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Pacific Coast Extension of the C. M. & St. Paul

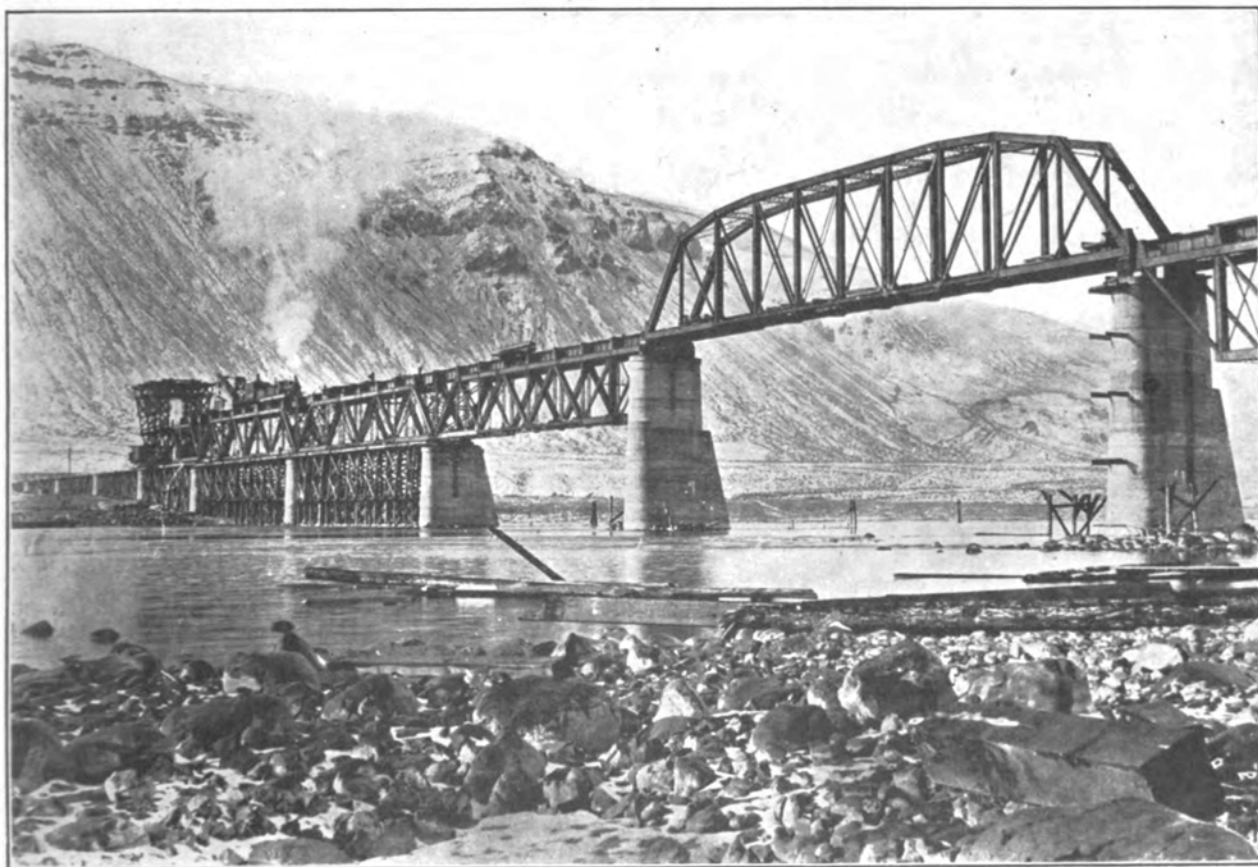
THE last rail on the Pacific Coast extension of the Chicago, Milwaukee & St. Paul Railway, now known as the Chicago, Milwaukee & Puget Sound Railway, was laid at a point two miles east of Missoula, Mont., on the afternoon of March 31.

