz river, the latter flowing into the Columbia. In the Cowlitz valley are rich bottom lands that were taken by settlers at a very early day. These farms are famous for hay and dairy products. The Cowlitz is navigated by small steamboats.

Winlock (69 miles from Tacoma; population, 500) is an active and growing mercantile point, supported by the trade of the farmers in the neighboring valleys. *Olequa* and *Carroll's* are small stations in the Cowlitz valley.



"The Tacoma," Tacoma, Washington Territory

Kalama (105 miles from Tacoma and 40 miles from Portland), on the north bank of the river, is the county seat of Cowlitz county, and has 300 inhabitants, two hotels, two stores, two churches, and a court-house. At one time this place had the ambition to become the commercial metropolis of the Columbia valley, and town lots were sold in the forests at high prices.

After the train leaves the huge transfer boat on the south bank of the Columbia river it runs through a timbered country nearly all the way to Portland, with occasional clearings and farm settlements. In clear weather superb views may be enjoyed from the train windows of Mount St. Helens and Mount Hood. St. Helens has a form like a sugar loaf and is about 9,000 feet high. Hood, more distant, has a sharp pyramidal peak, and an elevation of about 11,000 feet. These gigantic mountains are covered with snow during the entire year.

Portland (145 miles from Tacoma; population, 45,000) is the oldest commercial metropolis and railroad centre of the Pacific Northwest, and is the largest city of the Pacific Coast next to San Francisco. It is a beautiful city, well built in both its business and residence districts, and standing upon a gentle slope stretching from the bank of the Willamette river westward, for a distance of about two miles, to a range of steep, wooded hills. The city extends for about the same distance up and down the river. Its residence streets are shaded with maples and ash, elms, horse-chestnuts and other shade trees, and most of the houses front upon lawns and flower gardens. Indeed, Portland is a city of flowers and foliage, the mildness of the climate and moisture of the atmosphere causing vegetation to flourish. The winter climate is so mild that roses usually bloom until the first of January.

The situation of Portland was determined by the fact that the Willamette valley was the first settled portion of Oregon,



Salmon Leaping up Falls at the Dalles of the Columbia River.

and the commercial city of the State naturally sprang up at the point nearest to the wheat fields of the Willamette valley to which sea-going ships could get access. This point was not on the Columbia river, but as far up the Willamette as vessels of deep draught could go. Two lines of standard-gauge road terminating here penetrate the Willamette valley, draining the country on both sides of the Willamette. One of these lines extends southward to the California boundary and thence to San Francisco. A system of narrow-gauge railroad devised to furnish transportation facilities to portions of the valley not reached by the other roads, also terminates in Portland. The main line of the Oregon Railway & Navigation Company extends eastward to a junction with the Northern Pacific at Wallula, and by means of numerous branches reaches nearly all the productive country of eastern Oregon, and a large part of eastern Washington. Westward from Portland the Northern Pacific main line reaches down the Columbia forty miles, and thence northward to Puget Sound. Ocean steamships ply regularly between Portland and San Francisco, and river steamboats run on the Columbia and Willamette. Portland is thus a focus of the transportation system of the Pacific Northwest. It is also an important port for ocean commerce, and a large part of the wheat surplus of Oregon and Washington goes from the wharves of Portland by sailing vessels to Liverpool and other European ports.

Portland has many handsome business blocks which would be creditable to any city in the east. It exports about eight million bushels of wheat and over 500,000 barrels of flour annually. Portland has a good street-car system, water, gas and electric light works, a public library, two daily newspapers, great wharves and warehouses, numerous handsome churches, and many spacious public school edifices, the largest of which, the high school building, is the handsomest public school structure on the Pacific Coast.



Immediately opposite the city, on the eastern bank of the Willamette, is the populous suburb of *East Portland*, with 3,000 inhabitants, and *Albina*, with 1,000 inhabitants. The latter place has the largest wheat warehouse on the Pacific Coast, and is also the location of extensive railway shops.



SOUTH OF SNAKE RIVER.

An extensive fertile and beautiful agricultural country lies south of the Snake river in Washington and laps over on the west into Oregon. It extends from the Snake and the Clearwater southward to the Blue Mountains, and has an average width of about fifty miles. Its length from the bend of the Snake river at Lewiston to its western limits is about 150 miles. It is one of the most productive grain-growing regions in the world. The average yield of wheat, taking one year with another, is about 30 bushels to the acre, and crops of 40 to 50 bushels to the acre are by no means extraordinary. The region is rolling or hilly, and slopes southward up to the forest line on the Blue Mountains. It is penetrated by the main line of the Oregon Railway & Navigation Company's Railroad and by several branches of that system. These lines are now operated by the Union Pacific Company under a lease. At Wallula the Northern Pacific Railroad connects with the main line of the O. R. & N., which follows up the valley of the Walla Walla river, thirty-one miles to Walla Walla. The aspect of the country improves gradually as the distance from the river increases, and before reaching Walla Walla the country has become very fertile. The river is a small stream that pours into the Columbia without much demonstration,—merely a channel cut through sand and sage brush, although further up there is an occasional fringe of willows. There is no appearance of even a village during this stretch of thirty miles, only side-track stations, a few miles apart, for the transaction of the railroad business.

Whitman (26 miles from Wallula, and 5 miles from Walla Walla) is merely a side track. It, however, marks the scene of a deplorable tragedy. In 1836 Dr. Marcus Whitman, a physician, who was also a clergyman, was sent out from the East as a missionary to the Cayuse and Umatilla Indians. Even at that early day Christian sympathy was drawn toward the aboriginal tribes of the upper Columbia, and to this instrumentality the preservation of the Northern Pacific country to the United States is mainly due. Dr. Whitman established his mission at Wai-lat-pu, now Whitman's station, where he faithfully labored among the red men. In 1847 he was making a professional visit to the Hudson Bay post at Wallula, from which his station was twenty-five miles inland, on the Walla Walla river, combining, in accordance with his usual custom, the practice of medicine with the preaching of the gospel. When at Wallula, Whitman saw the arrival of a Roman Catholic priest and his party, and heard the boast made that Oregon was certain to belong to the British, as Gov. Simpson, of the Hudson's Bay Company, was in Washington, making negotiations to that end. This news weighed so heavily upon the missionary's mind, that, though late in the autumn, he prepared for and undertook a midwinter journey across the continent, made representations to the government as to the true value of the country, piloted the first wagon train through to the Columbia river the following spring, and so was greatly instrumental in preventing British ascendancy in the Pacific Northwest. The year after Dr. Whitman returned to his mission, he, his wife, and others, were massacred. It seems that the measles broke out among the Indians with great fatality. The medicine men of the tribes charged Whitman with causing the disease, and one night the cruel savages murdered their benefactor, with all his companions. The massacre occurred at the north end of the ridge, west of the railroad. There the victims were buried, and efforts are now making to raise

a monument "to the memory of Dr. Marcus Whitman and his associate dead." This tragedy led to the Cayuse war of 1848.

Walla Walla (31 miles from Wallula) is beautifully situated upon an open plain that is watered by the divided flow of the Walla Walla river. Beyond it the Blue Mountains stand like a wall, and among the foot-hills is the richest agricultural district known. The city has 6,000 inhabitants, and a handsome business street, with substantial blocks of stores,—some very fine ones. Though no forest trees are native to the plain, the streets are lined with shade trees, usually poplar, and the gardens are filled with orchards and vineyards. The private residences are often beautiful. Near town is the military station of Fort Walla Walla, and the presence of troops adds something to the business as well as to the attractions of the city.

Walla Walla has ten churches, a public library, a remarkably handsome court house, which is the finest public building in Washington, two opera houses, and a city hall; St. Mary's Hospital, conducted by the Catholic order of the Sisters of Mercy; three public school buildings; a well-organized fire department, with two steam engines and a hook and ladder truck. One of the principal buildings is the Odd Fellows' Temple, occupied by both the Odd Fellows and Masons. Whitman College is an institution for the higher education of both sexes, having complete classical and scientific courses. St. Paul's school for girls is an institution for boarding and day scholars. The Catholics have two schools. St. Vincent's academy for girls occupies a large brick building in the midst of pleasant groves, and St. Patrick's school is a day school for boys. A branch of the Oregon Railway & Navigation Company's system runs from Walla Walla to Pendleton, 47 miles. There is also railroad communication to the north, as far as Riparia, and thence to Colfax, 147 miles from Wallula, by the

main line of the same company, with a branch from Bolles Junction to Dayton, and one from Starbuck to Pomeroy, making Walla Walla the railroad centre for the entire country between Snake river and the Blue Mountains. Walla Walla is also the terminus of the branch line of the Oregon & Washington Territory Railroad from Eureka Junction. The Mill Creek Flume and Manufacturing Company have a narrow-gauge railroad from Walla Walla to Dudley, nine miles, connecting with a flume fifteen miles in extent, down which lumber and wheat are brought to the city from the Blue Mountains. A branch road extends up Dry creek six miles; both the main line and branch carry grain from the wheat fields to the Oregon Railway & Navigation Company's line. The agricultural country tributary to Walla Walla along the slopes of the Blue Mountains and the adjacent plains, is of remarkable fertility, the soil being adapted in an especial degree to the production of wheat, and a yield of forty bushels to the acre is not at all unusual. This is also a fruit country, the apple, pear, plum and cherry, grapes and all the berries being raised in profusion and perfection. Fifteen miles beyond Walla Walla the railroad comes down from the hills into the valley of the Touchet river, and follows up that stream to Palouse Junction, whence the main line runs northward to Riparia, on the Snake river, and a branch continues up the Touchet, thirteen miles further, to Dayton. *Prescott* (51 miles from Wallula Junction, and 20 miles from Walla Walla) is a small town with a flouring mill. *Bolles' Junction* (56 miles from Wallula) is an unimportant station.

The principal towns south of the Snake river beside Walla Walla are the following:

Waitsburg (59 miles from Wallula Junction; population, 900).—This is the oldest town in the Touchet valley, and was settled in 1870. It is a place of considerable business impor-

tance, as a milling and wheat-shipping point, and a country trade centre. It has a newspaper, two hotels, three churches, a number of stores, and large flouring-mills.

Dayton (69 miles from Wallula; population, 3,000) is, next to Walla Walla, the oldest town in Washington south of Snake river. It stands at the junction of the Touchet river and Petit creek, in the midst of a beautiful and exceedingly fertile and agricultural country. The Touchet furnishes good water-power, which is utilized for several saw mills, two flouring mills, a chair factory, and a sash and blind factory. Dayton has five churches, three newspapers, one of the largest public school buildings in Washington, four hotels, and about twenty stores. It is the county seat of Columbia county, and was named in honor of Jesse Day, the pioneer settler. The surrounding country is upheaved into high hills with rounded tops; the summits and slopes of these hills are as fertile as the bottom lands in the narrow valleys between them; in fact, the farmers prefer the hill tops for wheat fields.

Pomeroy, county seat of Garfield county, has a population of 1,500, and is the market town for a large and productive farming country. It is the terminus of a branch railroad, thirty miles in length, which leaves the main line of the O. R. & N. at *Starbuck* (57 miles from Walla Walla).

Centerville, Oregon, has a population of 650, and is an important wheat-shipping town.

Pendleton, Oregon, is situated near the base of the Blue Mountains on the Umatilla river, and is the county seat of Umatilla county. It is a large, active, commercial town, with a population of 4,000. Its shipments are wheat, stock, wool, barley, rye, oats, fruit, etc. The country surrounding the town resembles in its appearance and general character that around Walla Walla, and is finely adapted to farming and stock raising.

Snake River Navigation.—At Riparia connection with the places on Snake river, as far as *Assotin*, which is near where the river emerges from the Blue Mountains, is made by means of the Oregon Railway & Navigation Company's steamboats. These touch at landings on either shore, and bring to market heavy freights of grain and wool, grown in the lower Palouse country, and between Snake river and the Blue Mountains. The chief points are *Pencwawa*, *Almota*, *Wawawai* and *Alpawai* Landings, where the business of the country is handled and its products shipped.

Snake River flows deep down in an immense cañon, whose cliffs are a thousand feet or more in height. Generally, the points are rock-ribbed; for the strata show on every bluff. To ascend these cliffs is impossible, except some ravine is followed to its source, or a roadway is graded, carefully winding up the face of the acclivities. The shipment of grain would be attended with difficulty if the farmer had to haul his load down such tremendous hills, and spend hours returning to the plain above with his empty wagon. The evil is remedied by the construction of shutes leading for thousands of feet from the summit, down which the grain is poured to the warehouse on the river. There is communication between the various shipping points by means of a telephone, and the business is transacted with dispatch. The farmer simply delivers his wheat on the hill, and goes home rejoicing. The landing places named are merely warehouses, with perhaps a store, though goods are generally shipped and sent inland to Pomeroy, Pataha and a number of other towns situated in the farming region. The cañon of Snake river looks like an inferno; but the traveler who judges the country by this river scenery is entirely out of his reckoning. For example, to climb the grade opposite Lewiston is two hours' hard work, over two miles of distance; but, when foot is placed on the surface

of the rim rock, a rolling prairie region of excellent farming land is spread out as far as the eye can reach. This is the case generally on the Columbia and Snake rivers. The bars lying at the foot of the high bluffs along the river have proved to be especially favorable for fruit culture, and the yield is large.

