

2,500 MILES OF SHOWN ON TOPOGRAPHIC MAPS

Limited Amount Available for
Continuing Work in State
Makes Progress Slow.

PLATS ARE INVALUABLE
FOR COUNTRY'S PROGRESS

Consulted by Railroad, Electrical and
Irrigation Promoters — Show
Heights of Mountains and Features
of Landscape.

(Special Dispatch to The Journal.)
Salem, Or., Dec. 22.—Since the creation of the United States geological survey by congress, March 3, 1879, \$6,875,000 has been expended in making a topographic map of the United States. The first appropriation for all branches of this department was \$100,000. Ten years later \$301,240 was appropriated, and for the fiscal year 1904-5 the appropriation was \$1,277,820. The principal branches of this work were topographic, hydrographic and geological surveys. The last allotment for topographic surveys aggregated over \$300,000, which was augmented by state funds for co-operative surveys to the amount of \$500,000. The area covered already is 21 per cent of the area of the United States.

The contours shown on the government maps express three features—the elevation, horizontal form and slope. A contour indicates the height above sea level, the line representing the sea-shore being the zero contour. The foot contour is a line passing through all points 50 feet above sea level, and other lines indicate successive 50-foot contours.

Contours define the horizontal form of any slope, since they find smoothly about smooth surfaces, break into all ravines and project in passing about prominences. The grade or slope of the ground is also shown by the contours. The contours appear far apart on gentle slopes and close together on steep slopes. No contours will appear if the ground is level, and on a vertical cliff all contours will run together as one line.

Maps Are Invaluable.
The uses of such a topographic map are many. For the purposes of the national government and state they are invaluable, as they furnish data from which may be determined the value of projects for highway improvement, for railroads, storage sites for water in connection with city water supplies or for irrigation, and the extent and relative elevation of irrigable lands. They serve the state and national military departments in locating encampment grounds, in planning practice or actual operations in the field and during war, indicating the precise situations of ravines, ditches, buildings, etc. The post-office department utilizes them in considering all problems connected with the changing of mail routes, the assignment of rural free delivery routes, etc. The relative location of cities, towns, streams, railroads, mountains and forests are also shown. These maps are used as a base upon which geological and mineral resources are represented.

As the earth's surface does not change perceptibly in elevation, a topographic map, if accurately made, will serve for all time, thus rendering unnecessary a special survey for each new project or need, which, if made by a private company are not available for public use. They are invaluable in the rapid development of a state by railroads, mining, land reclamation, water power, etc.

MALHEUR FARMERS ARE DISGUSTED

Practical Dropping of Reclamation
Project a Relief to
Long Suspense.

GOVERNMENT IS BLAMED
FOR CHANGE IN RATES

Statement That Project Was Reeking
With Graft Never Proved—No
Figures Given to Substantiate Wild
Assertions.

(Special Dispatch to The Journal.)
Ontario, Or., Dec. 22.—The turning down of the Malheur project has not affected the people of this locality materially, as they were expecting the decision and the action of the reclamation engineers had so thoroughly disgusted them that the action of Secretary Hitchcock was rather a relief.

About a year and a half ago, when Chief Engineer Newell informed the people of this locality that the government was ready to take up the Malheur project and that the estimates showed that water could be put on the land for \$16 per acre, the citizens received the announcement with favor. A few months later the reclamation officers appeared here in force, accompanied by a Mr. Fowler, who informed the people that he was president of the Salt River Water-Users' association of Arizona, and with his assistance the Malheur Water-Users' association was organized to negotiate between the government officials and the citizens in purchasing private ditches, water rights, etc. This association, together with the businessmen of Ontario, raised and expended over \$2,000 in getting matters in shape

Rheumatism

Does not let go of you when you apply lotions or liniments. It simply loosens its hold for a while. Why? Because to get rid of it you must correct the acid condition of the blood on which it depends. Hood's Sarsaparilla has cured thousands.

If the map of Oregon were completed, it would be studied by representatives of capital in the east, and all feasible projects not developed by local capital would be quickly taken up. Thousands of dollars would have been saved to the reclamation fund, as well as much time, if such a map had been in existence. In addition to a topographic map for irrigation and power projects, however, the daily discharge of each stream considered should be known for a period of three to five years. The longer the record, the more valuable the information, as the annual discharge varies greatly, and no general relation exists between the amount of rainfall and stream run-off. If the weather turns warm suddenly, the mountain snow melts rapidly, but if the melting takes place gradually the water may all be absorbed before reaching the stream.