The length of the extension just completed, from the Missouri River to Seattle and Tacoma, is a trifle over 1,400 miles, and brings the total mileage of the Chicago, Milwaukee & St. Paul Railway up to 9,000 miles. The completion of the new transcontinental line created a world's record for rapidity of railway construction. The

The new line, as far West as Butte, Mont., has been in regular operation since September, 1908.

The great bridges over the Missouri River, in South Dakota, and the Columbia River, in Washington, were built by the railway company's own forces, under the direction of C. F. Loweth, and represent a high class of work.

The \$2,000,000 bridge across the Missouri River consists of a steel through-truss span of 128 feet on the east approach, followed by three steel through-truss spans, each 423 feet 4 inches in length, which form the main bridge.



BRIDGE CROSSING THE COLUMBIA RIVER, ERECTED AT A COST OF \$850,000.

first shovelful of earth on the new line was turned April 15, 1906. No Pacific Coast line of any railway, and no line of equal length crossing three mountain ranges, has ever before been constructed within the short period of three years.

During that time 60,000,000 cubic yards of material were excavated, 360,000 yards of tunnel driven, 20 miles of bridges erected and 200,000 tons of 85-pound rails laid at a total cost of \$85,000,000.

The ballasting of the new transcontinental line was completed about June 1, and regular freight and local passenger service established.

The west approach consists of 281 feet of steel viaduct and 1,289 feet of timber trestle. The filling of the timber trestle is practically completed.

The Columbia River bridge at Beverly, Wash., represents a cost of \$840,000, and required two and one-quarter years to build. Its dimensions are as follows: Total length of steel work, 2,900 feet; timber trestle approach at west end, 1,300 feet; trestle approach at east end, 325 feet; the steelwork consists of fifteen truss spans of the following lengths: One, 266 feet; four, 216 feet; ten, 156 feet.

At the summit of the Bitter Root Mountain range, in Western Montana, the new line passes through a tunnel



Shovel taking out approach cut at East Portal of St. Paul Pass Tunnel. The East Portal of this tunnel is in Montana, West Portal in Idaho. Heading, at this portal, was started and the muck disposed of by means of a cableway, until the approach cut was completed. Shovel was then put in tunnel and run by compressed air to handle bench-muck.

8,751 feet in length, and after crossing St. Paul Pass, at an elevation of 4,160 feet, passes through the famous Cœur d'Alene district of Northern Idaho. The progress of the work on the St. Paul Pass tunnel was more rapid than of any similar work on record.

After crossing the Missouri River, the new railway parallels the South Dakota-North Dakota State line, through the Standing Rock Indian Reservation, which will probably be open for settlement within a year.

Cutting across the southwest corner of North Dakota, the new line follows the Yellowstone River, in Eastern Montana, and then passes through the fertile valley of the Musselshell River. At Harlowton it joints with the Montana Railroad, on which a large amount of work has been done in reducing grades and curvature to accommodate the unexpected heavy traffic.

At Lombard, Mont., the new line begins to climb the great

Continental Divide, between Piedmont, on the eastern side of the Rockies, and Butte, on the west.

