

in length, which follows along the shore until it reaches North Beach, with a grade of 30 inches to the mile, and affording a velocity of one mile per hour. At North Beach a receiving reservoir has been erected, of the capacity of 2,000,000 of gallons, from which the supply of water is now obtained. The company purpose to erect, immediately, two large reservoirs on Russian Hill, one at an elevation of 125 feet above tide water, of a capacity to hold 6,000,000 gallons; and the other, of an elevation of 250 feet, to hold 2,000,000 gallons. From these reservoirs, mains will be laid to conduct the water to every section of the city, from which lateral branches will take it for general distribution. The company commenced laying pipes in September, 1858, since which time, 40,160 feet have been laid, which is being extended daily. Number of hydrants, for fire purposes, erected, 45. Present cost of works, \$300,000. Amount capital stock, \$1,500,000. Term of charter, 20 years. Date of introduction of water, September 27, 1858.

#### Review of Industrial Enterprises.

The Business Directory, published in the present volume, will best exhibit the progress already made in the different branches of mechanical industry in this city. We propose in this review to make a brief reference to a few of the most important branches and to exhibit some very interesting statistics collected during the progress of our labors.

#### FOUNDRIES, MACHINE SHOPS, ETC.

There is no department of mechanical industry in this city in which more enterprise and energy is exhibited than in the manufacture of machinery and the working of metals generally. There is probably no city of the Union that will bear a comparison to San Francisco in this respect. The number of establishments is estimated at 200, affording employment to about 1,000 persons.

#### IRON FOUNDRIES.

The number of iron foundries is seven. Aggregate number of persons employed, from 240 to 450.

*Union Iron Works.*—Mr. Peter Donahue, the proprietor, commenced operations in 1849. These works are the most extensive in the city, covering an area of seven full sized water lots. The buildings are of the most substantial kind, all of brick; consisting of foundry, 50 by 60 feet; one machine shop is 40 by 80 feet, and four stories high; one machine shop, blacksmiths' and boiler

shop has just been completed, 46 by 160 feet. Within these buildings are the best tools to be found in the State, consisting of Wentworth's massive drilling and slotting machines, compound planers, one of Z. Coffin's superior lathes, which swings eight feet, and with the pit lathe can turn a pulley 22 feet diameter; the length of the lathe is 30 feet. One of Nasmyth's steam hammers is situated in the center of the smith's shop. In addition to the tools enumerated above are lathes, planers, drills and a large riveting machine. The first castings made in this State was at this foundry. The contract for the boilers and engines of the new side wheel steamer Saginaw was awarded by the Hon. Secretary of the Navy to Mr. Donahue, being the first contract for a government steamer on the Pacific coast. The work is now progressing rapidly toward completion. Mr. Donahue gives employment to from 90 to 150 men.

*Vulcan Iron Works Co.*—Successors to George Gordon & Steen. The Vulcan Iron Works were established in August, 1851, by Gordon & Steen, for the manufacture of steam engines and machinery. In January, 1855, they were converted into a joint stock incorporated company. Present proprietors, T. A. Monkhouse, S. Aitkin, Paul Torquet and Charles R. Steiger, who had been with the concern from its commencement. These works have turned out about 200 engines and 400 boilers, with the machinery of upwards of 300 saw, flour and quartz mills, candle and starch factories, etc. All the hydraulic machinery for raising brick buildings in San Francisco, were invented and made at these works. The number of hands employed varies from 45 to 90. The business averages \$770,000 per annum.

*Pacific Foundry.*—Goddard & Co., proprietors. These works were established on their present location, September, 1850, by Egery & Hinkley. The improvements consisted of a one-story frame building, 50 by 50 feet, in which a general foundry and machine business was transacted. December, 1853, the proprietors purchased the interest of the original owners—erected a three-story building, 30 by 60 feet, and added greatly, by improvements in machinery, etc., to former facilities for meeting the increase of trade. The cupolas, two in number, have a capacity of melting 12 tons of metal per day. The works employ from 50 to 80 men, and the average annual business is \$240,000.

*Fulton Foundry.*—Hinkley, Worth & Field, proprietors. These works were established by