Each railroad company proposing construction in Oregon must first prepare a topographic map along the intended route, and often many alternatives are tried before the most suitable route is discovered. The old method of locating a railroad line, by level and transit in the field, is now discarded for a paper location on a topographic map. Formerly the engineer would build a curve around each projection as met, but on an accurate map many miles ahead can be seen, when considering each step, and often by making a few deep cuts or short tunnels, many miles of crooked track or expensive work can be saved. The same is true in the location of irrigation canals, reservoirs, modern wagon roads, etc.

Prepared on Two Scales.
The geological survey maps are being prepared on two scales. Those on a two and one-half inch scale have an interval of 100 feet cost from \$7 to \$11 per square mile, and a single party mapping from 500 to 1,000 square miles per season. On the larger scale of one and one-half inch more detail is shown, about 500 square miles being mapped during the season at a cost of from \$12 to \$30 per square mile, depending upon the roughness of the country. Those on two and one-half inch scale are being prepared by the government for the more rapid construction of these surveys. Massachusetts first undertook such cooperation, first appropriating \$40,000 and a map of its entire area was completed within three years, the total cost being \$107,845, or \$12.99 per square mile. Nineteen of the states are now cooperating in this work, the general plan being that the government will expend in each state an amount equal to that appropriated for that purpose by the respective legislature. In 1903 California appropriated \$10,000 for cooperative topographic and hydrographic surveys during 1903-1904, \$20,000 of which was for topographic work. In 1905 the state of Oregon appropriated \$5,500 annually for topographic surveys, also a like amount for the cooperative hydrographic work, and the office of state engineer was created to supervise this work, as well as perform all engineering work in which the state may be interested.

Work Done in Oregon.
As a result of this cooperation, over 2,500 square miles of the state's area has been accurately mapped, this work being performed in the sections south and west of Ontario, south of Sumpter and south of Grants Pass. Owing to the limited appropriation for hydrographic work, daily discharge records on only the important streams are possible. The discharge of the principal streams of western Oregon, and especially of the Willamette valley, is now being determined, and the results are much in demand by eastern capitalists in connection with the many new water power and irrigation schemes under consideration. The longer these records are continued, the more reliable and consequently more valuable the results based upon them.

so the government could take hold of the proposition. In the meantime the price of water to the farmer acre, and the Malheur project embraced 100,000 acres of land. Of this amount 25,000 acres is owned by the Military Road company. The government officials intended that if the settlers would sign that they could compel the road company to come in. Of the remaining 75,000 acres 15,000 was government land. The Malheur Water Users' association succeeded in signing 60,000 of the 60,000 acres of private lands and it was generally understood that the remaining 10,000 acres would be signed or subscribed when the government showed any inclination to do business.

At this juncture the reclamation officials informed the water users' association that it would cost from \$40 to \$42 an acre instead of \$30 to water the land and all the work and money expended by the association was simply wasted, as the new articles of incorporation would have to be drafted, adopted and printed and the land subscriptions would have to be taken over.

When the association showed an inclination to undertake the arduous task the consulting engineers of the reclamation service held a meeting and deferred action on the Malheur project, giving as one of the principal reasons that a number of the settlers had sent a petition to the secretary of the interior asking the government to construct the reservoir and let the settlers build the distributing ditches and laterals. Later a report was sent out from Washington that the "Malheur project was reeking with graft," but there has never been an official statement as to where the grafters or what manner or where graft existed.

SERIOUSLY INJURED IN LOGGING CAMP

(Special Dispatch to The Journal.)
Eugene, Or., Dec. 22.—Emory Richardson, a young man living at Meadow, in the western part of Lane county, was severely injured in Fallman & Nicolle's logging camp on the Siuslaw river yesterday. The crew was breaking a jam of logs and Richardson was working on the line. The lead block broke and the line flew back, striking him on the head, knocking him senseless. He remained in that condition several hours. His skull was not fractured, but it is feared that the blow caused concussion of the brain.

AGED LACENTER MAN COMMITTED TO ASYLUM

(Special Dispatch to The Journal.)
Vancouver, Wash., Dec. 22.—At the request of A. J. Culbertson, George Hanel of La Center was yesterday examined by Doctors J. D. Scanlon and J. R. Smith before Superior Judge W. W. McCredie and found insane. No jury was necessary, and he is to be confined at the insane asylum at Port Stettin, Washington. Hanel is 81 years of age and was born in West Virginia. He has eight children, all residents of Clarke county, the youngest of which is more than 15 years of age.