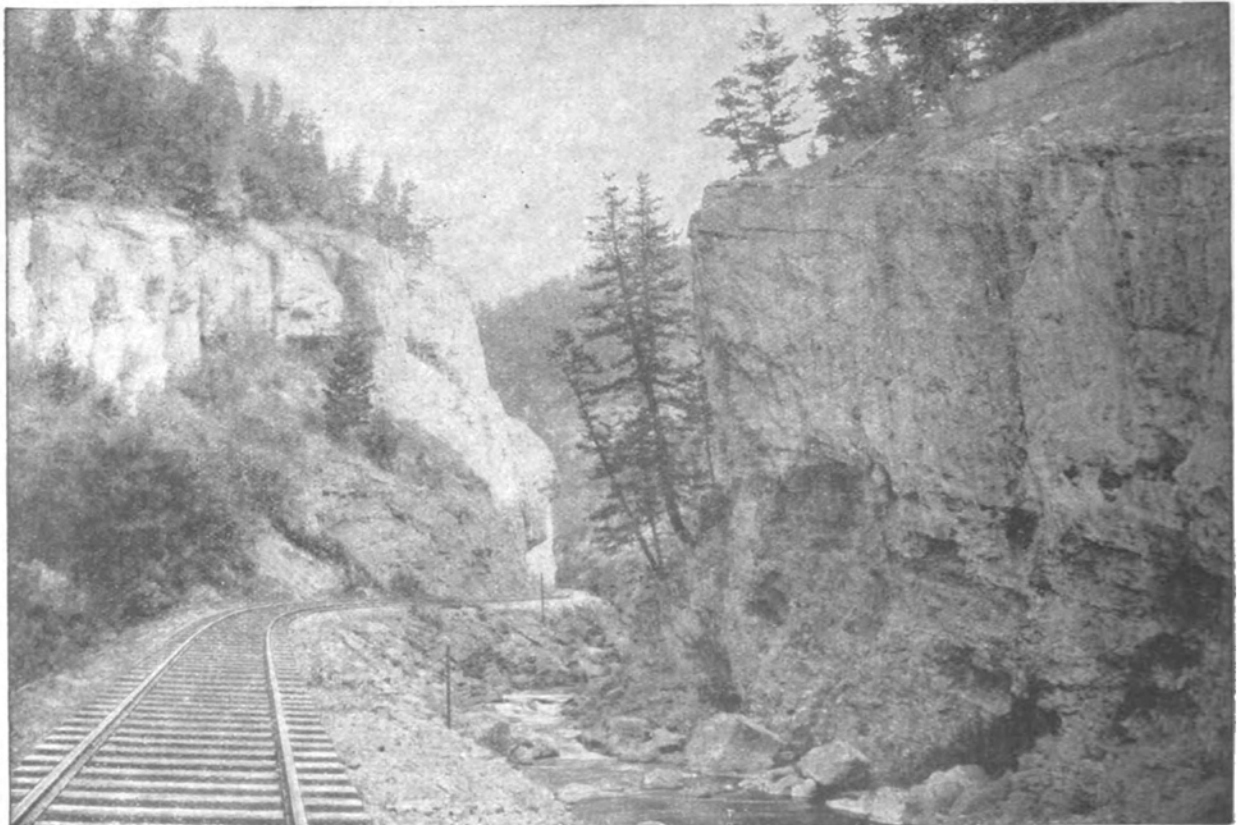
At an elevation of 6,350 feet the road pierces the mountains at the head of Pipestone Pass. The summit work includes two tunnels, respectively 2,268 and 1,148 feet in length, and three steel trestles over ravines from 100 to 160 feet deep and from 400 to 600 feet wide.

From Butte the road passes by way of the broad and fertile Deer Lodge Valley to Garrison, Missoula and Haugan, Mont.

After crossing the Bitter Root, through the St. Paul Pass, the new line passes through Northern Idaho and enters Eastern Washington, crossing the Columbia River at Beverly. Then the route is through the rich timber lands of the Cascade Mountains. After following the Cedar River Valley to Maple Valley, the line runs to the coast cities of Seattle and Tacoma. Through Central Washington the line crosses the famous fruit region of the Kittitas Valley, now alive with incoming settlers. The line to Tacoma runs through Kent and Auburn, passing through Sumner and North Puyallup.

For a greater part of the distance between the Missouri River and the Pacific Coast, the new line opens entirely new sections, in which are included great areas of fertile agricultural land and extensive districts rich in mineral and forest wealth. Government homesteads, for 20 miles each side of the track in the Dakotas, have been taken up by the thousand during the last three years, and now homesteaders are locating along the new line in Montana, while purchasers of farms are moving in large numbers to Montana and Washington.

Probably owing to the rapid settlement in other parts of the West most people have an idea that there is no longer much government land available for homesteading. This is a mistaken notion, as there are thousands of acres of the finest farming land that may still be obtained under the homestead laws from the Government for a nominal sum.



