

THE WEST SHORE.

VOL. 8—No. 4. { L. Samuel, Publisher,
5 Washington St.

Portland, Oregon, April, 1882.

Entered at the
Postoffice.

For Annun. } Single copies
\$2.00. } 25c.

SPECIMEN NUMBER.

Any one receiving this copy of THE WEST SHORE will please consider it an invitation to become a regular subscriber.

THE PORTLAND DRY DOCK.

The project of a dry dock at Portland had occupied the attention of Mr. Villard for some time previous to his visit last September, and before leaving the city he determined one of ample dimensions to accommodate the shipping of this port should be built immediately. At present the only dry docks on this coast in which large ships and steamers can be repaired are situated at San Francisco. As a consequence vessels bound to this coast needing to be docked after voyages from distant parts of the world have necessarily sailed for that port, and have been prevented from chartering for Portland, which of course has had a tendency to increase freights from this port and give an advantage to our sister of the Golden Gate. After the completion of the Portland dry dock the repairing business of this coast, which is large and profitable and increasing annually, will be confined no longer to a single city, and with the other advantages of her situation, Portland in the near future should become famous for building as well as repairing vessels.

The dry dock will be the property of the Oregon Railway and Navigation Company, itself a large owner of steam tonnage employed in the river and coasting trade; but while the company will do its own work in its own dock and yard, docking and repairing as a business will be carried on for the convenience of the shipping of the port. A fixed system, with moderate prices for dockage, materials and labor, will be established, and Portland will be made attractive to ships seeking these advantages for rebuilding and repairing. The facilities of the yard will extend to iron as well as wooden vessels.

The Portland dry dock will be the largest convenient to the Pacific ocean.

The dimensions are as follows:

Length, extreme.....410 feet
Breadth, "115 "
Depth, "50 "
Draught over sill, highest water, 46 "
" " " lowest " 18 "

Owing to the high stage of water prevailing when the Columbia river is at its full this dock is the deepest in the world. It is being built entirely of wood, in an excavation or basin, cut from the Willamette river, on the east bank, just below the present roadstead of the harbor of Portland, a mile below Albina ferry, and on the recently acquired depot and wharf grounds of the O. R. & N. Co. Thus situated near the termini of the railroads radiating from this city the yard will have rail connection and conveniences of the most desirable kind with all parts of the country. The accompanying sketch represents a view of the dry dock and its picturesque location as the same will appear to an observer passing up or down the river after the work is finished. At the present stage the dam necessary to exclude the water of the river from the excavation to be made has been built. A considerable quantity of earth has been wheeled out in building the dam, which in manner of construction, is unique. It consists of a huge embankment of earth retained on the front and wings by a wall of round logs, cribbed inwards and well chinked inside and outside; the rear or interior slope of the dam being battered more than the front or outer sides, is held by square timbers bound in place by strips of boards, while around both the inside and outside slopes for a space of several feet, the earth is stratified and bound by courses of fir brush. In cross section this dam is forty feet wide at the base, twenty feet wide on the top, and twenty-five feet in height. It extends down the river over 200 feet, and the wings have a length out from the bank of 115 feet; thus enclosing the space required for entrance and piers at the sides. Only that portion of the dam across the entrance to the dock will be removed; the wings will remain as protection to the pier. As illustrating the drift-timber resources of the Willamette river, and the ingenuity of the builder, it may be mentioned that

all the logs used in erecting this rough and ready dam, were gathered from the shores and picked up in the river, from the drift brought down by the current.

It will be observed from the sketch that the construction of the dock is on a plan adapted to its situation, and the best calculated for the materials of which it is to be built. Being entirely of wood the walls and bottom of the interior are strengthened and stayed by piles driven deeply into the ground before the excavation is completed. In a work consisting of masonry which has sufficient weight of its own to resist the disturbing forces of earth and water, piling is not always needed to retain the material in place. In this deep dock, however, and with timber materials it is indispensable. Accordingly, its designer and builder, Wm. W. Bates, shipbuilder and dry dock manager of Chicago, has spared no study to secure the strength and stability required in every part of the work. There are ten piles, from thirty to forty-five feet in length, driven with a 2,200 pound hammer into the clayey bottom land in which the dock is built, in every cross section four feet apart, from one end of the dock to the other. In other words, there are about 1,200 piles engaged in securing the frame of the dock in the course of its length. The frames are erected crosswise and covered with a skin of planking on the inner side. Behind this planking and between it and the earth adjacent the space is filled with well rammed or puddled clay thereby perfectly to embed the structure of the dock and exclude deposits of water. The entrance to the dock is to be closed by what is known as a *Caisson* or floating gate, which is brought up against the abutments of either side, secured in position sunk with water to its place which being done the water in the dock may be pumped out with powerful machinery leaving the vessels to be repaired standing high and dry upon blocks prepared at the bottom of the dock for the purpose. The caisson itself is a pretty large vessel. It is 75 feet long, 20 feet wide, and 46 feet deep. It will float in 18 ft. of water, or whatever depth there may be over