ALL IS HARMONY IN NORTHWEST

Even the Railroad Systems
Work for Each Other's
Success.

HARRIMAN TIED UP
WITH THE MILWAUKEE

Any Old Tracks May Be Used by
Any Old Road—But It All Means
Much to Portland When Perfect
Peace Prevails.

Hardly a week passes that does not bring evidence to support the belief that the Milwaukee and the Harriman systems are working in harmony; that the Milwaukee will come into Portland from Wallula over the O. R. & N. company's rails the first year of its operation of trains to the Pacific coast, and that the Gould system will enter Portland over the O. W. P. line and go to Tacoma over the rails of the Tacoma Eastern. If not the Gould system, then it will be the Northwestern.

Numerous stories have been printed connecting the North Coast railroad, under construction from Seattle to the Columbia river, with the Gould system. But none of these reports is backed up by official announcement and nobody outside of the construction company knows where the money is coming from. Semi-official statements have been made to the effect that the North-western, the Milwaukee and the Gould roads were to be built to Portland and the sound cities. It is granted by all railroad officials that none of these roads will be extended to one without tapping all three of the principal cities of the Pacific northwest.

Official announcements have been made and franchises asked from the city council by officials of both the North Coast and the Seattle & Pacific for entrance into Seattle. Terminals, too, have been secured, but the North Coast has not asked for entrance into Tacoma or Portland, nor has the Seattle & Pacific arranged for entrance to Tacoma and Portland. It is inferred that these roads have made arrangements, by purchase or lease of existing rail lines, for running their trains into these cities pending the construction of their permanent lines.

Further proof of The Journal's announcement that the Harriman and Milwaukee roads are in coalition for operating as well as for traffic purposes is produced at Tacoma, where a large tract of land has been purchased for terminals for a railroad company. The title was transferred to General James M. Ashton, who is known as local attorney for the Harriman roads. The consideration was \$300,000. The property is splendidly located for terminal uses. It adjoins ground recently bought by the Milwaukee for terminal purposes. W. W. Cotton and J. P. O'Brien have positively denied that the land was purchased by General Ashton for the Union Pacific system. It is said the purchase was made for Mr. Harriman or for the Milwaukee and that in either event both roads may use it for terminals at Tacoma.

A prominent railroad official said: "While a railroad extending to the Pacific coast may temporarily make use of the track of another road for gaining entrance to either Portland, Tacoma or Seattle, no railroad company that is well managed will use such a makeshift for any length of time. A transcontinental railroad must have its own local traffic. Through business is not the most profitable business. No road could be operated at a profit without its local business, and the best local business between Pacific tide water and the Mississippi river is that local business in the territory within 200 miles of Portland. It is easy to see, therefore, that no railroad is going to build across the country and when with 100 or 200 miles of the city of Portland or Tacoma throw up its hands to some other railroad company by making an operating arrangement that involves loss of the local business in Oregon or Washington. While there is certainly a probability that the Milwaukee might make use of the O. R. & N. tracks from Wallula to get into Portland while building to the sound, such an arrangement will not last long. The Milwaukee, and every other road building into the Pacific northwest, will construct its own tracks to Portland or buy tracks already laid."

Ever since the announcement that the Northern Pacific would build down the north bank of the Columbia and come into Portland over new bridges across the rivers at Vancouver and Portland,

there have been rumors that the Harriman railroads would be built to the sound in retaliation against the Hill policy of invasion of Oregon. There have been reports that the Hill lines would not stop at Portland, but would tap eastern and western Oregon with "feeder" lines. This is taken to mean that there will be open war between the Harriman and Hill forces throughout the Pacific northwest, and that such a struggle would force Mr. Harriman to build to the sound. Such a course of procedure was adopted some years ago, when the Southern Pacific company spent \$200,000 in inaugurating construction of a bridge across the Columbia at Vancouver, and desired its plans only when a peace was patched up by President Mellen of the Northern Pacific. The pier then built by the Southern Pacific still stands in the Columbia, and is now the property of the Northern Pacific company, that road having been forced to take over the project and reimburse the Harriman road for its cost as one of the conditions of the peace agreement.

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