THROUGH BOX CANYON, IN MONTANA.

In Butte County, for instance, situated in the extreme northwest part of South Dakota, there is an empire, almost, in itself, being about 100 miles in length from east to west, and at its widest part, over 90 miles from north to south. One particularly rich portion of Butte County is what is called the Grand Meadow country in the eastern part. These lands are being settled, and upon cultivation will be among the richest in the West.

The building of new towns along the line of the Chicago, Milwaukee & St. Paul is a very interesting phase of development. Last fall the towns of Mobridge, Lemmon, Hettinger, Bowman and Marmarth were established in the Dakotas.

South Dakota, with its 76,000 square miles of rich farming and pasture lands, particularly adapted to diversified farming and stock raising, with its half million of people, who are the most sturdy, energetic and contented in the world, is attracting widespread attention.

There are still great cattle ranches in Montana suitable for ranching that offer splendid opportunities for men with large capital, or men of moderate means at the start.

The greater part of this land does not require irrigation. This is especially true of the rich grazing land in the Musselshell Valley, on either side of the Musselshell River, in Yellowstone and Fergus counties, near the central part of the State. The Government Experiment Station, which was established at Lavina, Mont., about a year ago, has conclusively demonstrated that practically all the grains and crops which are raised in the Middle West can be produced in that section of Montana absolutely without irrigation.

Montana has an abundance of coal, from lignite to the best steam fuel known. It is doubtful whether any other section of the United States is more plentifully supplied with coal which can be so easily developed and utilized by the settler than Eastern Montana.

Traffic arrangements have been made by the Chicago, Milwaukee & St. Paul Railway with certain lines of



IN THE CASCADES.

steamers operating from Tacoma and Seattle to the Orient. The commercial importance of these two prosperous Pacific Coast cities will be materially increased by the completion of this new line.

The Alaska-Yukon-Pacific Exposition, now being held at Seattle, is attracting very general interest.

The Exposition stands on the grounds of the University of Washington, and seven of the buildings are of permanent construction, to revert to the University when the Exposition is over. They are the Auditorium, Fine Arts, Machinery Hall, Forestry, Washington State, Arctic Brotherhood, and Women's. This is the first time that permanent buildings have been erected for an exposition. In all \$605,000 has been spent in buildings that will be added to those already owned by the University.

Many of the States of the Union are participating in the Exposition. Several have buildings and many more



VIEW OF THE CITY OF TACOMA.

are making exhibits. A number of counties in the State of Washington have erected buildings of their own. The United States Government has five buildings, its main structure, and separate ones for Alaska, Hawaiian Islands, Philippine Islands and Fisheries. Canada's building is one of the largest and most attractive on the grounds. The Japanese Government's building is typical of the enterprise and art of that nation.

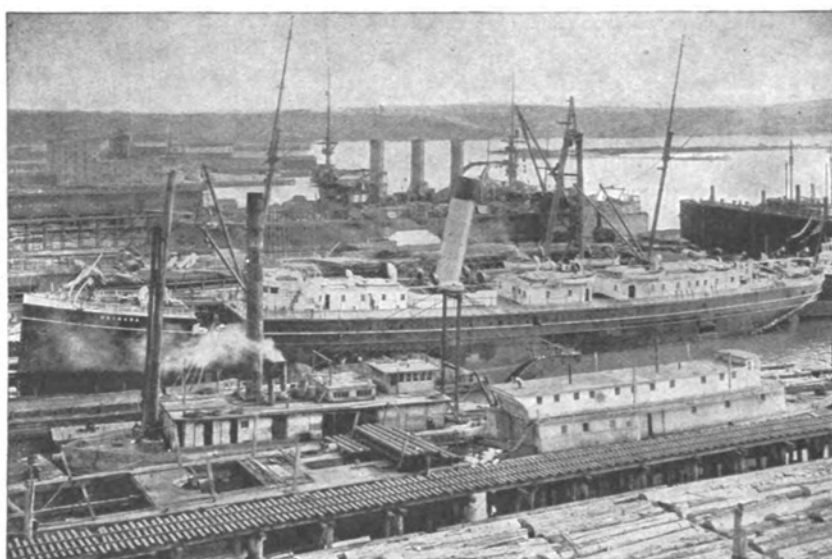
The Alaska-Yukon-Pacific Exposition was the first world's fair to be complete in every detail on the opening date. As its name implies, it is designed to exploit the resources of the United States and Canada that were acquired when these young countries stretched their spheres of influence and pushed their frontier lines to some of the few remaining virgin fields of trade and commerce.

