

UNION IRON WORKS, located on northeast corner of Mission and First streets, San Francisco, were established by the Donahue Brothers in 1819—the pioneer foundry on this coast. It is now conducted by H. J. Booth, George W. Prescott, and Irving M. Scott, under the firm name of H. J. Booth & Co. From the most limited capacity, it has grown until it occupies over fifty thousand square feet, with brick buildings three stories high, filled with the latest improvements, and most complete set of tools west of the Rocky Mountains. Here may be found lathes that turn fifteen feet in diameter; planers six and a half feet square and twenty-seven feet long, with cranes and appurtenances complete, capable of handling the largest machinery required. This establishment has earned a high reputation for the character of its machinery for working gold and silver. Their plans of mills and improvements in quartz machinery have been extensively copied over the entire continent. This establishment has taken the lead in the manufacture of locomotives, cars, car-wheels, and general railroad work. They have built thirteen locomotives, some of which weighed fifty-one tons, and all pronounced by experts to equal in performance and quality of work the best imported. The large and various classes of work done at this establishment give employment to three hundred and thirty men.

THE MINERS' FOUNDRY is located on the east side of First Street near Folsom. It has been in successful operation for many years, and is famed for its superior mining machinery and stationary engines. When in full operation it employs from two hundred and fifty to two hundred and seventy-five men and boys.

THE RISDON IRON AND LOCOMOTIVE WORKS.—This company was incorporated April 30th, 1868, with a capital stock of \$1,000,000, comprising among its names the principal steamship and railroad men on the Pacific Coast.

The works are located at the southeast corner of Beale and Howard streets, and occupy an area of two hundred and seventy-five feet square, on which is a boiler shop one hundred and forty by ninety-six feet; foundry one hundred and forty by forty-five feet; machine shop one hundred and forty by one hundred feet, the latter being galleried three stories high.

During the present year they have added to their establishment all the latest and most improved tools required for steamship and railroad work. The proprietors claim to have the largest lathe on the Pacific Coast, it being able to finish shafts forty-eight feet long and thirty tons weight. Among other machinery built by these works during the present year might be mentioned machinery for four new propellers, also, for one side-wheel boat; all the water pipe required by the White Pine Water Works at Hamilton, of which there was made sixteen thousand feet of boiler iron twelve inches in diameter.

In connection with the foundry they have established a wheel foundry for the manufacture of all descriptions of railroad car-wheels, and the quality of wheels made by them has been found equal to the best imported. The Oregon Central Railroad, and several roads in this State, are now being stocked with their wheels. The works employ two hundred and seventy-five hands.

THE FULTON FOUNDRY is located corner of Fremont and Tehama streets. It was established in 1855, and employs on an average one hundred men, using annually about one thousand tons of pig iron. This foundry does an extensive business in all classes of mining machinery; also machinery for sugar refineries, saw-mills, flouring-mills, etc., pumping and hoisting works, amalgamating pans, and engines varying from five to three hundred horse-

power. The facilities for casting and forging heavy works have been largely increased within the last year by the addition of steam-hammers, heavy slotting and drilling machines, and other necessary tools for their rapidly increasing business.

THE PACIFIC FOUNDRY is situated on the east side of First Street opposite Minna, extending back to Fremont Street. The firm consists of Messrs. Ira P. Rankin and Albert P. Brayton, who are the sole agents for the *Huntton Patent Governor*, a superior engine-regulator; also for the manufacture of the celebrated "Hartford" engines, so favorably known in California. This foundry is also noted for the manufacturing of machinery for flour-mills, saw-mills, sugar-refineries, and marine engines. Special attention is paid to locomotive work.

ÆTNA IRON WORKS, Messrs. Hanscom & Co. proprietors, southeast corner of Fremont and Tehama streets. This foundry is noted for the manufacture of marine and stationary engines, portable hoisting engines, and Derrick irons, Steam Pump and Superheaters, Overshot and Turbine Water-Wheels, Quartz-Mill, and Mining Machinery, Varney's Improved Amalgamating Pan, Hanscom's Quartz-Crusher, Dunbar's Patent Steam Piston Packing, Laundry Machines of most approved construction. Iron fronts of all kinds for houses and castings of every description.

THE VULCAN IRON WORKS were established in 1853 by Messrs Gordon & Steen, who, in 1855, transferred them to an incorporated company with the above name. The original works occupied a space on First Street near Natoma, running through to Fremont, but the increasing necessities of their business caused the proprietors to extend the works through to Beale Street. These buildings stood the earthquake shock of 1868 unimpaired. The specialties of this foundry are boilers and engines, as well as all kinds of mill and mining machinery.

SUGAR REFINERIES.—The only sugar refineries in the State are located in this city. They are of large capacity and perfect machinery, making varieties of refined sugar and syrup equal to the best imported. During the past year the supplies of raw sugar for refining have been obtained mostly from the Sandwich Islands, the balance coming from Manila and Peru. There are four refineries in this city, viz: San Francisco and Pacific, Bay, California, and Golden Gate. The last named has been recently completed. The aggregate capacity of these works is about sixty million pounds of sugar per annum.

STEAM MARBLE WORKS.—The only steam marble works on the Pacific Coast are those of the Pioneer Steam Marble Works, located on Jackson between Montgomery and Sanson Streets. These works, although established but a short time, have shown the great economy in sawing and polishing stone by steam as compared with hand labor, and promise to do more to develop the numerous deposits of marble in the State than all other means combined. The works are run by a fifteen-horse power engine, which drives a gang of twenty saws, besides polishing wheels, and employs thirty men. The Pioneer Steam Marble Works were at first formed by a number of firms engaged in the marble trade, who combined together for purposes of economy in labor. These works are now owned by M. Heverin, who continues the business as vigorously as his predecessors. The most of the marble sawn at these works is obtained in California, clouded white and grey marble coming from Indian Diggins, El Dorado County, a very nearly white variety from Drytown, Amador County, and Columbia, Tuolumne County, and a fine mottled or variegated black marble from near Colfax in Placer County. Mantels made of the last named variety of marble