

221 Mission Street, Messrs. Flynn & France proprietors, who manufacture all kinds of castings in a satisfactory manner.

**PORTLAND BOILER WORKS.**—These works, now the largest of their kind in this city, are located on Mission Street, between Fremont and Beale. The largest boilers required can be manufactured at these works, which have excellent facilities for the purpose.

**THE PACIFIC ROLLING MILLS.**—During the past year these works, located at the Potrero, and so much needed by our people, have been so far completed that all sizes of rod and bar iron can be made. A forge capable of making the largest sized shafts required for steamers and other work has also been in operation for the past twelve months. Though the machinery for the mills is not yet all in place, sufficient evidences have been given that the establishment will produce manufactured iron equal in quality to any similar grade imported, and also that the producing capacity of the works can be made to equal the entire requirements of the coast. Samples of bar and rod iron of most excellent quality were exhibited by these mills at the late Mechanics' Fair, where they were awarded a silver medal. These mills are intended to roll railway bars, and also manufacture boiler iron of first quality, in addition to other work.

The introduction of these new branches of iron manufacture is of unusual importance, as hitherto the various railroads in the State have shipped their old rails to the Atlantic States for sale, and the cost of boiler-making on this coast was much enhanced from inability to have boiler plate made to order, to suit the requirements of the trade, as is the case in the Atlantic States. The value of local mills to roll boiler plate to required shapes and sizes is estimated by experts to cause a saving of nearly one-third material. The rolling mills at present depend upon old scrap and other iron to manufacture as material, of which they have nearly 4,000 tons already on hand. The successful inauguration of an iron furnace in Oregon, which produces pig iron of remarkably fine quality, promises to prove of great value in this connection. It is claimed that the pig iron thus produced has peculiar fineness of quality and tenacity of fibre. Experiments are to be made of it at the Rolling Mills, and if the results are satisfactory, manufactures of large amounts of the various grades of bloom, sheet, bar, rod and plate iron will be engaged in. Among other machinery, it is said, will be a complete set of rolls for making copper in rods and sheets for ship building, sheathing and braziers' use, all of which are much needed to manufacture the products of our copper mines, which are now entirely shipped to the Atlantic States and Europe, there to be manufactured and in part returned to this coast.

**BRASS FOUNDRIES.**—The brass foundries of this city are the only ones of note in the State. From manufacturing originally the commonest styles of work, the foundries have increased in efficiency until at the present time all varieties of brass work of the most finished description are produced. Imports from the Atlantic States have of late very much decreased, and there is a fair prospect of total discontinuance within a few years, the local foundries at present supplying fully two-thirds of the demand. The total consumption of brass goods on the Pacific Coast, at present, is estimated at fully \$300,000 per annum, with prospect of a great increase.

The largest brass foundry, in this city, is that of W. T. Garratt. At the late Mechanics' Fair, Mr. Garratt exhibited a very large and full assortment of brass goods of almost all kinds used, including sheathing, nails, cannon and bells, all of excellent workmanship, and the bells of large volume of

sound and good tone. For the merit and extent of this display a silver medal was awarded.

Gallagher & Weed also made a very fine exhibit of brass work. The other brass foundries of note are those of Garvey & Kimball, Morris Dobrizensky, Greenberg & Moore, and Tay, Brooks & Backus, the latter in connection with other metal manufactures, producing largely of plumbers' brass work.

**IRON DOORS, SHUTTERS AND SAFES.**—The manufacture of these articles has become a comparatively important branch of trade in this State. All the workshops are located in this city and give steady employment to a large number of men. In addition to the city demand, a very large trade in iron doors and shutters is done with the towns, villages and mining camps of the interior of the State and Nevada, where, owing to the absence of water-works and fire apparatus, the only means of safety from sweeping conflagrations consists in having truly fire-proof buildings. The remoteness of California and adjacent States and Territories from the safe-manufactories of the Atlantic States also causes a large demand for fire and burglar-proof safes for banking institutions, where unusual shapes and sizes are required to suit the peculiarities of buildings and business. The exhibition of fire and burglar-proof safes, at the late Mechanics' Fair, was a most valuable and interesting one; the articles for materials, workmanship, and security of contrivances against theft being such as would do credit to any place or people. The manufacturers of safes in San Francisco are Messrs. Kittredge & Leavitt, Nutting & Son, Jonathan Kittredge, and L. Chellis. The largest manufacturers of iron doors and shutters are Kittredge & Leavitt, John R. Sims, Nutting & Son, Jonathan Kittredge, and J. J. Gallagher. Iron railings and fences of both wrought and cast-iron are made extensively by Wm. McKibbin.

**LEAD MANUFACTURES.**—The only manufactory of lead work on the Pacific Coast is that of the San Francisco and Pacific Lead and Shot Works, in this city. These works are carried on by Thomas H. Selby & Co., who are the proprietors, and who supply fully half the demand for lead pipe, sheet lead, shot and other lead manufactures in this State and adjoining States and Territories. The quality of the articles produced is unexceptionable, and as a result they are fast driving importations out of the market. Up to the present year the supplies of crude or raw lead were all imported, mostly from Spain. Attention having been drawn to the numerous lead mines discovered in California, Nevada, and Arizona Territory, and the metal having been found in extensive deposits, Messrs. Selby & Co. erected lead smelting works at Black Point, in this city. At these works large amounts of galena-bearing ores from Nevada and Arizona have been smelted with favorable results, so that importations of pig lead have almost entirely been discontinued. One valuable feature connected with the smelting works at Black Point, is the saving of large amounts of other useful metals and minerals which are found mixed with the galena ores. These latter often contain silver, antimony, and other metals, which without scientific knowledge and extensive and costly apparatus, such as is contained in the smelting works, would otherwise be lost. The total consumption of lead manufactures and shot on the Pacific Coast is estimated at 2,500 tons annually, of which the San Francisco and Pacific Lead and Shot Works furnish nearly three-fifths; their capacity for manufacturing, however, being equal to 4,000 tons per annum, assorted work.

**WIRE ROPE AND WIRE WORK.**—The manufacture of wire rope in this city was commenced in 1857, by A. S. Hallidie & Co. This firm have built quite a number of wire suspension bridges in this State, Oregon, Idaho and British Columbia. They have also supplied nearly all the principal mining