

next. One of the provisions of the company's charter make it imperative upon them to furnish the gas at a cost of not more than six dollars per 1,000 feet. The outcry made against the San Francisco Gas Company in 1862 by San Franciscans was, probably, the origin of the company: but be it what it may, the fact that it will be of vast benefit to the citizens of our city cannot be doubted, for the healthy competition which will result from the struggle of the two companies to furnish us with light, must have the effect to materially reduce the price.

### Foundries, Machine Shops, Etc.

There is no department of manufactures and industrial enterprise connected with our city, that has made such rapid progress during the past few years, as that included under this head. The number of establishments engaged in the working of metals is estimated at between three and four hundred, giving steady employment to over two thousand hands.

### IRON FOUNDRIES.

The number of Iron Foundries now in operation in this city is fourteen, which give employment to from seven hundred and fifty to one thousand persons.

#### UNION IRON AND BRASS WORKS.

H. J. Booth & Co., proprietors. This, the pioneer establishment in San Francisco, was founded in 1849, by James and Peter Donahue, brothers, since which time it has steadily increased, ever holding its rank of first in magnitude and importance on the Pacific Coast. The machinery and appliances in these works compare favorably with the best in the world. The superiority of the engines—marine, locomotive, and stationary—built here is admitted, after the severest tests, by the best qualified judges. The first premium for the engine manufactured by H. J. Booth & Co., and exhibited at the Mechanics' Fair, San Francisco, 1865, was awarded to Wm. R. Eckart, the designer. This engine was provided with "Scott & Eckart's Balance-Valve Cut-Off," which for simplicity and effectiveness is unrivaled. The Excelsior Grinder and Amalgamator, patented by Wheeler & Randall, and manufactured here, in its practical workings has fully confirmed the demonstrations of Mr. Randall, as published in the Quartz Operator's Hand Book, that tractory-formed plates possess fully eighty per cent. greater grinding capacity than plane or flat plates. The amount of work done at this establishment can be estimated from the fact that two hundred and seventy-five men are employed.

#### PACIFIC IRON WORKS.

Goddard & Co., proprietors. Next to the Union, the Pacific is the oldest establishment of the kind in the city, the works having been established on their present site, First Street between Mission and Natoma, in September, 1850, by Messrs. Egery & Hincley, whose interest was purchased in December, 1853, by the present proprietors, who erected the present spacious buildings and enlarged and increased the works. The daily running expenses of the establishment reach about \$1,500; the machinery is driven by an eighty-horse power engine. The melting capacity of the largest cupola is twenty tons; there are two others, the aggregate capacity of which is ten tons, making a total of thirty tons. These works made, during the past year, three steamboat and two propeller engines, two stationary eighty-horse power engines, three sixty-horse power, two forty-five-horse power, thirteen thirty-horse power, six fifteen-horse power, seventeen quartz mills from five to forty stamps each, sixty-four amalgamating pans, thirty-six amalgamating barrels,

five thousand six hundred stamp shoes and dies, and seventy steam boilers ranging from twenty to three hundred-horse power each. In addition to the foregoing, a large number of grist, sugar, and saw mills, and castings for agricultural implements were turned out. The average number of hands employed is about one hundred and fifty. About 1,200 tons pig iron consumed per year, with a proportionate amount of wrought iron and boiler plate.

#### FULTON FOUNDRY.

Hincley & Co., proprietors, 45, 47, and 49 First Street. Established 1855. Men employed at present fifty-five. The machinery for a large number of steamboats has been manufactured during the past two years. Extensively engaged in the manufacture of saw-mill machinery. Many additions have been made to the stock of tools during the last year, and the facilities at the present time are equal to any shop for manufacture of all kinds of machinery for steamboats, quartz-mills, flouring-mills, etc.

#### VULCAN IRON WORKS COMPANY.

N. D. Arnot, President; R. Ivers, Treasurer; C. R. Steiger, Secretary; S. Aitken, proprietors. The Vulcan Iron Works, located on First, Natoma, Fremont and Beale, office, First Street, 137-139, were established in August, 1851, by George Gordon & Steen, for the manufacture of steam engines, boilers, and machinery. In January, 1855, they were incorporated as a joint-stock company, and in April, 1857, became the property of the present owners. Steam engines and boilers of every variety are constantly turned out at these works, which have also supplied the machinery for a number of saw, flour, and quartz mills on this coast; all the hydraulic machinery for raising brick buildings in San Francisco was invented and made at these works, and the first locomotive built in the State was built there. The locomotives on the Alameda and San Francisco, Oakland and Napa railroads were built at this establishment. Every class, of mining, pumping, and hoisting machinery can be obtained from this firm, who take especial pride in keeping up with the vast improvements lately made in mining machinery. Hepburn & Peterson's Amalgamating Pan is manufactured here, as also their Separators. This establishment now employs two hundred to two hundred and fifty men, and have during the last year extended their works by the addition of several large shops on the east side of Fremont Street between Mission and Howard, extending to Beale.

#### MINERS' FOUNDRY.

First Street between Howard and Folsom. This establishment, as its name imports, is engaged principally in manufacturing mining machinery, and during the past year has been largely engaged in supplying the increasing demand caused by the rich development of minerals in Idaho, Reese River, and California. They however are not confined to mining machinery alone, but manufacture all kinds of machinery used on this coast. Quite a notable feature of their business the last year has been the building of sugar machinery for the Sandwich Islands, which has heretofore been manufactured in the Atlantic States and Europe. They employ about one hundred and fifty hands, and melt about two thousand tons of pig iron per annum.

#### GOLDEN STATE IRON WORKS.

Palmer, Knox & Co., proprietors. This extensive establishment is located on First Street near Market. The operations of this concern have been in the manufacture of steam engines, water wheels, mining pumps, quartz mills, and amalgamators. Among which latter we notice the Knox's Amalgamator, with Palmer's Improved Steam Chest, are being turned out in large numbers. The Golden State gives employment to about fifty men.