levers, have been unearthed. There is a tradition even now among the few surviving red men who annually visit the mines of Cornucopia, that the Great Spirit was very much displeased at the chief and his companions who attempted to reveal the secret of their gold mine to the whites, and that he sent an evil spirit to destroy them for their perfidy; that a mighty earthquake swallowed them up, and with them the gold ledges were also destroyed.

DALLES BOAT RAILWAY.

The report of the board of engineers appointed to consider plans for overcoming obstructions to navigation of the Columbia at the dalles has just been made public, and as it is a project of so much importance to this region, the general features of the scheme are given. In its general principles the boat railway was shown in an engraving in WEST SHORE December 7, 1889. The details laid down in the report, which were worked up by Lieutenant Edward Burr, are as folows:

In this project boats are taken from the river at the foot of the dalles rapids and returned to the river at the head of Celilo falls by means of hydraulic lifts, one at each terminus, and are transported over the intermediate distance, a little more than eight miles, by a boat railway. The lower lift is designed to raise the boats sixty-eight feet at low water, and the upper litt forty feet. The distances to which the boats are to be lifted diminish as the water rises. The lift is an adaptation of the hydraulic dock in use for some years at the Union Iron Works, in San Francisco. The process is, therefore, not experimental. The lower lift consists of sixteen cast iron cylinders, each thirty-one and one-half inches in interior diameter and nineteen feet and seven inches long, weighing nineteen tons. In these are rams having a full stroke of seventeen feet and three inches. They are placed in two rows, forty-six feet apart, the rams in each row being twenty-two and one-half feet between centers. There is a platform, or cradle, between these rows, supported by chains from the heads of the rams. The chains are so arranged over sheaves as to give the cradle a speed and movement four times that of the rams. A device for regulating the admission of water in each press so controls the movement of the rams as to maintain them at a uniform speed and the cradle in a horisontal position, notwithstanding any difference in the load on the several rams. The cradle is placed under the boat while in the water. After it is raised to the top of the lift this is removed and the car on which the boat is to be transported on the railroad is substituted. The railroad is a double track, ordinary gauge road, the tracks being twenty feet between centers and the iron weighing ninety pounds to the yard. It is required of the car that it shall transport with safety the loaded boat or barge and leave sufficient flexibility to pass over the horisontal and vertical curves of the road. The maximum load to be carried is estimated at 600 tons. The platform is 168 feet long by thirty-eight feet wide. The lateral flexibility, to enable the car to pass around curves, is obtained by the arrangement of the trucks. There are thirty-four four-wheeled trucks, placed in two lines of seventeen each. The weight of the car is 300 tons. The maximum weight is 600 tons, making the total weight of the loaded car 900 tons The average load per truck is twenty-seven and one-half tons, and per wheel is seven tons. The car with its load is propelled on the track by two fifty-ton ordinary locomotives. The boats are 165 feet long and thirty-eight feet beam and five feet draught, weighing with cargo 600 tons. The weight of the cradle 184 tons. The total weight to be raised in the lift is 1458 tons. The speed of elevation, four and one-half feet per minute. The estimated cost of the whole system, with equipment of two cars and four engines, capable of passing eight loads of 600 tons in each direction in twelve hours, including necessary buildings and ten per cent. for contingencies, is $2,690,356. Estimate for improving Three Mile rapids, $170,000, making an aggregate of $2,860,356. It is estimated that a further expenditure of $716,000 in buildings, cars, engines and side-tracks will afford the maximum capacity of forty boats each way in twenty-four hours.

BRIDGING THE COLUMBIA.

At a recent meeting of the Vancouver board of trade the following memorial to congress was adopted:

Your memorialists, the board of trade of Vancouver, Wash., would respectfully represent that Vancouver is situated on the north bank of the Columbia river, about five miles north of the city of Portland, Or., and has a population of 6,500 people, with schools, churches, street railways, electric lights, various milling and manufacturing establishments, docks and wharves.

That it is the most prominent city in the state of Washington located on the Columbia river.

That it is the most central and eligible site for the location of a railroad and wagon bridge across the Columbia river; that said river, more than a mile in width, separates the two great states of Oregon and Washington; that the only means of travel and commercial intercourse is by ferries and steamboats; that more than 200,000 passengers and teams have crossed the Columbia river at Vancouver within the past year, and that during the whole of the month of January, 1890, all of this great concourse of travel and traffic was entirely suspended by reason of floating ice, to the inconvenience and damage to the people of the two states, amounting to many thousands of dollars.

That the obstruction of the Columbia river with ice is of annual occurrence and lasts from four to six weeks, during which time mails are delayed and travel and business across the river is wholly suspended.

That for the foregoing reasons a railroad and wagon road bridge is a paramount necessity to the people of the cities of Portland and Vancouver and the states of Oregon and Washington; that a bridge at Vancouver will ever be easy to approach from all points in either Washington or Oregon and less of an obstruction to the navigation of the Columbia than if located at any other point, because this city is situated at a point farthest up the river to which seagoing craft may ascend, and is the natural place for the transhipment of inland freights to outward bound vessels, and vice versa.

That it is the prayer of your memorialist that senate bill No. 1662, introduced January 6, 1890, by Mr. Allen, in the senate of the United States, be enacted into law. That we believe the Oregon Railway Extension Company will immediately enter upon the work and construct such a bridge as the people of the two states so imperatively need.

GREAT NORTHERN TO SPOKANE AND SEATTLE.

There is now no doubt that the Great Northern will extend its line from the Missouri to Spokane Falls this year if possible. Work will be commenced at the earliest possible moment. It is far from improbable that it will purchase the Seattle, Lake Shore & Eastern and finish the gap in that road between Spokane and Seattle, thus giving it a complete route to the coast. If the same wonderful energy displayed in building the Montana extension can accomplish it, all this will be done before the close of the year. In regard to the latter feature the vice president, W. P. Clough, of St. Paul, recently made the following statement in Seattle: "While I am here