Lewiston (78 miles by steamboat from Riparia; population, 2,000).—This town was early created by the needs of the mining regions of middle Idaho. Mining was conducted with fabulous success in 1862; but the placers were exhausted long since. Now Lewiston is permanently supported by the agricultural and pastoral resources of a wide region. It is built at the junction of the Clearwater and Snake rivers, under the bluffs, that are not high on the side of the river whereon it is situated. It has all the equipment for a thriving place. There are good hotels, two newspapers, three banks and heavy mercantile establishments, and its necessities will in time demand railroad facilities. The fertile country tributary to Lewiston extends for about fifty miles east from what is called the Potlatch region to the base of the Blue Mountains.





Iron Mountain, Cow Creek Canon, Southern Oregon.

ALONG THE COLUMBIA RIVER

WALLULA JUNCTION TO PORTLAND.—DISTANCE, 214 MILES.

Returning to Wallula Junction, the journey westward is continued down the Columbia river upon the track of the Oregon Railway & Navigation Company. The immediate vicinity of the station is a wind-blown desert, with only a thread of green visible where the Walla Walla river struggles with the shifting sands to reach the Columbia. Northward rise the dark hills of Klickitat county, and just below the mouth of the Walla Walla the ridge that it follows ends in a rocky bluff. In cutting through this range of hills the Columbia has left two bold-faced and strata-marked headlands, facing each other, and affording the finest bit of landscape to be seen along the river for a hundred miles. Craggs stand like ruins, more grand in their bronzed and rugged decay than any crumbling relics man has left. On one of them there are two colossal pillars, twin monuments of basalt, that can be seen in glimpses as the train passes. The popular legend is that the line dividing Oregon and Washington runs between these pillars.

Passing these grand bluffs, the river courses through a region of low shores without a special object of interest for many miles. But, sterile and forbidding as this part of the route seems, still, not far from the road, on the Oregon shore,

begin the rich farming lands of Umatilla county. Indeed, beyond the bluffs, on either side of the river, there are arable lands within a few miles of the track. On the Washington side, a large fertile flat, containing thousands of acres, has been left vacant until quite recently; but a few settlers have now taken some of the land and made rude improvements. Irrigation is not very difficult where wind and water may be so easily utilized, and within a few years these wilderness shores of the upper Columbia in many places will be made productive. The distance by rail from Wallula Junction to the Dalles is 127 miles. All the northern shore is that of Klickitat county, W. T., a region larger than two of the original thirteen States; and behind the low bluffs that bound the river for a stretch of sixty miles there are fine arable lands, upon which immigrants, doubtless, will shortly establish their homes. Passing the stations of *Cold Spring* and *Juniper*, the next halting place is

Umatilla Junction (27 miles from Wallula), a place that has been of commercial importance for over twenty years. It possesses little attractiveness, because there is nothing to relieve the monotony of sage bush and sand. The discovery of gold in the Blue Mountains, in 1862, made Umatilla the point for reshipment of goods. Merchandise intended for eastern Oregon and southern Idaho all came this way. There was at that date no Central Pacific Railroad, and the water transportation reduced the haul by wagons to the famous diggings of the Boisé Basin and the Owyhee about 300 miles. Umatilla then rose—it did not bloom—to be a place of many rough buildings, and a fair share of rough trade. Long trains of patient pack mules or impatient cayuse ponies were going and coming, the picturesque array increased by the immense wagon caravans, often with eight mules or horses, or as many oxen, as propelling power. That was a day of dust and weariness; but Umatilla thrived upon it. Then came the decadence of the mines, the Central Pacific supplying what was left of

the great mining camps of southern Idaho. But the dawning of the farming era inland, near by, soon built up thriving towns like Weston and Pendleton, and left Umatilla deserted until the construction of the railroad again brought it into prominence as a point of junction.

The Baker City Branch Line.—The Oregon Railway & Navigation Company has built a system of railroads that is intended to develop all the agricultural areas tributary to the Columbia and lying south of Snake river. So far, this system embraces the continuation of the trunk line from Wallula to Walla Walla and beyond, and a branch railroad to Baker City, in eastern Oregon.

The Baker City Branch, known as the Mountain Division of the Oregon Railway & Navigation Company, diverges from the main line at Umatilla, 186 miles from Portland, and is operated to *Huntington*. The route from Pendleton lies over the Blue Mountains, crosses Snake river at the mouth of Burnt river, traverses the length of the beautiful Grande Ronde valley, in which are the thriving towns of *La Grande* and *Union*, and passes by an easy divide into the Powder river valley, where it connects with the Oregon Short Line of the Union Pacific Railway.

Pendleton (230 miles from Portland), on the Umatilla river, county seat of Umatilla county, is a growing town with a present population of about 4,000. It is in the midst of an extensive and fertile farming region. Large shipments of wheat and wool are made from this point. It has a flouring mill, a sash and door factory, a planing mill, three hotels, two banks, six churches, schools, an opera house and two newspapers.

LaGrande (304 miles from Portland; population, 1,500) is the division headquarters for the Mountain Division of the Oregon Railway & Navigation Company, and has machine shops located here.

Union (317 miles from Portland; population, 1,500) is the county seat of Union county. The town lies two and a half miles from the station.

Baker City (356 miles from Portland; population, 3,500) is the county seat of Baker county. There is good stock-raising, with quartz and placer mining, in the Powder River Mountain and vicinity of Baker City.

Weatherby (392 miles from Portland, and about nine miles from Conner creek mine) is said to produce the richest gold quartz in the world. The annual yield for some years has been over a million of dollars.

Huntington (404 miles from Portland, and about two miles west of Snake river) is the junction with the Oregon Short Line of the Union Pacific Railway, connecting with the main line at Granger. It has a population of about 200.

The intermediate stations on this division are unimportant. In the Powder river and Burnt river region, the road crosses a second spur of the Powder River Mountains, at a grade of 116 feet on the eastern, and of 79 feet on the western, slope.

The Main Line Again.—After crossing the Umatilla river, here simply a sandy channel pouring a small stream into a large one, but tearing its way through the Blue Mountains, forty or fifty miles above, with the force of a powerful torrent, the stations *Stokes* and *Coyote* are passed,—the latter unsentimental name derived from the slinking wolf of the country. Nine miles beyond the latter station is *Castle Rock*, standing between the track and the river, appearing like a Druidical monument or colossal altar of basalt. This rock is forty feet high, although a casual look gives no such impression. It is only noticeable as the single interesting feature in a scene of desolation. Perhaps it is a relic of the oldest superstition of the farthest West, with a wonderful history, if only there were any left to tell the reason that it stands so solitary. *Willow creek*, nine miles further westward, is one of many benefi-

cent streams which leave the mountains, and fertilize and beautify the plains, and then lose themselves in the great Columbia. A bunch of green willows marks its exit, and keeps its memory verdant.

Arlington (73 miles from Wallula).—This is a trading point, where has spread over the sandy hillside a street of rough board houses, that keep merchandise of all kinds, from a fine cambric needle to, a Buckeye mower. This town of Arlington has turned its neighboring desolation into life and animation. There is a good farming country connected with it, which builds up the fortunes of the traders. Arlington is the station for Heppner, a flourishing town of about 500 inhabitants, in the centre of an extensive sheep-raising district.

Blalock (80 miles from Wallula).—Blalock was named for an enterprising physician of Walla Walla, who devotes the income from his profession to farming projects. Dr. Blalock's farms, near Walla Walla, being very productive, he made up his mind that the country along the Columbia was equally fruitful. Now, with others, he has some thousands of acres in wheat on the bluffs that rise above the station.

The region of low shores and level country has here been passed, and the Columbia flows through deep-cut banks that are hundreds of feet in height. Desolation has become picturesque. Many rocky strata crop out on the overhanging cliffs, and reveal the processes by which nature wore a channel for the great river. Down in the cañon, there is no pleasant shore, no fertile reach of valley land, no living green; no fringe of willows even waves along the bank. Instead, there are shifting sands that cover a great part of the land level with the river's flow. The town proprietors are trying to sow some suitable grass-seed on these sand reaches, in hope to rivet them by the aid of roots, and cure them of their restlessness. While great bluffs overhang the shores, on the south

a ravine winds through the heights on an easy grade, and climbs by three miles of good road to a rolling upland prairie, now partially under cultivation, and promising to become magnificent farming ground.

The John Day River (97 miles from Wallula).—This river enters the Columbia from the south, passing out through a walled cañon to reach the larger stream. A few miles distant its sunny shores are crowned with rich fruitage, for an enterprising farmer has thousands of bearing trees of various fruits. It is worthy of note, that, wherever the valley of any of these streams widens to admit of planting trees, and the land can be irrigated, the result is an excellent quality and prodigious yield. Down in these ravines the settler is sheltered from the vicissitudes of the seasons, and one wonders to see that the peach, apricot, almond, nectarine and finest varieties of the grape, including the raisin grape of California, all thrive, never knowing failure. The Snake and the Columbia rivers, and many of their tributaries, lying between the forty-second and forty-ninth degrees of latitude, usually flow through deep cañons, and in their narrow valleys can be grown the fruits of California, as well as those native to the far North. There is proof of this when passing down below the John Day. The town of Columbus is built on a level reach on the Washington side, and fairly blooms with verdure. It is surrounded by peach orchards and other trees, a very oasis that gems the shores with a flush of green to cheer as the train flies on.

At the mouth of the John Day river, the scenery along the Columbia improves in rugged grandeur, and the rapids in the river show tossing waters, the navigation of which requires a careful pilot. The railroad ignores the rapids, except when the unusual high water of exceptional years threatens the integrity of the track.

John Day was a pioneer of early times, who seems to have

had two streams named for him, the other John Day river entering Young's Bay, between Astoria and the ocean.

Geological.—It is noticeable that the rivers of western Washington and Oregon flow through natural valleys to reach the sea, while all the streams east of the Cascade Mountains have cut through deep cañons. The theory is, that many centuries ago these eastern valleys were buried thousands of feet deep. Then, as now, the winds swept off the ocean from northwest and southwest; and, when this region went through its different volcanic epochs, and fiery eruptions occurred, these winds swept the light ashes toward the east. Ashes and scoria and lava flow succeeded each other, covering deep down the lonely valleys, lakes and plains that existed when the mastodon roamed the earth. Prof. Condon, of the Oregon State University, learned years ago of the existence of fossil remains of the Pliocene period that had been found where the waters of John Day river, in cutting a channel, had exposed the bed of some old lake, now buried 1,500 feet. Other scientists, including Prof. Marsh, of Yale College, investigated in the same direction, and the treasures of scientific collections have been increased by remarkable specimens gathered in this John Day river region. Near the mouth of John Day river is a remarkable lava bed, over and through which the railroad passes. The space between the river and the bluffs is narrow, but is filled by black incrustations of lava, affording a glimpse of a region that, for a small extent, might be styled infernal. It is pleasant to know, that on the heights above us are waving fields of grain, and that a little way up the John Day river is a bearing orchard of thousands of trees. Only thirteen miles from the mouth of the John Day river, the Des Chutes is reached, another stream that heads far south. It collects the waters of the eastern shed of the Cascade Mountains for 200 miles, and sends a tributary to sweep up the streams that descend far south from the Blue Mountains.

These two rivers are alike swift and turbulent, and come through deep-worn cañons to join their floods with the Columbia. Crossing the Des Chutes, the road winds around its western bank to reach Celilo, on the Columbia, a wind-driven spot, which, for a score or more of years, has been the western terminus of upper Columbia navigation.

Celilo (114 miles from Wallula), translated from the aboriginal, means "The Place of the Winds." The hills on the Washington side rise bluff and frowning. On the Oregon shore the shifting sands are freely driven by the unceasing winds. Above, for hundreds of miles, it is possible to send steamboats up the Columbia and Snake rivers. But from Celilo to Dalles City, a distance of thirteen miles, navigation is forbidden by obstructions that are only overcome when it is necessary to take some steamer from the upper to the middle river. When the melting snows have swollen the Columbia to its fullest flow, and the waters boil so far above the rocks as to make the passage possible, then the coolest nerve is requisite, and the most consummate skill called for.

In early days the corporation that controlled the river cemented its chain of transportation by constructing a railroad, thirteen miles in length, from the Dalles to Celilo. It also had a shorter portage road around the Cascades, by which means the traffic of all the upper country for many a year was controlled. This portage has become a portion of the main trunk road up the Columbia river. Steamboats sometimes load at Celilo to accommodate trade along the river, or to take freight up the Columbia above Ainsworth; but the glory of the river trade has departed. The fine steamers that used to navigate these waters have made the perilous passage over the Little Dalles, the Great Dalles, and the Cascades, and are earning dividends on the lower Columbia or Willamette, or else on the broader waves of Puget Sound.

Soon after leaving Celilo, the scenic regions of the great

river are approached. If it is early summer the hills to the north have not entirely thrown off their tinge of silver gray, given by the waving bunch grass. Later, after the grass has matured, these great hills, as well as the plains, turn to tints of golden brown. A short distance below Celilo the track curves around a steep basaltic cliff that overlooks the river, and wears the name of Cape Horn. Early travelers were not apt at names, and too often attached commonplace appellations to grand objects that deserve respectful treatment. This Cape Horn has no distinctive name, because there is another and grander Cape Horn on the river below.

The Little Dalles—If it is early summer, and the Columbia is at flood, there will be seen below Celilo the Little Dalles of the river, a spot where the fall is enough to create foaming rapids for half a mile or more, as the pent-up water rushes between the lava walls. The Little Dalles, however fine in itself, is rendered almost insignificant by comparison with the Great Dalles, six or eight miles below.

