

air duct and does not mix with the gas until it reaches the inside of the flue where ignition takes place.

For four years this dual system of firing boiler furnaces has been in operation at the works mentioned, and the results have been such as to justify the firm in applying the idea to all their extensions of boiler plant, since the method was first adopted. Repeat orders have been placed for machines of the same pattern to those already supplied, for their new installation of boilers. The secre-

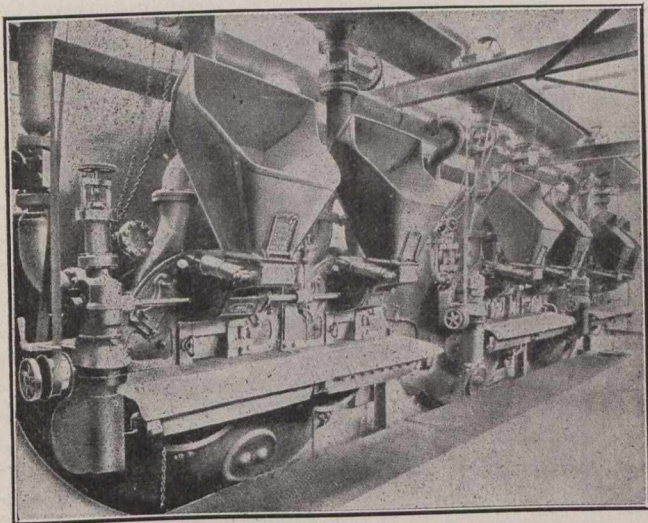


Fig. 1.—Stokers installation in the boiler-house of the South Staffordshire Mond Gas Company.

tary of the gas company states that the thermal efficiency obtained during a six months' run under all conditions and variations of load, including times when parts of the plant were off for cleaning and inspection, was 73%. The average quantity of water evaporated per boiler per hour for a month's run was 14,880 lb. During this period the boilers were fired with slack during the day, and gas-fired during nights and week-ends.

### PRINCE RUPERT SHIPBUILDING PLANT.

The Grand Trunk Pacific dry dock and shipbuilding plant at Prince Rupert is being rushed to completion, and the close of the year will probably see all shops and tools ready for operation. The ship shed, served by two overhead cranes, is finished, as are also most of the auxiliary shops, including the boiler plant with its battery of six 400 h.p. water tube boilers; the power house, with two 1,000 k.w. generators, and electrically driven compressors to furnish air for the boring and driving tools. There is also a foundry capable of handling 20 tons of iron a day, a boiler and blacksmith shop with tools of large capacity and a machine shop with tools including a 76-inch swing by 50 feet between centres engine lathe, a 10-foot boring mill, a 6 by 6 by 20-foot planer, a drilling and milling machine, a 6-foot radial drill and many other similar tools.

Seven large pontoons have been built, three of them under the ship shed and four for the dry dock. Three of the latter are in place and the erection of the steel wings upon them is under way.

The machines have come in over the Grand Trunk Pacific lines. A yard locomotive crane has been used in their transfer to the shops. A 50-ton derrick has also been erected at the outer end of one of the piers.

### PUBLIC UTILITIES AND THE PUBLIC.

At the Conference of American City Mayors, held at Philadelphia November 13 and 14, 1914, Mr. Delos F. Wilcox, consulting franchise and public-utility expert, New York, presented a paper which dealt in a clear-cut way with the factors which enter into the problem of relationship between the public and the privately owned public utilities serving it. The antagonism between the two bodies was commented upon in our issue of last week. This antagonism is responsible for the undue prolonging of many sorely needed developments, as the experiences of many of our cities will testify. Mr. Wilcox approaches the question from an intelligent and thoroughly studied position as the subjoined extracts from his paper show.

In discussing the antagonism mentioned above he observes that while this antagonism often assumes exaggerated, unintelligent and even fantastic forms, and while there is a substantial community of interest along many lines between the public and the utility corporations, we must not blink the fact that there is a permanent and fundamental conflict of motives between them. No amount of regulation and no possible development of good-will and the spirit of co-operation can change the fact that private corporations operating municipal utilities do so for profit and for as much profit as they can get, while the consumers and the public strive to get as much service as they can at the least possible cost.

The discussion of plans of campaign against high rates, poor service, political interference, financial tyranny and all the rest of the evils which we have set out to smite can only lead to confusion of counsels unless we clearly grasp certain underlying issues involved in the relations between the cities and the public utilities. Without having definite thoughts on these issues, we can not think straight on anything else, and without knowing what any particular speaker's thoughts upon them are, the rest of us can have no measure by which to gauge the importance or fathom the meaning of what he says.

The underlying issues are:

- (1) What shall be the recognized character of public-utility investments
- (2) What shall be the attitude of the city toward public utilities as money-earning enterprises?
- (3) What attitude shall the cities take toward ultimate municipal ownership?

Mr. Wilcox answers these questions in the following manner:—

**Character of the Investment.**—Public-utility investments should be placed upon a non-speculative basis, and their security should approximate that of municipal bonds.

In the establishment of the non-speculative character of these investments, cities should not undertake to make good past losses.

So far as future investments in the standard utilities are concerned, the cities should assume the risks of loss due to unforeseen causes, and should substantially guarantee the integrity of all investments made at the request or with the approval of public authority.

**Public Utilities as Money-earning Enterprises.**—In my judgment, public utilities should not be regarded as a legitimate source of profit to be used for the relief of general taxation.

Compensation for franchise grants, and special taxes or license fees imposed upon public-service corporations should not be encouraged, unless the proceeds of such compensation or taxes are to be used in paying for the property.