

OLYMPIA GAS WORKS.

THE enterprise displayed in our Western cities in the direction of constructing systems of gas and water works is remarked by every visitor from the East. There are but few cities of three thousand inhabitants on the Coast not provided with them, while the luxuries of gas and running water are enjoyed by many that do not yet boast of so great a population. This is partly accounted for by that widely diffused spirit of enterprise which is carrying the West forward with such giant strides, and partly by the confidence the business men of our growing cities feel in their future prosperity and the enhanced value of such property and franchises as they develop. To the list of gas-lighted cities the city of Olympia, W. T., has just been added, by the construction of a complete system of gas works.

On the 24th of October, 1884, a franchise was granted by the City Council to the Olympia Gas Company, and on the 1st of November work was begun, under a contract for \$30,000, by the Pacific Construction Company of Tacoma. The grounds of the company consist of five lots, 60x100 feet each, with 500 feet of water frontage. Notwithstanding the unfavorable weather, and the fact that much of the ground was tide-flat which had to be reclaimed, the contractors finished their work and turned on the gas on the 27th of March last, everything working in perfect order. The works consist of a brick building, 42x52 feet, embracing a retort house, purifying room and meter room; a coal shed, 30x50 feet, with a capacity of 300 tons, and so situated as to be filled from vessels in the bay; also a gas holder, or tank, 15x30 feet, with a capacity of 10,590 cubic feet of gas, having cast-iron columns and wrought-iron girders. The works are so arranged as to be easily increased in size and capacity. The gas is manufactured from South Prairie coal and is of most excellent quality. The enterprise is a financial success, and the people of Olympia are proud of this latest addition to the metropolitan conveniences they enjoy.

The perfect success of the enterprise, and the superior excellence of the works and the gas produced, are chiefly due to the skill and careful work of the contractors. The Pacific Construction Company of Tacoma has gained a reputation for conscientious work and engineering skill which entitles it to the preference over all contractors from a distance. The officers are C. W. Harvey, President; H. L. Votaw, Secretary, and J. L. Stamford, General Superintendent. They are all gentlemen of known responsibility, and such as give the company the highest standing among our business men. The company has other gas works under construction at Spokane Falls, which it is calculated will be finished by the 1st of September.

The process of making gas as employed in works erected by the Pacific Construction Company is very simple and productive of the purest gas. The coal is introduced into the retorts in proper quantities, 100 pounds or more, and at regular intervals, where it is subjected to a temperature of about 2,000 deg. Fahrenheit

This process reduces it to coke. The coal is allowed to remain in the retorts from four to five hours, according to the degree of temperature, secure from the contact of the outside air. This is accomplished by stopping the ends of the retorts with cast-iron doors, fastened by strong clamps and screws, while the joints are hermetically sealed with luting. As the gas is generated it passes up through the stand pipes into the hydraulic main, where it is made to part with much tar and ammoniacal liquid, thence into the condenser to be sufficiently cooled for the next process. The condenser comprises a system of cast-iron columns, quite ornamental in themselves, the one opening into the other, thus allowing the gas to pass down one and up another, until it has traversed the entire system. The cooled and condensed fluid is then let into the "washer and scrubber." This apparatus consists of a wrought-iron cylinder, partly filled with coke, and upon which a spray of water is always playing. The gas enters this cylinder at the bottom, and, after passing up through its contents, is rendered still more free from its original ammoniacal accompaniments. It is next conducted into the purifiers. Of these there are two, each consisting of a cast-iron box, 4 feet high, having a base 10 by 12 feet. Within these are five tiers of wooden trays, arranged horizontally, and covered with dry lime to the depth of about two inches. The gas enters these purifiers at the bottom, and, after thoroughly permeating the lime, it has parted with the last vestige of foreign and non-illuminating matter. From the purifiers it goes into the station meter, a vessel 30 inches in diameter, in which it is accurately measured and the result duly recorded by the usual automatic devices. Lastly, it is introduced into the holder, which is the grand reservoir already described. From the holder a pipe leads back into the meter room, where the pressure is regulated, and thence the gas starts on its journey of usefulness through the great arterial system of street mains, from which it is conducted by service pipes into the public buildings, shops, stores and homes of consumers. How many of the thousands who turn the key and touch a match to the burner ever stop to think of the means by which such a simple act is made to flood their room with light?

PROFESSOR JAMES WARREN, of Los Angeles, Cal., electric light station, is the inventor of a new process for reducing ores, which is done by the aid of electricity. One day, while examining a piece of gold-bearing quartz, he accidentally let it fall into one of the dynamos, which was in motion at the time. On looking for the piece of quartz the next day he found it in the dynamo, and to his surprise the gold in the quartz had melted and run to one side of the rock, forming a beautiful button. Professor Warren immediately instituted a series of experiments, and has succeeded in evolving a process by which gold, silver and copper can be instantly smelted from concentrations by a powerful electric shock, which almost equals in its intensity a stroke of lightning. The experiments so far made have failed on lead and antimony ores.—*American Engineer.*