Indian Salmon Fishermen.—Over on the Washington side some Indians have their picturesque village,—pole wigwams covered with mats or skins,—to which distance lends all the enchantment. Here they come in the fishing season to catch salmon, which is dried for winter food. Half a century ago they came by thousands, and the desolate shores were alive with them. Every rock had its claimant, and every tribe its prerogative of fishing ground. Then there were no scores of canneries and packing establishments to devastate the fish, and no cunningly devised and cruel salmon wheel at the Cascades to swoop them up as they passed in myriads to the spawning grounds. Now only a few score Indians come to remind the whites that a remnant of the race still lives. If in June or July, a glimpse may be caught of some Siwash swinging his spear or wielding a scoop net over fierce rapids, waiting and watching for fish to ascend. The whole village is

roused by the advent of the train, and, if at nightfall, the sons of the forest may be seen waving a greeting, their weird forms outlined against the sky. The family mansion, with its barking curs and its smoking fire, is under the rocky wall. The Indian comes to the river for his fish supply as regularly as the year rolls around, and his cayuses browse near by on scant herbage found among the sage brush.

The Great Dalles of the Columbia.—During the months when the river is at low stage the Great Dalles is not a noticeable spot. It, however, well repays a careful examination, and rewards an observant visitor. It is five miles from the Great Dalles to Dalles City itself. All the way the scenery is inhospitable but surprising. To the west lies Dalles City, with its background of near hills and distant mountains. Towering above all, with its crown of snows, is Mount Hood, 11,000 feet high. The *tout ensemble* is magnificent. Glimpses of the city and the mountains high above it are to be caught as the train moves on; but they are apt to be neglected in watching the wonders of the river. When the flood is low, the Great Dalles affords a view of a wide expanse of lava incrustations, with no river visible. You cross toward the north, climbing over the rough and rocky surface as you can, to find the river confined in a narrow cut close to the Washington shore. The flow is swift and dark. You pick up a stone,—standing at the very brink,—and easily throw it across from the Oregon to the Washington shore. And this is the mighty Columbia! You fling a second pebble so far that it surmounts the northern cliff, and might strike some animal grazing there. The truth is,—and it is a wonder as well as a truth,—at this place the tremendous volume of the greatest river on the west of North America is confined in a cut not much over sixty yards in width, but of fathomless depth. Fremont attempted, when he was earning his fame as an explorer, to measure the waters, but never could fathom them. The fact is undeniable



Mount Hood, from the Head of the Dalles, Columbia River, Oregon.

that the river is turned on edge. You have seen the Great Dalles when the flood was low ; but, if you see it when the river is full, you will find the wide expanse of rocks you clambered over to reach the chasm covered, many fathoms down, by a boiling flood that rushes furiously through every channel, and hurls itself wickedly against huge rocks that bar its passage. For two miles or more the broad river is a furious torrent that you can not weary of looking at. For that distance the surface foams and rushes in a thousand fantastic shapes, boiling where a hidden rock stands firm,—a tremendous whirlpool where there are room and depth for it. The foaming surges race and rush past one another, and suddenly disappear to give place to new shapes of frenzy. The stillest point is along the further shore, where the waters are deepest.

The United States Government caused a survey of the Dalles to be made in 1880, and the following description is taken from the notes of Mr. E. Hergesheimer, assistant in the United States Coast and Geodetic Survey, who performed the work :

“At this reach the river has worn through and carried away the successive layers of basalt for a depth of about 1,000 feet below the present summits, and, as the crests of the escarpments are still visible nearly to the summits, a fine opportunity is presented for the study of the type forms. The whole volume of the river here runs, for about one and a half miles, through a narrow gorge in the basalt, averaging about one hundred metres in width, and but sixty metres wide at its narrowest part. During the summer freshet it is much increased in volume, overflows its inclosing walls, follows and overflows some inferior parallel gorges, and is thus greatly increased in width. The water rushes and foams through the main gorge with great velocity, having a fall, at the time of our survey, of about twenty feet to the mile. The strata exposed average about seventy feet in thickness, and incline toward the ocean about one hundred and forty feet in a mile. They were all

found to be distinct layers of basalt, except at a point on the southeast of the river, and seven hundred feet above the present level, where a deposit of lime is found, an interesting geological fact, historically."

When the Hudson's Bay Company was in its prime, there was no other authority in all the expanse of North America, from the waters of Hudson's Bay to those of Puget Sound, 4,000 miles apart. Communication between the far extremes was maintained by yearly journeys. In the high-water season the *voyageurs* of that company came sailing down the swollen stream, shooting the fearful rapids in their batteaux. Forty years ago American emigrants first essayed to make their way across the continent by land, and descended the river as they could. In the fall of 1843 the Applegate family arrived in Oregon. One of them tells of attempting the passage of the Dalles in a canoe, which was wrecked. He and another were saved, and a third was lost. His own experience was that he was sucked into a tremendous whirlpool, and rotated on its sides, looking up from the cylindrical depths to see the wrecked canoe whirling after him, and the stars shining clearly beyond. Some people do not find it convenient to believe all of this story; but those who know the narrator will recognize that it is very mildly told. It is true that Applegate was wrecked, taken into the whirlpool, and saved by stranding on a rock.

The weird aspect of nature at The Dalles, the black and rockbound shores, the river, in its always wild and sometimes fiercer moods, have no alleviation save the changing sky, that is almost always wreathed with smiles, and the lordly presence of Mount Hood, that wakes admiration. The beholder looks up from the sublimity of desolation around him, to see the same transformed into the ethereal and majestic, on a scale of grandeur that overawes while it impresses. Nature's moods are never trivial or wearisome on the Columbia. Below the tortured waters and the rock-ribbed shores that confine

them, the Columbia broadens beautifully, and becomes placid and inviting.

Dalles City (125 miles from Wallula, and 88 miles from Portland).—Dalles City is the eastern terminus of navigation on the middle river. Here are still to be seen the fine boats of the Oregon Railway & Navigation Company; for navigation is maintained on this route the whole year round. The traveler may either remain in the car at The Dalles, or step off the train upon a steamer, and, with the current's aid, go down the placid stream while the train is coursing along the steep and wooded shores. The Dalles is one of the oldest settlements east of the Cascades, and is of considerable note, occupying the very gateway between the eastern and western divisions of the country.

The word Dalles, signifying "swift waters," is applied as a general term to rapids on different points of the great river. The immigration of early times, as well as the *voyageurs* of the fur company, came to speak of The Dalles in general terms, and the word was finally applied to this locality as a specific designation. Missionaries tried in earliest times to establish a mission here, with limited success. A town sprang up as time developed the mines north and south, and agriculture and stock interests now support the thriving place. As the terminus of the Middle River Division, it received quite an income. It now lives on its actual surroundings, and will prosper more as development goes on. The town is built under a bluff, with farms and houses on the hill. The population is over 4,000. There are charming homes embowered among orchards and shade trees, several churches, good public schools, a fine academy and many industrial works, including the extensive shops of the railroad company. There are two newspapers, two large hotels, fine blocks of stores and pleasantly shaded streets.

From the city, but better still from salient points on the adjoining hills, Mount Hood is seen grandly. From above the

first bluff that terraces the heights behind the town, Mount Adams looks from beyond the Columbia, not equal to Hood, but still a mighty mountain.

The Dalles was even a noted place in the early days of settlement in this region.* Here the emigrants, weary of the long march across the continent, and glad to avoid any further labor of road-making, leaving their empty wagons and tired teams to follow at leisure, themselves embarked with their effects upon rude boats to go down the Columbia to their destination at the Willamette settlements, over one hundred miles distant by the river. Reaching the Cascades, they made use of a portage six miles long at that unnavigable part of the great stream, resuming the boat journey beyond. This road around the Cascades is used to-day. There was not then, nor is there yet, a wagon road all the way down the Columbia, although an Indian trail at one time existed. In fact, there was no means of land communication between Dalles City and Portland until the railroad was opened, in the autumn of 1882.

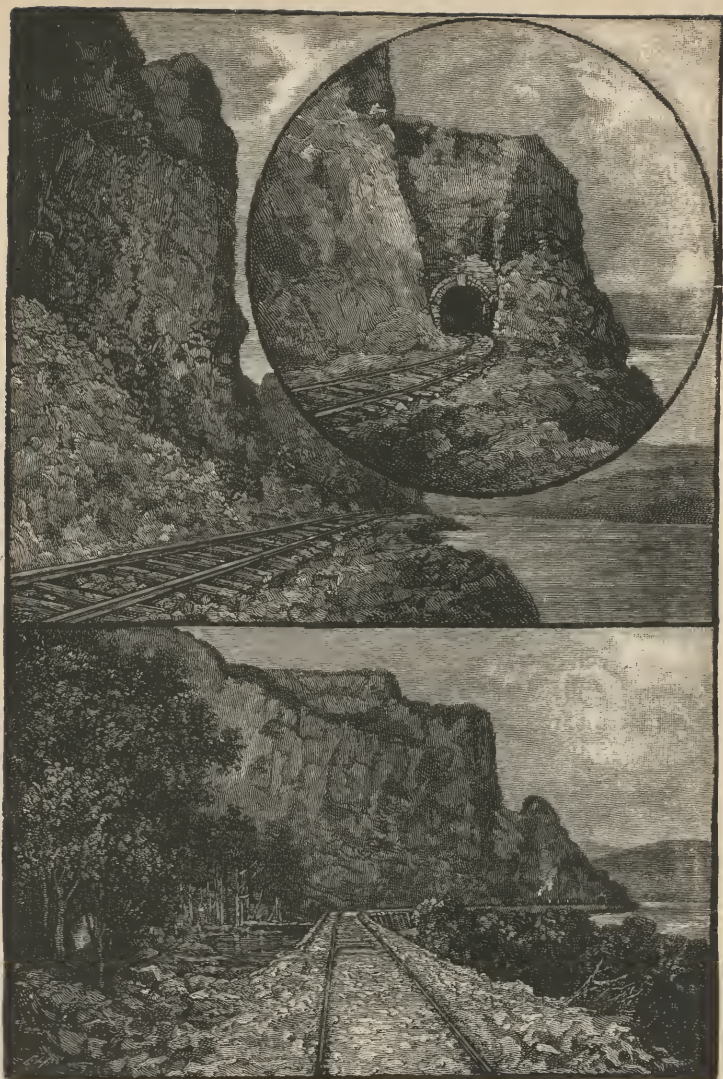
By Rail to Portland.—From Dalles City westward the railroad follows the river's edge, and the scene changes from treeless, desert-looking shores to mountain views, that grow more interesting every mile. Soon after entering the mountains we find pines and firs scattered on the hillsides. Gradually forest growths increase. The mountains become at times densely wooded, and along the margin of the river maple, alder, ash and willow grow in tangled woods. The Columbia, from The Dalles to its exit from the mountains westward, has no valley. The mountains make the shores, leaving sometimes a fertile strip of bottom, and occasionally some bench land. About twenty miles below The Dalles, Hood river comes in from the south, and White Salmon from the north. Each has an arable valley near the Columbia. Save these two limited districts, there is no farming land worth notice for seventy-five miles. The track lies that distance through the great

gorge the river has cut for its channel, working through a romantic region that has already become classic ground.

Hood river comes down from the snows of the great mountain, and has a charming valley, though not extensive. It has become attractive as a summer resort. Peaches thrive here, and many other fruits ripen to perfection. Hood river valley, and that of White Salmon, on the north side of the Columbia, both have repute for their fruit-growing, and attract those who go to the mountains for summer rest and recreation. Stages run from Hood River station to convey tourists to Mount Hood, during the summer months.

Midway of the mountains are the *Upper Cascades* (169 miles from Wallula). Above, the mountains are beautiful, and can be studied with careful attention. The placid river reflects the sky, and the heights are inverted with graphic effect in the limpid flow. Very beautiful views are caught as the road curves around projecting spurs of the ranges, by looking backward or forward across long watery reaches that have mountain and forest shores grouped in perfect beauty. Sometimes these views reach for many miles, to be shut off suddenly as the stream bends with the sweep of the mountains, when a new prospect is revealed. For placid beauty the upper river is supreme, although there are many really grand features of mountain scenery. Sometimes the forests climb to the summit. Sometimes they have been burned, and charred trunks stand against the sky. There have been fierce fires in these mountains, set by careless hunters, that have swept everything before them for many miles. Sometimes a pyramidal face of rock is seen, rising without tree or verdure of any kind, a mountain by itself. There is now and then a saw mill, or a chute from far in among the ranges, bringing down wood or lumber. There is scarce any other civilization visible.

Along the Cliffs.—Between The Dalles and Hood River there are two tunnels. The first is approached for half a mile



Along the Cliffs of the Columbia.

directly under the face of a towering cliff that forms one of the most interesting objects on the route. This rough precipice has been blown away at its base, to enable the track to be laid. A rip-rap wall protects the bank, and the precipice almost overhangs it, ranging from 450 to 600 feet in height. Standing on the car platform, and looking up at this mighty wall, the beholder receives an impression that is likely always to remain.

During the building of the road a great deal of hazardous work was done along such places as this, sometimes at the expense of workmen's lives. The only way to blow off the face of this tremendous cliff was to lower men to the point at which they were to work, with their tools, in rope slings. It was a risk that only men with the coolest nerve could undertake, and high pay was the inducement. Strength of muscle and power of will did not always save. The danger came by the loosening of rock above from friction of the rope. Fourteen men were killed by rocks falling on them in this way at different parts of the work. This road along the Columbia, of course, has easy grades, and so far compares favorably with the passage of the Central Pacific over the Sierra Nevada Mountains, in California. The same range runs north, thousands of miles, under the different names of the Andes, Cordilleras, Sierra Nevadas and Cascade Mountains. The Columbia, having cut a gorge for itself, makes a somewhat tortuous and very expensive road, the great cost of building which can be understood by journeying over it.