Seattle has one of the finest harbors in the world. The heaviest draft vessels of all nationalities are seen every day

in the year in Seattle harbor, and besides the many fleets that regularly ply in the port, the war vessels of our own and other nations are frequently seen, adding a picturesque aspect to the city's waterfront.

Warships lying at anchor in Seattle's harbor during the Exposition will tell the story of the Pacific. The United States Navy Department will have the entire Pacific fleet here during the fair; Japan will send her great war vessels, and Great Britain, Germany, China, France, Russia, and other nations that have to do with the commerce of the Pacific will have their navies represented. It will be one of the greatest opportunities yet presented to the people of the Middle States to study the modern navy in its different aspects.

No one indeed can fully comprehend the stupendous resources and vast possibilities of our country who has no knowledge of the great Northwest.



VIEW OF THE SHORE FRONT AT SEATTLE.

Regulations Governing the Shipment of Inflammable Articles and Acids

As a further step toward adding to the safety of railroad operations, the lines comprising the American Railway Association and operating 246,172 miles of line in the United States, Canada and Mexico, put into effect July 1, 1909, revised rules for the transportation of inflammable articles and acids. These are complementary to the rules of the Interstate Commerce Commission, effective April 13, 1909, for the transportation of explosives.

These regulations for the transportation of dangerous articles have been formulated by Col. B. W. Dunn, U. S. A., Chief Inspector of the Bureau for the Safe Transportation of Explosives for the American Railway Association, and are based upon an act of Congress, approved May 30, 1908, and they are designed to emphasize the dual responsibility, in the interest of public safety, that rests upon the shipper and the carrier.

Illustrative of the detailed care with which the various rules have been formulated to govern the packing of different articles, are the following regulations:

Nitro-cellulose wet with solvent must contain not less than 30 per cent. of a solvent whose flash point is not less than 40 degrees Fahrenheit, and must be packed in strong, tinned or galvanized iron vessels, of the milk can type, with a satisfactory means for keeping them securely closed.

Metallic sodium or potassium, in quantity not greater than

one pound, must be placed in neutral oil, and this in a well stoppered bottle protected by a tin box, or these substances may be packed in a hermetically sealed tin cylinder.

Friction matches must be packed in pasteboard, wooden or metallic boxes, containing not more than 1,000 matches each; if packed loosely, or with heads lying in all directions, not to exceed 2,000 matches may be packed in one carton or inside package; the inside packages must be packed in strong outside cases, plainly marked "Friction Matches."

It is stipulated that every article of a hazardous character when offered for shipment must bear a prescribed label to indicate to the railroad employees the method of handling. For example, to cases holding inflammable liquids, shippers must attach a red label containing the following legend:

"Notice to Employees: Caution, Keep Away From Fire. Stoves, Radiators, Lighted Matches, Lanterns and Direct Sunlight. Any Leaking Packages Must Be Removed To A Safe Place. Shipper has certified on his shipping order to compliance with all regulations that apply to this package."

For inflammables generally there is a yellow label with the following instructions:

"Notice to Railway Employees: Caution, Keep Fire and Lights Away, Sweep Up and Remove Carefully Contents of Broken Packages. Shipper has certified on his shipping order to compliance with all regulations that apply to this package."