Cascades and Mountains.—Wooded ranges and abrupt cañons favor the existence of water-falls. Coming down from The Dalles by steamer, fine views are obtained of many famous falls or cascades on the Oregon side of the river. The railroad passes close to and almost under them, as they pour over the cliffs, sometimes so near that you are startled with the sound of plashing waters, and catch a glimpse of the foaming torrent as the train whirls by it.

The mountains become more abrupt as the "Heart of the Andes" is gained. Snow lingers upon them, and hollows on the north side of them are filled with it until late in the summer. The snowy peaks that sentinel the range wear their kingly robes always, but wear them more lightly through the summer solstice. There will come a rainy time, sometimes in September, that will rehabilitate the mountains, fill the deep furrows, and cover again the exposed ridges. After such a rain, Mount Hood is suddenly transformed into a thing of wondrous beauty and purity.

The Sliding Mountain.—The Indians have a tradition that once the great snow mountains, Hood and Adams, stood close to the river at the Cascades, with a natural arch of stone bridging one to the other. The mountains quarreled, threw out stones, ashes and fire, and, in their anger with each other, demolished the arch. Before that time, the Indians say, their fathers had passed up and down beneath the arch in their canoes, and the stream was navigable; but, when the arch fell, it choked the river, and created the rapids that now exist. The legend goes on to say that the "Sahullah Tyhee," or Great Spirit, was so angry with the contending mountains that He hurled them north and south, where they stand to-day.

This legend has some foundation, judging from the present conditions. It is evident, from the state of the shores and the submersion of forests, that some great convulsion has occurred and thrown down the rocky walls adjoining the river. Just above the Cascades the view includes beautiful islands, not far from the brink of the rapids; and between the islands and the rapids some ancient forest has been submerged, with the tree trunks still standing beneath the waves. It is commonly known to river men and steamboat men that this submerged forest stands there, and it is often pointed out to travelers. How long since it grew on the shore, no one knows. Indian



Multnomah Falls, Columbia River.

legends are never accurate, and we can only surmise that it was long centuries before the white man came.

In connection with this legend, there are scientific data to establish the fact that some great convulsion has taken place and blocked the stream. When the rock walls fell and choked the channel, the effect was to raise the waters and deaden the flow for eight miles above. The work of engineers who have built and superintended the railways constructed around the Cascades for twenty years back, has demonstrated that, for a distance of three miles on the south, a great spur of the mountains is moving toward the river. The engineers who made the examinations connected with the canal and locks that government is now constructing around the Cascades, have determined that the impending mountain of basalt rests on a bed of conglomerate, with a substratum of sandstone, pitching toward the river. As the river wears away under the basalt, the rock masses move toward it. It is very possible that at some remote period, when the river had worn out a gorge, and precipices lined the shore, the waters undermined this wall and aided its descent on the incline of sandstone and conglomerate, so as to produce the effect which is seen, and confined to a short distance the fall that previously covered fifteen miles.

Mr. Theilson, when chief engineer of the Northern Pacific Western Divisions, asserted, a few years ago, that, when they were repairing the narrow-gauge road, originally used for portage purposes, it was found that the track twisted out of line by the movement of the mountain. In one place it had moved seven or eight feet, and in other places ten. There was no mistaking the fact that there had been in two years a general movement of the whole mountain-side for a distance of three miles. This testimony is conclusive, and it is very likely that the Indian tradition has its foundation in this fact. At the Upper Cascades the road goes close to the work carried on by the United States Government of constructing a canal and locks

around the rapids. This will require an outlay of millions, and it is done in the most substantial manner. It remains to be seen how the moving mountain will affect it.

The Cascades.—The Cascades are in about the centre of the mountain range. The river, that has flown so placidly all the way from The Dalles, has become wider, and spreads out in unbroken stillness, no motion being apparent. It is gathering itself for the plunge over the Cascades. In a moment it changes from a placid lake to swift rapids, and soon becomes a foaming torrent as the fall increases and the waters encounter boulders in the stream.

Immediately at the Cascades the scenery is very fine. The mountains are grand, standing on the south like walls of adamant, and lifted to towering heights, their sides cleft open at intervals by deep ravines, the rock ledges of which are hidden by firs. Some of the rocky pinnacles and turrets along the heights are of strange, stern architecture.

On the north the mountains recede, and pyramidal forms contrast with tremendous frowning outlines, that stand like some Titanic fortress. There is a fine view of the Cascades from the train, and of the mountains on the north. At railroad speed the Lower Cascades are soon passed, and *Bonneville*, the point at which the steamboats on the lower river make their landing, is reached.

The Old Block House.—Near the Upper Cascades, on the Washington side of the river, on a point of land that juts out so as to make a good defensive position, there is still standing an old block house, built thirty years ago, when the Indians were more numerous than peaceable. War broke out all along the coast, from British Columbia to California, in 1855. The Indians had some sort of unison, and outbreaks were almost simultaneous for that distance of 800 miles, though some of the more powerful tribes refused to join the alliance, and gave notice of danger. At that time the Cascades were already important

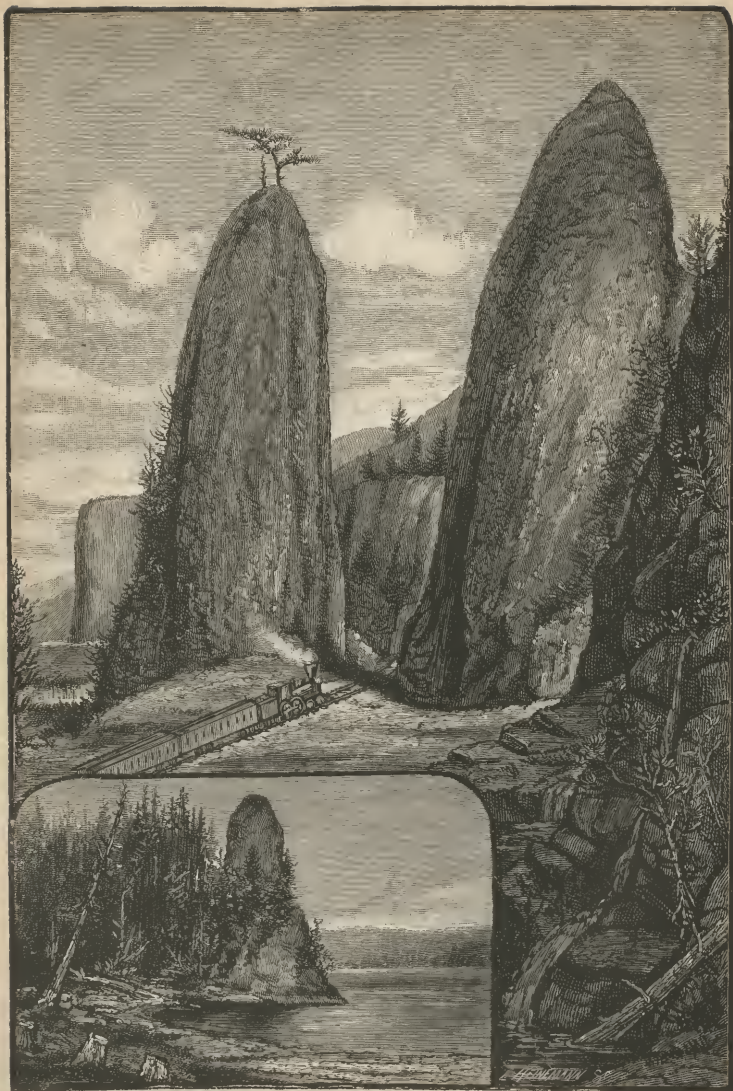


Cascades of the Columbia River.

as the portage where all things bound up the river had to make a transit. Suddenly the outbreak came. The block house became the refuge of all the settlers, who were defended by the male population, and by a handful of soldiers, stationed there at the time under command of a young Lieutenant named Sheridan. So the legend of the Indian and the wonders of nature are supplemented by a bit of history that has for its heroic character the now famous Gen. Phil. Sheridan, who was a favorite in the country thirty years ago.

A little way below the Cascades, on the south side, there is a canning establishment. Travelers feel much curiosity concerning great wheels that float on the tide and revolve with the current. These are a cruel invention for taking fish. As they get into the rapids, the salmon swim near the shore, and these wheels are placed in their way, and take them bodily up without regard to size, landing them in great tanks for the use of the cannery. The quantity of fish sometimes taken in a few hours' good run is enormous.

Wonderful Scenery.—Soon after leaving Bonneville, a stretch of the grandest scenery of the grand river is entered. On the south, mountain summits stand like a wall, grouped at times like an amphitheatre, at other times assuming romantic shapes, and frequently affording views of falling waters that are very beautiful. Here is *Oneonta Fall*, 800 feet of sheet silver, a ribbon of mist waving in the wind. *Multnomah Fall* is double. The water plunges several hundred feet, gathers itself together, and plunges again, about 800 feet in all. There are several other cascades of less note that never fail, and in early spring the face of the cliffs is threaded with them. A few miles westward are the *Pillars of Hercules*, two columns of rock several hundred feet in height, between which the train passes, as through a colossal portal, to the more open lands beyond. Near by is *Rooster Rock*, rising out of the river, and pointing upward like a mighty index finger.

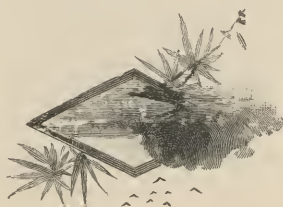


Pillars of Hercules and Rooster Rock, on the Columbia River.

On the north side, a few miles below Lower Cascades, is *Castle Rock*, which rises by itself, no mountain adjoining, a thousand feet high. *Castle Rock* is a favorite view, and is well worthy of its reputation. Below, on the north side, is *Cape Horn*, a precipice over two hundred feet high, that rises abruptly from the water. This is another view that is much admired.

Every moment the tourist sees something to interest and attract. Attention is demanded in every direction, as new objects unfold. There are terraced heights, abrupt cliffs, crags in curious shapes, and mountain upon mountain to chain the eye. The unceasing panorama, with all its wonderful variety, is almost wearying, and a sense of relief is likely to be felt when the shores grow lower and the stream expands. Here the regions of western Oregon and Washington are reached. Islands are in the river, grassed heavily, and pastured by cattle. The shores, and the bluffs back of them, reveal homes and orchards. At last, the Columbia has a valley, though not an extensive one.

Soon after leaving the mountain gorge, the track diverges from the river, and, passing through a forest region for about twenty miles, comes to East Portland, and then to Portland itself.



BY RIVER TO PORTLAND.

DISTANCE, 110 MILES.

Arriving at The Dalles, the traveler has the choice, as we have already said, of remaining on the train, or of proceeding to Portland by steamboat, the distance by water being 110 miles, as against eighty-eight by rail. The river fleet of the Oregon Railway & Navigation Company is composed of first-class, speedy and commodious steamers, which are in every respect luxuriously equipped for the passenger service. The trip down the Columbia river is thoroughly enjoyable. From the deck of a steamer there is, of course, a far better opportunity to observe in detail the diversified beauties of the river than from the train. The scenery may be observed on both sides, and all the turns and changes of the stream are noticed.

At the Upper Cascades the steamer discharges her passengers, on the Washington side of the river, and here a short portage of six miles by railroad is made before re-embarking on another steamer to pursue the journey to Portland.

The voyage onward, for a couple of hours, is upon the most romantic portion of the river. Castle Rock lies on the right hand, and on both sides, especially on the left shore, are to be seen foaming cascades pouring down the rugged faces of the mountains. Then comes Cape Horn, after which the river widens and the shores gradually become lower, with long,

wooded islands in mid-stream, where dairy farming is carried on quite profitably.

Presently the city of *Vancouver*, W. T., is reached, and here the boat stops to take in fuel. The site of Vancouver is beautiful, and the place shows finely from the river. The east half of the city is devoted to the military; for this is the headquarters of the Department of the Columbia. The storehouses, officers' quarters and barracks make an imposing appearance. The shores on either side of the river, above and below Vancouver, are well cultivated and very attractive. From this point, looking west and south, Mount Hood (11,225 feet) is seen in perfect majesty. Twelve miles below, the steamer turns from the Columbia into the Willamette; and, looking north, other great mountains of Washington loom up. Mount St. Helens (9,750 feet) is sixty miles away, a vast white pyramid; Mount Adams (9,570 feet), seventy-five miles off, is partly hidden by the ranges; Mount Tacoma (14,444 feet), one hundred miles distant, on Puget Sound, or near it, is too remote to convey the correct impression of its grandeur, but can be plainly seen. There is one place, three miles up the Willamette, where five snow mountains can be seen at once on a clear day,—St. Helen's, Tacoma, Adams, Hood and Jefferson, the last looking over the ranges for a long distance to the south. The panorama is magnificent, changing and opening at intervals as the steamer follows her course. Looking back, down the Willamette, a perfect picture is revealed where St. Helen's pyramid of white is framed in by the Willamette shores.

Approaching Portland by river, the traveler soon becomes aware that he is nearing a commercial city. River craft of all sorts and sizes, as well as ocean vessels, are found at the wharves of the city itself, one hundred and twenty-five miles from the ocean, representing the commerce of the world. East Indiamen, that have abandoned their former trade to steamers



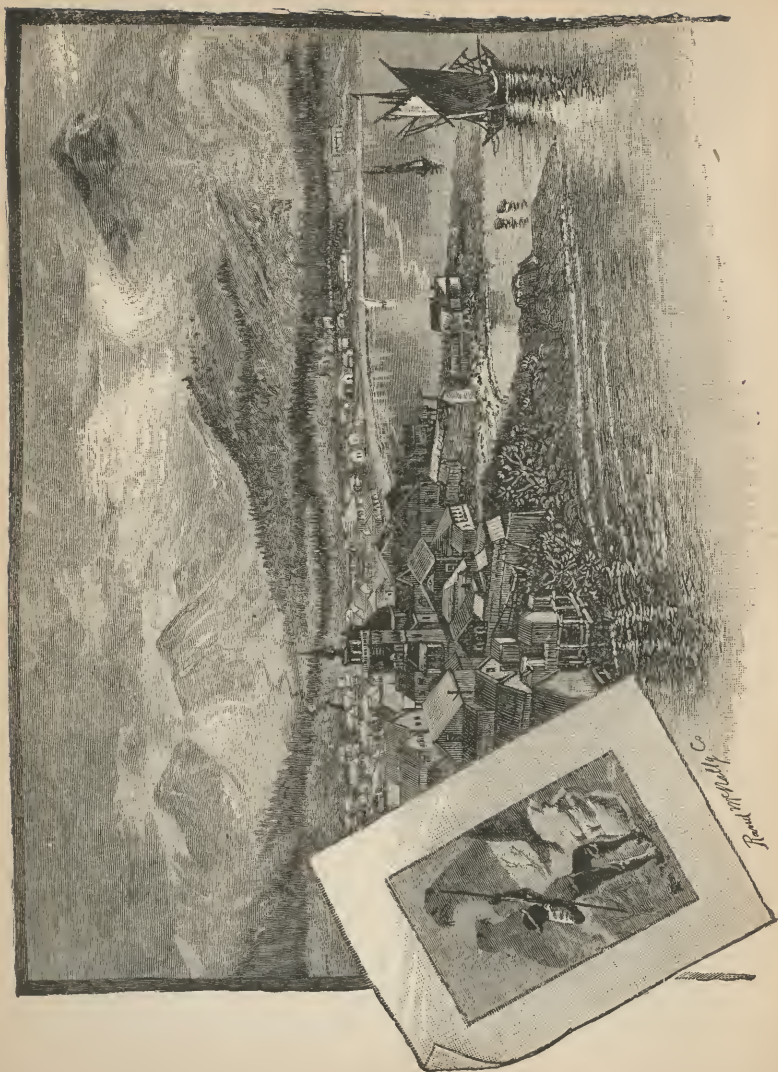
Exposition

Castle Rock, on the Columbia River.

and the Suez Canal; ocean steamers, from the magnificent 3,000-ton passenger and freight steamships of the Oregon Railway & Navigation Company, to the business-looking colliers from Puget Sound, and the steam schooner that trades along the coast,—these, and all sorts of river and coasting craft, are at Portland wharves. At the sight of them, the fact is at once recognized that the journey across the continent is ended, and that the metropolis of the Pacific Northwest has been reached.



Sitka, Alaska



A TRIP TO ALASKA.

Alaska extends from a point six hundred miles north of the dividing line between the United States proper and the British possessions to the shores of the Polar Sea, and as far west of San Francisco as the coast of Maine lies to the east.

There is so much of romance associated with the idea of a trip to this far and mysterious Northland, so much that appeals to the imagination of even the most phlegmatic and sober-minded among us, that could it be brought home to the American people, with the force and vividness of some great and sudden event in contemporary history, that it is possible to make comfortably and inexpensively, within the narrow compass of fourteen days, a voyage extending to within a few degrees of the Arctic circle and embracing many of the greatest wonders of that land of icebergs and glaciers, not all the ships that sail American waters would be adequate for the conveyance of the rush of travel that would at once ensue.

So erroneous, however, are the prevailing ideas with regard to our distant possession, and so liable to become the foundations of utterly wrong inferences are even those actual facts regarding the country, which have, by slow degrees, found entrance into the public mind, that such statements as that a temperature of zero is rarely ever known at Sitka, that often an entire winter will pass without ice being formed thicker than a knife blade, and that there is not a day in the year

when vessels may not load and unload in the harbor of the capital city, are received with more or less incredulity, and regarded as utterly inconsistent with the fact that perpetual snow is found within three thousand feet of the sea-level, and that rivers of ice, 1,000 feet deep, run down to the sea from far in the interior of the country. Visions, too, are conjured up of cramped and greasy little whale boats, making tedious voyages, at irregular intervals, through rough seas that in so great a distance cannot fail to be tempestuous.

That large and well-appointed steamships are engaged in a regular service, and that the long voyage they make is never productive of more than a transient squeamishness, however susceptible be the traveler, are almost incredible pieces of news to those who hear them for the first time; and yet, while such erroneous notions as have been cited are current, one venturesome traveler after another, to the surprise, and not unfrequently against the advice and remonstrance of his friends, ventures forth to put the claims and pretensions of the railroad and steamship companies to the test, and return to be the hero of the social circle in which he moves. But if this is the condition of things to-day, it will be but a short time before the Alaska excursion will no longer be the subject of these various misconceptions, but will have taken the place to which it is entitled in popular estimation.

Tacoma is the starting point for the Alaska excursion, and it is there that our company, drawn from every part of the country and even from abroad, will gather in the spacious halls of its great hotel, within twenty-four hours of the advertised time of sailing. During the season of 1888, that hour was 4.00 A. M., and passengers went aboard the previous evening, to look out in the early morning through the windows of their staterooms upon the city of Seattle, beautifully situated on a series of terraces rising from the east shore of Elliott Bay.

Seattle is the oldest American city on the Sound, and has long been a place of considerable importance. The enterprise of its people and their unbounded faith in its future, even after Tacoma was selected as the western terminus of the great transcontinental line over which the traveler has journeyed, need no setting-forth in these pages; neither do the great and varied resources of the rich country tributary to it, for have they not been advertised through the length and breadth of the land? On the outward voyage, the tourist has to content himself with surveying the city from the deck of the steamer, deferring until his return that more careful inspection of which the city and its environs are so well worthy.

A delightful three hours' sail on the broad waters of the Sound, the Mediterranean of the Northwest, with its fir-lined shores, and the glorious, snow-crowned peaks of Tacoma and Baker looming up against the sky in regal majesty, and the steamer runs alongside the wharf at Port Townsend, the port of entry for the Puget Sound district. This town, not inaptly called the Gate City of the Sound, possesses an excellent harbor, with both good anchorage and adequate shelter. It takes but a short time for compliance with the requirements of the Customs as they affect an outward-bound steamer, and off we go again, this time right across the Strait to San Juan de Fuca, an outlet to the open sea. As the kingly form of Mount Tacoma recedes into the distance, that of Mount Baker increases in distinctness, while we have also a fine view of the Olympic Mountains on our left, and the lofty ranges of Vancouver Island, for whose beautiful capital we are now steering, right before us.

So exceedingly picturesque and generally attractive is the appearance presented by the City of Victoria to an approaching steamer, that it is with no little satisfaction that the traveler learns that a stop of several hours will be made in its

harbor. While there is no lack of American cities that have attained, within a period corresponding to that of the growth of Victoria, far greater magnitude and commercial importance, the beautiful capital of British Columbia is fashioned after so very different a pattern, and presents, if not to old-world eyes, at least to most Americans, so quaint an appearance, with its ivy-covered houses, its admirable roads and its fortifications, that it is hard to believe that it is really the young city it is. It is, however, but little more than forty years since the United States ship *Vincennes*, entering the Sound through the Straits of Fuca, found what is now its site a most forbidding picture of savage life. It was the Caribou mining excitement of 1868, that first brought any considerable population—and that a mere transient one—around the post established here, a few years before, by the Hudson's Bay Company. In 1870, although it had in the meantime been made the capital of the Province, Victoria contained but 3,270 inhabitants. Its present population is about 15,000, and there is probably no more self-contained city of its size in the world, for it has its own orchards and pastures, forests and coal fields, while its manufactures are as varied as those of many cities ten times its size.

It is not, however, with these things that the transient visitor is chiefly concerned, nor even with the exceptionally fine climate it enjoys, except in so far as the clear skies and balmy air he is almost certain to find there may contribute to the sum total of his enjoyment. It is rather with its superb situation, with the sea on three sides, bordered by picturesque shores and grassy hills. These will assuredly delight him, as will also—and possibly still more—a drive through its glorious woods, with their lovely undergrowth of almost tropical luxuriance, to the neighboring village of Esquimalt, with its fine harbor, its immense dry dock, its naval arsenal, and the ships of

the British Naval Squadron of the Pacific, of which it is the rendezvous. Returning to the city, he may stroll into one of its old curiosity shops, filled with a tempting display of those various artistic products in which the native races of the northwest coast so greatly excel. On his way back to the steamer, he will not fail to admire the striking picture presented by the almost land-locked inner harbor with its shipping, its Indian canoes, its narrow rocky entrance, and its white lighthouse, standing out against the dark foliage of the adjacent woods; nor the glistening peaks of the Olympic Mountains, over in the State of Washington, nor yet the trim and tasteful, but unpretentious, government buildings overlooking James Bay.

While, among the thousands of tourists who visit this city annually, there may be one or two who will give it a bad name, because they have had to pay for some trifling article a few cents more than they had been accustomed to, or rushing into the post-office just as the mail was being made up were surprised to learn that postage stamps were obtainable only at the stationery stores, ninety-nine out of every hundred leave this beautiful and interesting little city with regret, and carry away with them only the pleasantest recollections of their brief visit.

When the steamer once more gets under way, we feel as though our voyage had at last begun in good earnest, and maps, guide books and glasses make their appearance, in numbers almost sufficient to start a bookseller and optician in business. One will have provided himself with "Alaska and its Resources," by Mr. W. H. Dall, of the Smithsonian Institution, a work which, although twenty years old or nearly, is still the only comprehensive and trustworthy description of the Territory, as a whole; another will have the Alaska volume of Mr. H. H. Bancroft's "History of the Pacific States";

while a third will produce from his baggage Dr. Sheldon Jackson on "Alaska and Missions," an excellent work founded on extensive observation during several years' residence, and dealing especially with the labors of the various Christian missionaries in this great field. Others, desirous of seeing the impression produced upon transient visitors like themselves, will be conning the pages of Miss Scidmore's "Journeys in Alaska," or those of "Our New Alaska," by Mr. Chas. Hallock; while probably some English tourist, with the love of mountain climbing and adventure characteristic of his race, will follow the wanderings of Mr. Whymper or Mr. Seton-Karr, in the respective works "Travels in Alaska" and "The Shores and Alps of Alaska."

Before reaching any broad expanse of open water, the steamer passes through a picturesque archipelago, which faintly foreshadows in beauty the island-studded waters through which will lie so large a part of our voyage. A momentary interest is here excited by our passing on the right the island of San Juan, the possession of which, as every reader will remember, was awarded to the United States, in 1872, by the Emperor of Germany, then King of Prussia, to whom had been referred the interpretation of a treaty of somewhat ambiguous phraseology.

Almost uniformly smooth as is the navigation of the Inland Passage, the arrival and departure of the steamer at or from particular points can not be predicted many hours in advance, so much depends upon the state of the tide. Even in this high latitude night comes at last, and the first question in the morning, from almost every passenger, is, Where are we now? If, therefore, it were possible to relieve the ship's officers of the endless string of questions with which they are plied, as to the whereabouts of the steamer at particular times, it would be a grateful task to do so, but all that is practicable is to point

out the principal landmarks and the chief points of interest, so that these more or less troublesome inquiries may be reduced to a minimum.

For fully a day and a half after leaving Victoria, we have on our left the great island of Vancouver, 300 miles in length, and by far the largest island on the Pacific Coast. Having passed through the archipelago, to which reference has already been made, and which occupies the extreme southern portion of the Strait, or Gulf, of Georgia, as it is variously designated, we come to the greatest expanse of water to be met with on our entire trip, save those occasional points where we are able, for a brief period, to look out upon the open sea. Before long, however, we have the large island of Taxada on our right. This island, which is largely in the hands of speculators, among whom is at least one American company, contains an immense deposit of iron ore, rendered especially valuable by its exceptionally low percentage of phosphorus.

Another unbroken expanse of water, and we enter the first of those wonderful river-like channels through whose picturesque sinuosities three-fourths of our voyage will lie. This is Discovery Passage. It lies between the western side of Valdes Island and the northeastern shore of Vancouver Island. The southern extremity of the former island, known as Cape Mudge, is a peculiar headland about 250 feet high, flat and wooded on its summit. As the steamer approaches this point, every passenger on deck expects it to continue on its course through the broad open waters to the right. Instead of that, however, it leaves the headland to the right, and enters the narrow passage, not more than a mile in breadth, lying to the west of it. For 23 miles it follows this picturesque waterway, overshadowed by noble mountains rising from both shores.

From an expansion of the Passage, caused by an indentation on the Vancouver shore, known as Menzies Bay, we pass into

the famous Seymour Narrows, a gorge two miles in length, and less than one-half mile in breadth. Through this contracted channel, the tides rush with great velocity, sometimes running nine knots an hour. The steamer is usually timed to reach this point at low water, but it rarely happens that the waters are not seen in a state of tumult sufficient to constitute their passage a decidedly interesting feature of the voyage.

At Chatham Point, a low, rocky promontory on the Vancouver Island shore, we take the more westerly of two apparently practicable channels, and enter Johnstone Strait, 55 miles in length. For some distance, this channel is very similar to Discovery Passage, though it subsequently broadens out to a width of from one and one-half to three miles. The magnificent range that rises from the Vancouver Island shore is the Prince of Wales range, the highest point of which, Mount Albert Edward, rises 6,968 feet above the waterway that washes its base. It is never entirely free from snow, traces of which, indeed, extend down the dark sides of the mountain to within 2,000 or 3,000 feet of the sea level. A noble snow-covered peak is about this time a prominent object on the right, while nearer at hand many beautiful inlets engage the traveler's attention. For some miles northward from the entrance to Johnstone Strait, the land on the right is Thurlow Island. This is succeeded by Hardwick Island, from which it is separated by Chancellor Channel, connecting with the broad water way which seemed to the traveler the more likely course for the steamer to take when, a few hours before, she entered the narrow Discovery Passage. Another channel intervening, and we have the mainland of British Columbia forming the eastern shore of the strait. It is much indented by bays and inlets, and many fine lofty peaks tower up beyond it, while on the opposite or Vancouver Island shore, Mount Palmerston presents an exceedingly fine appearance. The islands which have

been mentioned are only those larger bodies of land separated from the mainland by narrow channels, and for the most part so mountainous that they would be mistaken for the mainland in the absence of any statement to the contrary. The thousands of islands, from mere rocky points, a few square feet in extent, to those larger summits of submerged mountains which may sometime become the sites of delightful summer homes, it is impossible to particularize; and it need only be said that in their multitude and variety—each having some beauty peculiar to itself—they form, with the bold shores of the strait and the distant snow-covered peaks, a series of pictures of which the traveler never wearies and which he can never forget.

The northern entrance to Johnstone Strait is occupied by a beautiful archipelago, the two largest islands of which are Hanson Island and Cormorant Island. On the latter, between which and Vancouver Island we continue our course northwest through Broughton Strait, is Alert Bay, with a large salmon cannery, an Indian village and a Mission. The remarkable conical peak long visible on Vancouver Island is Mount Holdsworth.

From Broughton Strait, fifteen miles in length, we suddenly emerge into the broad Queen Charlotte Sound, a magnificent expanse of water, twelve to eighteen miles from shore to shore. The extensive views here obtained present a striking contrast to the scenery of the narrow passage through which for some hours the steamer's course has lain. An interesting point on the west shore is Fort Rupert, a post of the Hudson's Bay Company, with a large Indian village adjoining it. Continuing on its course, within a short distance of the Vancouver Island shore, our good ship next enters Goletas Channel, where we have Galiano and Hope Islands, together with some hundreds of smaller islands, on our right, and picturesque mountains of considerable elevation on both right and left.

We have now to bid farewell to the great Vancouver Island, whose most northerly point, Gape Commerell, we leave to the left. Emerging from the channel, which affords us, at its western entrance, an exceedingly fine retrospective view in which Mount Lemon is a prominent object, we look westward over the broad expanse of the Pacific Ocean. Here, if anywhere on our entire voyage, we are sensible for a short time, of a gentle swell. Those, however, whom the mere mention of the open sea would be sufficient to drive to the seclusion of their cabins, may take comfort in the assurance that the steamer had scarcely begun to yield to its influence when it passes under the lee of the great Calvert Island, and enters the land-locked channel of Fitzhugh Sound. Here, again, we have superb scenery on either side, the mountains of Calvert Island culminating in an exceedingly sharp peak, known as Mount Buxton (3,430 feet), the retrospective view of which is very fine. The scenery on the mainland and the islands on our right is similar in character. The soundings here indicate very deep water, although there is excellent anchorage in many of those beautiful bays which are formed by the indented shores. As we approach the northern extremity of the Sound, where Burke Canal opens out on the right (opposite the great Hunter Islands, the most northerly of the three large islands which, with a number of smaller ones, form the west shore of the Sound), the scenery increases in grandeur, the lesser and nearer hills being clothed to their summits with coniferous trees, while the more distant ones, overtopping them, are covered with snow. Here a surprise awaits the traveler in the sudden turning-about of the steamer, whose helm is put hard-a-starboard with the result that, instead of continuing its course through the broad and exceedingly attractive Fisher Channel, it turns sharply to the left, through the narrow Lama Passage, which, midway between its two extremities, itself makes a sharp turn northward.

On the shore of Campbell Island, we pass the trim native village of Bella Bella, with its little church. On the opposite shore are a number of graves, some of them with totem poles, one of the domestic peculiarities of this region, of which more will be said in its proper place.

The northern entrance to Lapa Passage, through which we emerge into the broad Seaforth Channel, with its multitude of picturesque islands, is extremely narrow, but entirely free from concealed dangers. Just before turning westward into Seaforth Channel, we have the finest scenery we have so far gazed upon, the grouping of the mountains being grand in the extreme. If it be afternoon, its exquisite beauty will be greatly enhanced by atmospheric effects utterly unlike anything that ninety-nine out of every hundred of our fellow passengers have ever before seen. The sunset, too, is almost certain to be of such indescribable grandeur that pen and brush will be thrown down by the despairing author and artist, who will alike resign themselves to the ravishing beauty and splendor of the scene.

Another turn in our remarkable devious course, and we are steaming northward through Milbank Sound, through whose broad entrance we look out to the open sea. Islands succeed islands, and mountains, mountains; and the traveler is almost as much impressed with the mere geographical features of this extraordinary region as with the beauty of its scenery. Here we see, for the first time, glacier paths on the mountain sides, the lofty pyramidal Stripe Mountain, so called from the white streak on the southern flank, being an especially prominent object. Leaving Point Jorkins, the southern extremity of the great Princess Royal Island, on our left, we continue our course almost directly northward through the long and narrow Finlayson Channel, some 24 miles long, with an average width of two miles. The bold shores of this fine channel are densely

wooded to a height of 1,500 feet or more; precipitous peaks, rising to a height of nearly 3,000 feet, occurring at intervals, with still higher mountains, whose dark masses are relieved with patches of snow, rising behind them. Waterfalls of remarkable height here add a new element of beauty to the incomparable series of pictures revealed to us with the continued progress of the steamer. A contraction of the channel known, for twenty miles, by the name of Graham Reach, and, for the next ten miles, as Fraser Reach, brings us to the north point of Princess Royal Island, where we turn westward through McKay Reach into Wright Sound. There is nothing here calling for special notice, although it must not be understood that the scenery is, on that account, any the less picturesque. It is worth while studying these successive channels upon the charts of the United States "Pacific Coast Pilot," so singular is the appearance they present. Grenville Channel, which we enter from Wright Sound and which lies between Pitt Island and the mainland, is, for fully fifty miles, as straight as any canal in the world. Its scenery, on both sides, is exceptionally fine, the mountains grouping themselves with magnificent effect. Those near at hand are clothed with dark foliage, others more remote, assume a purple hue, while many are seen to be seamed with the paths of glaciers and avalanches, the higher peaks being in every case covered with snow. Many beautiful islands start up in mid-channel, uniformly covered with a dense growth of fir, to the very edge of the water. The channel, too, is, at places, exceedingly narrow, and the precipitous mountains which rise from its shores attain a height varying from 1,500 to 3,500 feet. From an expansion of this channel, we pass through a narrow strait known as Arthur Passage, which has Kennedy Island on the right, and the large Porcher Island, with many fine mountain peaks, on the left.

If the frequent recurrence of geographical designations

render this brief description of the Alaska trip less interesting to the general reader than it otherwise would be, there will be a counterbalancing advantage gained by the actual traveler, who will find none of the more entertaining works that have been written on the subject of any great value to him as practical guide books.

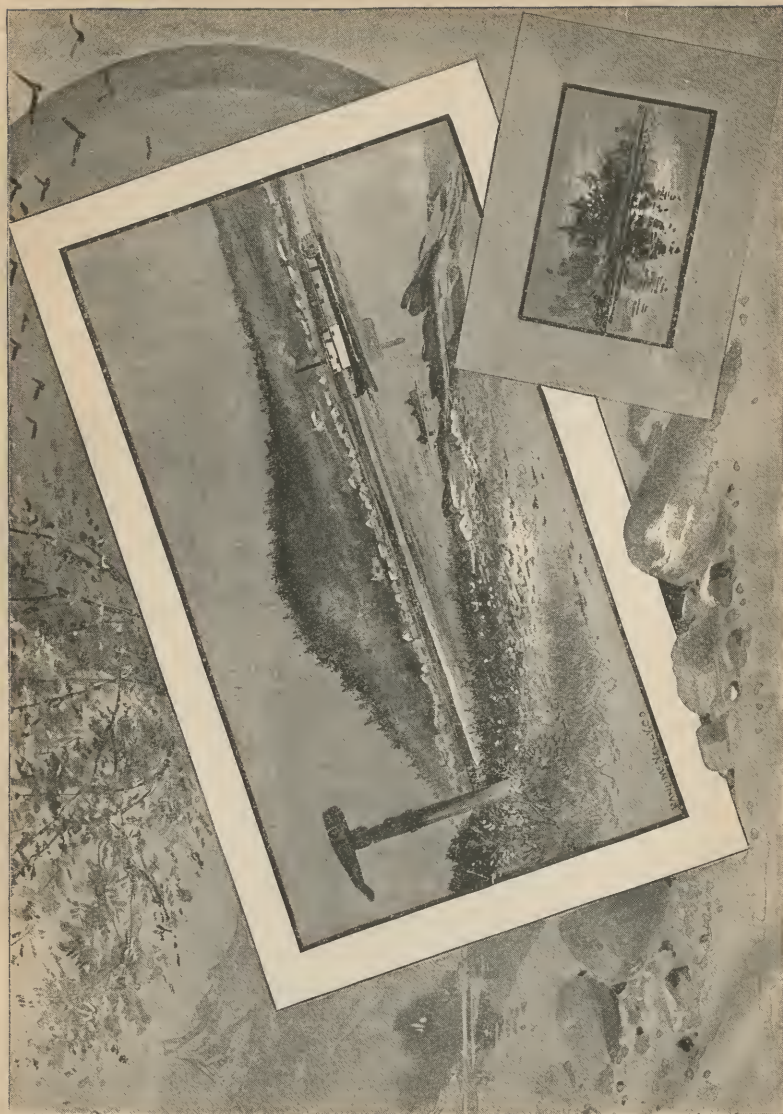
Continuing our actual course, we emerge from the channel last-named into the great Chatham Sound, a broad expanse of water from whose distant shores rise imposing mountains. The eastern shore is here formed by the remarkable Chim-sy-an Peninsula, which, though forty miles long and from five to fifteen miles in breadth, is connected with the mainland only by a narrow isthmus.

Continuing our course northward through the broad Chatham Sound, with Dundas Island on our left and a range of snowy mountains, presenting a magnificent appearance, on our right, (Mount McNeill, the highest of its peaks, rising 4,500 feet above the sea, and having the appearance of being much higher by reason of our seeing its entire height from the ocean level), we soon cross, in latitude $54^{\circ} 40'$, the boundary line between British Columbia and the United States Territory of Alaska. Here, we shall do well to acquaint ourselves with such facts relative to the extent, physical conditions, ethnological features and natural resources of the "district" (to give it the ill-chosen name by which it is known to the United States Government) as will, at least, give us a comprehensive and, in the main, correct idea of the great territory we are about to visit.

As to its history, little need be said, for its Russian occupation is of no practical concern to us, while on the other hand, every reader will remember the circumstances of its transfer to the United States Government in 1868, for the sum of \$7,200,000. Its extent is probably not nearly so well known, or, if the numerals which represent it have been learned by

heart, it is still doubtful whether they have created in the mind any adequate conception of the vast extent of the province. Availing ourselves, therefore, of the figures and comparisons that we find ready to our hand in the Reports of Governor Swineford and Dr. Sheldon Jackson, we may remark that its extreme breadth from north to south is 1,400 miles, or as far as from Maine to Florida, and that from its eastern boundary to the western end of the Aleutian Islands is 2,200 miles; so that the Governor, sitting in his office at Sitka, is very little farther from Eastport, Me., than from the extreme western limit of his own jurisdiction, measuring, of course, in a straight line. Its coast line of 18,211 miles is nearly twice as great as the combined Atlantic and Pacific coast lines of the United States proper, and its most westerly point extends beyond the most easterly point of Asia a distance of nearly 1,000 miles. In actual extent it is as large as all the New England and Middle States, together with Ohio, Indiana, Illinois, Wisconsin, Michigan, Kentucky and Tennessee combined, or as all that portion of the United States lying east of the Mississippi River and north of Georgia and the Carolinas. A country so vast as this must be a poor one indeed, if the paltry \$7,200,000 paid for it does not turn out to bear little more than the same proportion to its value that was borne by the pepper-corn rent in so many old English legal conveyances to the valuable estates for whose holding it was the nominal annual consideration.

With regard to its physical conditions, it is sufficient for our present purpose to say that a large part of it is still passing through the glacial period; that it contains in Mount St. Elias the highest mountain on the North American Continent, and in Mount Cook, Mount Crillon and Mount Fairweather peaks exceeded in height only by Mount Popocatepetl and Mount Orizaba, in Mexico; that its great river, the Yukon, computed



to be not less than 3,000 miles long, is navigable for a distance of 2,000 miles, is from one mile to five miles in breadth for no less than 1,000 miles of its course, and is seventy miles wide across its five mouths and the intervening deltas; and that, while the climate of the interior is Arctic in the severity of its winter and tropical in the heat of its summer, that of the immense southern coast, with its thousands of islands, is one of the most equable in the world, by reason of the Kuro-siwo, or Japan current, a thermal stream which renders the entire North Pacific Coast, even in this high latitude, warm and humid. Only four times in forty-five years has the temperature at Sitka fallen to zero, while only seven summers in that same period have been marked by a higher temperature than 80° Fah. The influence of moisture in regulating temperature is too well known to call for any further remarks under this head, and the facts above given are stated only that they may help to dispel from the non-scientific mind the erroneous notions relative to the climate of this great territory, that so largely prevail.

With the exception of the Tinneh, a tribe which has forced its way to the coast from the interior, the natives of Alaska are *not Indians*. Their traditions, manners, customs and other race characteristics prove them to belong to the Mongolian branch of the great human family. Between their racial and tribal designations, the visitor, who hears of Thlinkets, Hydahs, Chilkats, Auks, Sitkans and many others, is liable to get somewhat confused. It may, therefore, be not only interesting but otherwise of advantage to him to know beforehand that the native population of the Territory, estimated to number 31,240 at the United States census of 1880, is divided into five races: (1) the Innuut, or Esquimaux, numbering 17,617, who occupy almost the entire coast line of the mainland; (2) the Aleuts, numbering 2,145, inhabiting the Aleutian Islands; (3) the

Tinneh, numbering 3,927, found chiefly in the Yukon district, on the Copper River and at Cook's Inlet, and the only race not supposed to be of common origin with the rest; (4) the Thlinkets, numbering 6,763, occupying almost exclusively that southeastern division which the tourist is on his way to visit; and (5) the Hydahs, 788 in number, on the southern half of Prince of Wales Island. The various tribes with which the traveler will come into contact are of the Thlinket race—described by Dr. Jackson as “a hardy, self-reliant, industrious, self-supporting, well-to-do, warlike, superstitious race, whose very name is a terror to the civilized Aleuts to the west, as well as to the savage Tinneh to the north of them.”

Deferring statements as to their tribal peculiarities to a place at which they can be set forth with greater advantage, let us now glance at the resources of the country, so far, at least, as they have been brought to light. These comprise: (1) its world-renowned seal fisheries; (2) its salmon, cod, whale and herring fisheries; (3) its extensive deposits of gold, silver, copper, iron, coal and other minerals; and (4) its vast forests.

The seal-fur fisheries, as is well-known, are leased for twenty years, from 1870, to the Alaska Commercial Company, which pays the Government an annual rental of \$55,000 for the islands, and a royalty of \$2.62½ each on the 100,000 seal skins allowed to be taken annually. From this one source alone, therefore, the Government receives an annual sum of \$317,500, or more than 4½ per cent. per annum on the amount paid to the Russian Government for the Territory.

The salmon, cod and whale fisheries of Alaska are of far greater importance than is generally known, their yield, during 1887, being valued at \$3,000,000, exclusive of the various products of the herring fisheries, which are both extensive and valuable. The most important point in the operations of this last-named industry is Killisnoo, on Admiralty Island,

where as many as 138,000 barrels of oil have been put up in a single month.

Men are so liable to be carried away by excitement upon finding even the smallest traces of the precious metals, that the outside world, hearing or reading of their discoveries, at a distance, usually pays but little attention to them. While, however, the claims of Alaska to untold wealth in silver and copper must be admitted, if admitted at all, on mere hearsay, except so far as the reports of explorers are borne out by the geological formation of the country, every tourist has an opportunity of visiting, under the most advantageous and pleasurable circumstances, the greatest gold mine in the world, namely, the Treadwell Mine, on Douglas Island, of which more will be said in its proper place.

It will be but a few years before the lumbering operations now going on in the forest belt of the new State of Washington extend to this far northern region. The whole of southeastern Alaska is covered with a dense growth of spruce, hemlock and yellow cedar, frequently containing timber of from thirty to forty feet in diameter at the base, and growing to a height of thirty to forty feet before branching. The yellow cedar is said to be the most valuable timber on the Pacific coast, being highly prized, both by the cabinet-maker and ship-builder.

With regard to agriculture, it will be sufficient to refer to the admirable report of the Governor of Alaska, for 1886, in which he combats the rash statements of various transient visitors, whose prominence obtains for their assertions a credence of which they are not always worthy; and, fortifying his statement with the authority of Mr. W. H. Dall, of the Smithsonian Institution, who has devoted more time and made more thorough researches into the natural resources of Alaska than any other person, declares that there are considerable areas of arable land, with a soil of sufficient depth and fertility to insure the

growth of the very best crops, and that the experiments which have been made in the past two or three years have proved most conclusively that all the cereals, as well as the tubers, can be grown to perfection in Alaskan soil and climate. It is impossible in these pages to pursue this interesting and important subject further, but it may be stated that the Governor does not content himself with mere assertion, but that, in addition to giving the results of the various experiments that have been made, he deals at some length with the subject of the native grasses of the Territory, all going to prove that the country is not nearly so worthless for agricultural purposes as interested detractors or careless and superficial observers would have us believe.

Having thus acquainted himself with a few of the more important facts concerning this great Territory, the tourist is now prepared to resume his voyage. Crossing the broad expanse of Dixon Entrance, where, looking westward, we see the open sea, we enter Clarence Strait, over one hundred miles long and nowhere less than four miles in width. We are now within the remarkable geographical area known as Alexander Archipelago, a congeries of straits, inlands, inlets, rocks, and passages extending through nearly five degrees of latitude and seven of longitude. The islands of this archipelago definitely placed on the charts number 1,100, and we have the authority of the United States Coast and Geodetic Survey for the statement that, if all the existing rocks and islands were enumerated, the number stated would have to be very considerably increased.

Throughout the whole of Clarence Strait, we have on our left the great Prince of Wales Island, the home of the Hydahs, with whose marvelous skill in carving, the tourist doubtless became familiar during his brief stay at Victoria. Their miniature totems, cut in dark slate-stone, are greatly sought after

by tourists and command a somewhat high price. The artistic skill of this famous tribe has, however, been better exemplified in its spoons, carved out of the horn of the mountain goat; but these have nearly all gone to enrich the collections of eastern visitors during the last two or three seasons, and during his visit to the Territory, in the summer of 1887, the present writer found but a single specimen in many hundreds of carved goat's horn spoons, that sustained the reputation of the Hydahs for that delicacy of workmanship in which they well-nigh rival the ivory workers of Japan.

It may be mentioned in this connection that the recently formed Alaskan Society of Natural History and Ethnology, whose headquarters are at Sitka, has already gathered together an exceedingly interesting and valuable collection of specimens of native handiwork; and visitors are invited to contribute to a fund which is being raised for the purchase and preservation of Alaskan curiosities of every description, especially those made by the natives before the influx of tourists found them the ready market they now possess, and led them, as it unfortunately did, to think more of the quantity than the quality of their work.

The islands on our right as we continue our voyage are the Gravina Group, Revilla Gigedo and, after a promontory of the mainland, Etolin Island, round whose northern coast we steer northeastward to Fort Wrangell, usually the first calling place of the steamer, during the tourist season. The Gravina Islands contain a fine range of mountains, the higher peaks of which have their dark masses relieved by patches of snow. Revilla Gigedo Island likewise is mountainous—its nearer summits clothed with pine, its more distant ones crowned with everlasting snow. On Prince of Wales Island, the mountains rising before us are enveloped, for the most part, in a delicious purple haze. As we approach them, their rocky, precipitous,

and deeply fissured sides (the last the result of glacial action, which is plainly visible) afford a striking diversity of outline and color, which, added to the beauties of light and shade lent them by passing clouds, have a very fine effect. Clarence Strait is, indeed, a magnificent sheet of water, well worthy of its place in that remarkable series of devious water-ways through which our voyage lies.

Fort Wrangell, although formerly a place of some importance as the port of the Cassiar mines, away in the interior beyond the international boundary, is, of all the settlements at which the steamer calls, the least attractive in every respect save that it is here that the tourist will find the largest assemblage of totem poles that he will have an opportunity of seeing, as well as several old graves of singularly striking appearance. The village, which occupies a beautiful site, is given up almost entirely to the Stikine tribe of the Thlinket race, and, within a few minutes after the arrival of the steamer at the wharf, the interior of almost every house presents an animated appearance, curio-hunting passengers thronging them to the doors, and bargaining with their inmates for the various objects of interest they see around them.

The ship's officers, government officials and other persons supposed to be well informed are frequently asked which of the various stopping places is the best for the purchase of curiosities. In anticipation of this inquiry, it may be stated that there is little to choose between Fort Wrangell, Juneau and Sitka, except that in the fine store of Messrs. Koehler & James, at Juneau, the visitor will find a larger collection of the more desirable and costly specimens of native handiwork, as well as of valuable furs, than at either of the other two places. At any one of them, however, and at any moment, he may run across something that could not be duplicated in the entire Territory, although each recurring season renders this less and less probable.



ALASKAN GRAVE AND TOTEM POLES AT FORT WRANGELL.

A strongly marked trait in the character of the Thlinkets is their respect for their ancestors. Independently of their tribal distinctions, which are little more than local, they are divided into four totems or clans, each of which is known by a badge or emblem used much in the same way as is the crest or coat of arms among the old families of Europe. These, according to Mr. W. H. Dall, are the Raven, the Wolf, the Whale and the Eagle; and these emblems are carved on their houses, household utensils, paddles and frequently on amulets of native copper, which they preserve with scrupulous care and consider to be of the greatest value. In front of many of their houses, and also at their burial places, are posts varying from twenty to sixty feet in height and from two to five feet in diameter, carved to represent successive ancestral totems and usually stained black, red and blue. As already stated, several of these totem poles, as they are called, are to be seen at Fort Wrangell, as well as two remarkable graves, one surmounted by a rudely carved whale, and the other by a huge figure of a wolf.

Resuming our voyage, we leave this curious old Stikine town, and after steaming westward to the southern entrance to Wrangell Strait, turn northward and follow that narrow passage into the broader Dry Strait, where we have the magnificent Patterson Glacier on our right and find considerable floating ice. Following the north shore of Kupreanoff Island, we enter Frederick Sound; but quickly resume our almost directly northward course by entering Stephens Passage, where we have Admiralty Island on our left, said, by the way, to be swarming with bear, and the mainland on our right. On Stockade Point, a comparatively low peninsula from which the land rises rapidly to snow-capped mountains, is a ruined block-house and stockade, built by the Hudson's Bay Company, and on the other side of a small inlet is Grave Point, a native

burial ground. Leaving to the right Taku Inlet, we enter the narrow and picturesque Gastineau Channel, between the mainland and the now famous Douglas Island. Here, on a narrow strip of land, at the foot of a deep ravine between two precipitous mountains, stands Juneau, a cluster of detached white houses, relieved here and there by the unpainted frame-work of others in process of building. The mountain rising behind it, as you approach it from the south, is deeply fissured, and seamed with snow, and the town itself is built mainly upon a huge land-slide. Not a few of the houses have apparently been built by white settlers attracted to the spot by the fabulously rich mineral deposits of the district. These have been followed by general traders, who in addition to supplying the resident population with the necessities of life, reap a rich harvest, during the tourist season, from the sale of sundry products of native handiwork and the skins of the various fur-bearing animals.

An excellent weekly newspaper, called the *Alaska Free Press*, is published at Juneau. The visitor need not turn to its pages for any later news from the outside world than he is already in possession of, for Alaska has not, as yet, the advantage of telegraphic communication with the rest of the world. He will find, however, much interesting reading relative to the mining resources of the district and the Territory generally; a column or two of spicy local items and, possibly, the report of some recently returned explorer; while the business advertisements of this thriving settlement of the Far North will be by no means devoid of interest.

Juneau itself, however, as a point of interest to the tourist, is soon exhausted, and his thoughts turn to the great Treadwell mine,

The Richest Gold Mine in the World, which lies across the channel on Douglas Island, whither the steamer

will proceed after a brief stay at Juneau. It is by no means an easy task to determine which of the many extraordinary statements relative to this valuable property that one hears from time to time are worthy of credence and which are not; and even when the truth has been approximately ascertained, there remains the difficulty of determining how much may properly be made public, and how much should be regarded as only the individual and private concern of the owners of the mine. In view, however, of the fact that the mill has, for some time, had in operation a larger number of stamps than any other mill in the world; that by the time this pamphlet leaves the press, the works will contain more ore-crushing machinery than the five largest mines in Butte City, all combined, and that the Governor of the Territory himself places the output of the mine for 1887 at \$100,000 per month, it is surely not incredible that the company should have refused \$16,000,000 for its property, or that it pays a dividend of 100 per cent. per month, all the year round; or yet, at least to those who have seen it, that the ore actually in sight is worth about five times the amount paid to the Russian Government for the entire Territory, and that, even at the present enormous rate of production, it can not be exhausted in less than a century.

Although it can not but interfere to some extent with the operations of the mine, visitors are, with great courtesy, shown everything that is likely to prove of interest to them. They see the natives earning \$2.50 per day each in the mine, and learn to their surprise that they are better workmen than the whites; they see the ore in every stage from blasting to final separation, and though they may leave with a tinge of regret that it has not been their own luck to have made so valuable a discovery, they will none the less congratulate the owners on their magnificent possession. It will have been inferred, from what has already been said, that it is not a mere vein of gold, of

varying richness and uncertain direction, that is here being worked. So far from that, the entire island is nothing less than a mountain of ore, sufficient, according to ex-Governor Stoneman of California, to pay off the whole of the national debt.

Gastineau Channel not having been thoroughly explored, we retrace our course to its southern entrance, where, turning northward, we follow the wider channel that lies to the west of the island. This brings us to that remarkable and never-to-be-forgotten body of water, the Lynn Canal, where not only have we scenery surpassing in wildness and grandeur all that has preceded it, but also many glaciers, while we reach, just under the parallel of 60° , the most northerly point we shall attain on our trip. Soon after entering the canal, and when rounding Point Retreat, we see the great Eagle Glacier to the northeast, coming down from the high mountains that rise in the background. A couple of hours' sail, however, brings us to a point at which we can observe much more closely the still larger Davidson Glacier, on the opposite shore. But even here we do not go ashore, for the far-famed Muir Glacier, which we shall reach within the next twenty-four hours, has the advantage of being as much more easily accessible than its sister glaciers as it exceeds them in magnitude, beauty and general interest.

How unimpressible soever the tourist may be, a mysterious sense of awe is almost sure to take possession of him when the steamer is exploring the two inlets of Chilkat and Chilkoot, in which the Lynn Canal terminates. Not, perhaps, until vegetation has almost entirely disappeared, will he have noticed its increasing scantiness, but it will not be long before he realizes the fact that in the forbidding mountains, the bare rocks and the nineteen great ice cataracts that here discharge themselves into the sea, he sees a picture more closely resembling the



PAUL KEMMELT-CC

JUNEAU, ALASKA.



scenes of the now not distant Arctic world than, probably, he will ever again have an opportunity of gazing upon.

The natives of this region are that famous tribe, the Chilkats, whose dexterously woven dancing blankets are so much sought after by all visitors to Alaska who desire to take home with them the finest examples of Alaskan handiwork, regardless of cost. They are made from the wool of the white mountain goat, out of whose black horns are carved the spoons and ladles already referred to. The white wool is hung from an upright frame, and into it nimble fingers weave, by means of ivory shuttles, curious and beautiful patterns from yarn dyed with a variety of brilliant colors.

We have now to retrace our course some sixty-five miles to Point Retreat, where, instead of taking the easterly channel and returning to Juneau, we continue almost directly southward to the point at which the waters of Lynn Canal mingle with those of Icy Strait. Here, our good ship's course is once more directed northward, and after a brief sail, we enter the island-studded Glacier Bay, where innumerable icebergs proclaim our approach to that crowning glory of this veritable Wonderland, the famous Muir Glacier, undoubtedly the

Greatest Glacier in the World, outside of the Polar seas. It is hard to say which has the greater advantage—the traveler who sees it first from afar; sees it as a vast river of ice flowing down from between the mountains, with many tributaries both on the right and left, and to whom its beauties are gradually unfolded with the nearer approach of the steamer; or he who, awakened from his slumber by the thunderous roar which announces the birth of some huge iceberg, hurries on deck to gaze upon a picture without parallel in the known world—a perpendicular wall of ice, towering to five times the height of the mast-head, and glowing in the sunlight like a mountain of mother-of-pearl. A recent visitor to this indescribable scene—

himself possessing descriptive powers of no mean order—declares that in the narrative of his Alaska trip he would prefer to insert a series of asterisks where his description of the Muir Glacier should come; and certainly we need a new vocabulary to set forth its wondrous beauty with any degree of fidelity. While, as will be inferred from what has already been stated, its dimensions are such as to constitute it one of the physical wonders of the world, its proportions are so admirable that the traveler is less impressed with its immensity than with its utter novelty and incomparable beauty; and it is as much a revelation to those who have seen the glaciers of Switzerland or familiarized themselves with the voyages of Arctic and Antarctic explorers, as it is to those whose ideas of a glacier were of the most indefinite and inadequate character.

The breadth of the glacier at its snout is fully a mile, and when, almost under its shadow, the second officer heaves the lead and sings out: "One hundred and five fathoms, and no bottom, Sir," the wonderment of the traveler is heightened by an immediate realization of the fact that this enormous ice-flow extends at least twice as far below the surface of the water as it rises above it, and that it is accordingly not less than 1,000 feet deep. But its vast dimensions and its marvelous gradations of color, from pure white to deepest indigo, do not alone make up that unapproachable *tout ensemble* which is the wonder and delight of every visitor. To speak of it as a perpendicular wall of ice almost necessarily conveys the idea of comparative regularity, as though it were a suddenly congealed cataract. Instead of that, however, the face of the glacier is composed of crystal blocks of every conceivable size and shape, many of them having angular projections or rising cliff-like from its brink, until, with a roar like that of the distant discharge of heavy ordnance it comes their turn to fall off into the sea.

The disintegration of these immense masses, some of them

weighing thousands of tons, suggests the interesting question: How fast does the glacier move forward? Professor G. Frederick Wright, of Oberlin, Ohio, in an exceedingly interesting article in the *American Journal of Science*, for January, 1887, declares, as the result of careful observation extending over several weeks that its progressive daily movement during the month of August is seventy feet at the centre and ten feet at the margin, or an average of forty feet per day. Its general movement being entirely imperceptible—it is only seven-twelfths of an inch per minute where it is greatest—Professor Wright's assertion has somewhat rashly been disputed by visitors who have not been at the trouble to make observations for themselves. But there is surely nothing incredible in a forward movement averaging, at most, forty feet per day, in view of the continual falling off of such immense masses, especially when it is remembered that Professor J. D. Forbes found the Mer de Glace to move forward at the rate of from 15 to 17.5 inches per day, at a much less angle, with an infinitely smaller volume of ice behind it, and diminishing at its termination, only by the slow process of liquefaction.

The steamer usually remains in front of the glacier an entire day, and passengers are landed on a dry and solid moraine, from which a larger area of the glacier than they will care to explore is within comparatively easy reach. Every one should climb up on to the great ice-field—

“ A crystal pavement by the breath of Heaven
Cemented firm;”

look down into its profound crevasses, and view also the magnificent panorama of Arctic scenery that it commands, including Mount Crillon, raising its snowy crest against the sky to a height of 15,900 feet.

However indulgent be the Captain, this red-letter day in the

experience of the visitor—a veritable epoch in his life—comes to an end at last. The whistle is sounded, and slowly and cautiously the steamer threads her way through the floating ice, and is headed for Sitka. This stage of the trip might be considerably shortened by the steamer putting out to sea through Cross Sound, and it is only to avoid the disagreeable experience to her passengers that would attend the outside passage, that she takes a less direct course.

Proceeding southeastward through Icy Strait, we enter Chatham Strait, one of the most extensive and remarkable of the inland highways of the Alexander Archipelago. From this broad sheet of water we go westward through Peril Straits, a designation that might excite some little apprehension were we not told that it was bestowed upon the channel through which we pass, not because of any difficulty or danger attending its navigation, but on account of the death there, in 1799, of a large number of Aleuts who had partaken of poisonous mussels. For two-thirds of the distance traversed by the steamer, the straits are several miles wide, but they ultimately narrow to a width of less than half a mile, to form, with Neva and Olga Straits, a succession of beautiful channels, studded with charming islands, and presenting a striking contrast to the desolate-looking shores of Glacier Bay.

There is no trip in the world of corresponding duration that is less monotonous than this two weeks' excursion to Alaska. The tourist is continually being greeted by scenes utterly unlike any he has ever before gazed upon, while the contrasts presented by successive days' experiences are, themselves, as delightful as they are surprising. Should the steamer, for example, come to an anchorage in Sitka Sound during the night or in the early morning, the traveler will be almost startled by the novel, picturesque and altogether pleasing appearance of the scene that will greet him when he goes on deck to take his

first view of the Capital city. On the one hand are the glistening waters of the bay, studded with innumerable rocky, moss-covered islands, affording a scanty foothold for under-sized firs and spruce; with that extraordinary-looking peak, Mount Edgecumbe, rising beyond, an almost perfect cone, save that its apex has been cut off so sharply as to leave it with a perfectly flat top, in which is a crater said to be 2,000 feet in diameter and about 200 feet deep. On the other hand, from a cluster of more or less quaint-looking buildings, rises Baranoff Castle, the former residence of a long succession of stern Muscovite governors, and the emerald green cupola and dome of the Russo-Greek church, with lofty mountains, including the frowning Vostovia, in the background.

It is with an already formed favorable impression of the place that the passenger steps ashore, to visit the two remarkable buildings above mentioned, of which, probably, he has often heard and read; to saunter through the curious streets of the town, and to pick up in its stores and in the houses of the natives additional specimens of Alaskan handiwork and other curiosities; to visit the Training School and Mission, where native boys and girls are being educated, Christianized, and taught useful trades; and, possibly, to pay his respects to some member of that admirable body of United States officials, now administering the affairs of the Territory with so much success.

Baranoff Castle is not a grim, ivy-covered, and decaying stronghold, with turrets, battlements and keep, but a plain, square, substantial, yellow frame building, surmounted by a little look-out tower, upon which might have been seen until recently the revolving anemometer of the United States Signal Service, whose station here has just been given up, presumably in view of the fact that observations having been carefully made and recorded for no less than half a century, first by the



AN ALASKA STEAMER APPROACHING THE MUIR GLACIER.

Russians and afterward by the Americans, there remains no necessity for its further continuance. The interest that attaches to the castle is almost entirely either historical or traditional. Among the memories that haunt its great ball-room is that of the beautiful niece of Baron Romanoff, one of its Muscovite governors, said to have been fatally stabbed on her wedding night by her own lover, in whose enforced absence she had been compelled by her uncle to marry a previously rejected suitor of nobler birth.

The most interesting object in the city, however, is the Russo-Greek church, not so much for what it is in itself, as for the paintings, vestments, and other art treasures it contains. Among these is an exquisite painting of the Madonna and Child, copied from a celebrated picture at Moscow, and so largely covered with gold and silver—after the manner of the Greek Church—that but little of the picture is to be seen except the faces. Another of its treasures is a bishop's crown, supposed to be several hundred years old, and almost covered with emeralds, sapphires and pearls.

Steamer day is a great day at Sitka, and the scanty American population—together with prominent members of the Russo-American community, like Mr. George Kostrometinoff, the Government interpreter—give themselves up almost entirely to showing civilities to the visitors who throng the chief places of interest. They are naturally wishful that tourists should take away a favorable impression of Alaska generally and Sitka in particular, and Dr. Sheldon Jackson, general agent of education in Alaska, under the United States Government, usually affords the visitor an opportunity of judging of the excellence of the work that is being carried on among the natives, not forgetting, at the same time, to urge the utter inadequacy of the miserable pittance annually doled out by Congress for educational purposes in this vast Ter-

ritory. In this connection it may also be stated that the Russian inhabitants themselves complain bitterly of the faithlessness of our Government to the pledges given to Russia at the time of the purchase, with regard to the provision of educational facilities and other rights of citizenship.

Having visited the Training School, the tourist should continue his walk to Indian Rivêr, along the right bank of which a well-marked trail will conduct him to a woodland scene that will form one of the most delightful reminiscences of his visit to Sitka.

Returning to the town, he may have the curiosity to inquire the price of some of the principal articles of food, when he will find that he can buy fresh salmon at from one cent to a cent and a half per pound, halibut and black bass at one-half cent per pound, venison at from six to eight cents per pound, teal ducks at twenty cents per pair, and other varieties of game-food at correspondingly low prices.

When, falling in with some intelligent resident, he learns how many attractive and interesting places there are within easy reach of the town; when he is told of the sublime scenery at the head of Silver Bay, including Sarabinokoff Cataract, with its fall of 500 feet; of the rich mines in its vicinity, with ores assaying from \$4,000 to \$6,000 per ton; when he hears of the comparative facility with which Mount Edgecumbe can be ascended and—assuming him to be a sportsman—of the abundance of game on the slopes of Mount Vostovia, as well as in other equally accessible localities, the traveler can not help regretting that his visit to so attractive a region must so soon come to an end.

Only a brief reference has thus far been made to the almost nightless day that prevails in this northern latitude at midsummer, and it may therefore be stated that, while, at Sitka, the period between sunrise and sunset at the summer solstice is

only two and one-quarter hours longer than it is at New York or Boston, the twilight is of such long duration that it can scarcely be said ever to get dark, the last glow hardly dying out in the northwest before the first flush of dawn appears in the northeast.

It is scarcely too much to say that no tourist ever visited even this southeastern strip of Alaska, who did not ever afterward feel a profound interest in whatever concerned the welfare of this distant portion of our great country, and labor to remove the various misconceptions so long current with regard to it. Readers of these pages, therefore, desirous of keeping thoroughly *au courant* with the affairs of the Territory; of knowing, from time to time, how rapidly, and in what new directions, the development of its vast wealth-producing capabilities is proceeding; what scientists are saying with regard to its glaciers and its other remarkable natural features; what success is attending the efforts that are being made, both by educational and religious agencies, to civilize the still half-savage native races of the country, and what light is being thrown on hitherto perplexing questions in ethnology and kindred sciences by the labors of the society recently formed at Sitka for their investigation, will not consider the present writer to have gone needlessly out of his way if he refers them to the interesting columns of *The Alaskan*, a well-conducted weekly journal published at Sitka, in which everything of public interest relating to the Territory finds a place commensurate with its importance.

Sitka is usually the last calling-place of the Alaska excursion, although it occasionally happens that some other point, already dealt with in these pages, is reserved for the steamer's homeward voyage. Should, however, the good ship's return trip be marked by no strikingly novel experiences, and have no break until she is once more moored alongside the wharf at Victoria,

the matchless scenery of that long succession of land-locked channels she will traverse, observed from new points of view and under new physical conditions, will, with agreeable companionship and other social pleasures, render the homeward voyage possibly even more truly enjoyable than were those first few days before the barriers of reserve were broken down, and when the rapid succession of one sublime and unlooked-for spectacle after another kept the mind in a state of perpetual tension.

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SEATTLE	ST. LOUIS	2150
SEATTLE	CHICAGO	2250
SEATTLE	ST. LOUIS	2350
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