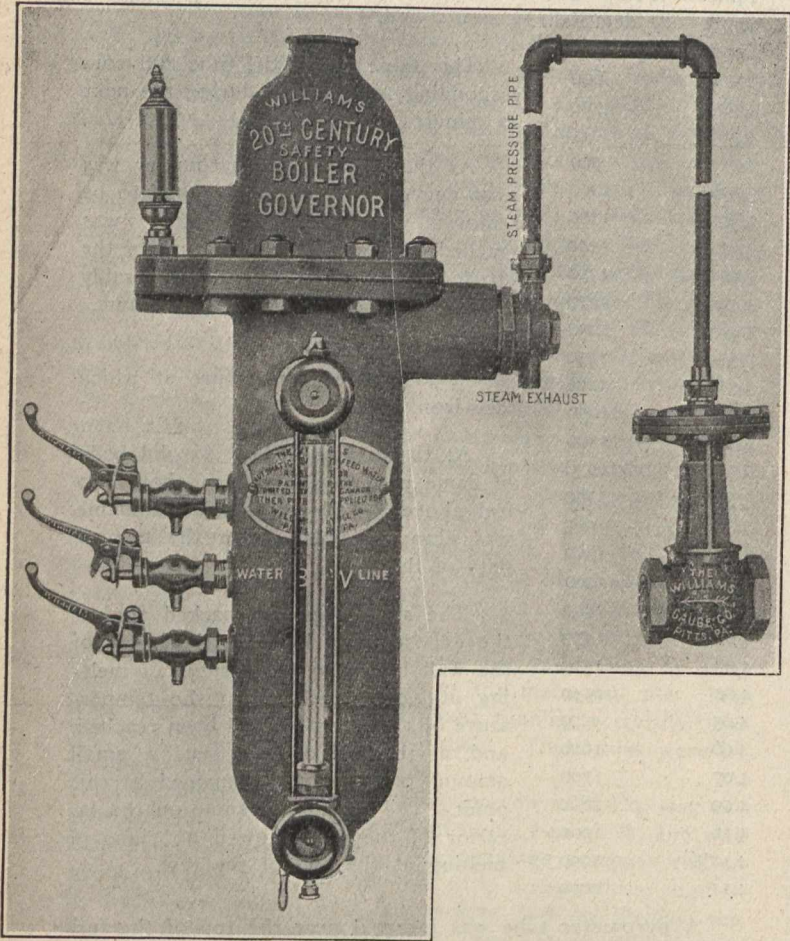


The superintendent of construction for the contractors was F. R. McQueen, and their chief engineer was E. D. Mayo. The writer is indebted to the latter for the photos. of the working drawings used to illustrate this paper.

The superintendent for the company was R. Dickson, and the writer was engineer in charge of the work.

FEED WATER REGULATOR.

The accompanying cut shows the Williams Automatic safety feed water regulator for which Darling Bros., Montreal, have been appointed Canadian agents. This feed water



regulator is applied to steam boilers for the economical production of dry steam. Its aim is to increase the efficiency of steam boilers and engines, by automatically controlling the water at the proper fixed point, preserving the exact amount of water continuously in exact proportion to the heating surface and the capacity of the boiler furnaces, thus constantly producing the limit of the boiler's highest efficiency. It is constructed to give an alarm for high or low water in case of accident, and the makers assure the engineer that his only labor is to start the pumps and blow out the sediment in the regulator once or twice a day. The circulars issued with the regulator contain letters testifying to a saving of 6 to 15 per cent. in fuel, enough in some cases, it is claimed, to save the cost of the machine several times in a year. Particulars as to its mode of action can be had from Darling Bros., Reliance Works, Montreal.

QUEBEC'S MINERAL OUTPUT LAST YEAR.

The following are the quantities in tons of 2,000 lbs. and the values at the shipping point, of the minerals produced in Quebec during 1903, as from returns prepared by J. Obalski, Inspector of Mines, for the province:

	Tons.	Value.
Magnetic and titanite iron	100	\$ 300
Bog ore	10,742	34,984
Chrome ore	3,037	45,555

Copper ore	25,000	125,000
Galena (approximate returns not complete; returns not received).		
Asbestos (value approximate)	31,671	900,000
Asbestic	10,581	13,242
Mica (thum trimmed; returns not complete).		
Ochre (calcined)	1,746	20,440
Graphite		
Feldspar	20	37
Sulphate of baryte	440	2,640
Phosphate	1,187	8,214
Gold (ounces)		600
Slate quarries	5,510	22,040
Flag stones (square yards)	3,000	2,550
Cement (barrels)	40,000	66,000
Granite (The same as last year).		
Lime (barrel). (The same as last year).		
Bricks. (The same as last year).		
Stones. (The same as last year).		
Pig iron produced	9,635 3/4	\$230,639 46

—The Canadian Rubber Co., of Montreal, recently remodelled their power plant and found that the tall brick chimney, 110 feet high, would not give the proper amount of draft necessary in connection with the four new Stirling boilers they were to install. Mechanical draft was necessary and for this purpose a large Sturtevant steel plate fan driven by a Sturtevant horizontal engine was installed, and now the proper amount of draft is easily attained and regulated at will regardless of the weather conditions. This is another illustration of the advantage of mechanical draft in connection with the remodelling of old boiler plants.

The application of the London, Alymer, and North Shore Electric Railway Co. to bond their road at \$25,000 per mile has been granted by the Ontario Legislature. The cost of the road is estimated at \$1,100,000.

The Kingston Locomotive Works has closed contracts for ten engines for the Canadian Pacific and twenty-five for the Intercolonial Railway.

Royal Automatic Smoke Consuming Company,

TORONTO, ONTARIO.

Copy of Report of Boiler Inspection and Insurance Company.

Toronto, March 15th, 1904.

J. A. WHALEY, ESQ.,
Manager the Royal Smoke Consuming Co.,
Room Z, Confederation Life Building, Toronto.

Dear Sir,—The following are the results of tests made at the Canada Life Building, Toronto, on March 11th and 14th. On the 11th inst., your smoke consuming device was in operation, and on the 14th inst., it was not in use.

	Consumer in use.	Consumer off.
Duration of test.....	8 hours.	8 hours
Total coal consumed.....	1,327 lbs.	1,600 lbs.
Ashes produced	131 lbs.	191½ lbs.
Water pumped to boiler and apparently evaporated	11,270 lbs.	10,110 lbs.
Temperature of water degrees F.....	38.1	40
Average pressure on Steam Gauge.....	58.8 lbs.	59 lbs.
Water apparently evaporated from and at 212° F. per pound of coal	10.27 lbs.	7.63 lbs.
Saving in fuel by the use of the Consumer		34.6 per cent.

With the device in use there was practically no smoke visible at the top of the chimney, but without it at each fresh charge of coal the smoke was black for a time. The boiler tubes were found to be much cleaner when it was in operation and the coal was burned at a seemingly higher temperature.

(Signed) GEO. C. ROBB,
Chief Engineer.

Our Machines can be seen at any time in operation in the Newell-Higel Company and Canada Life Buildings. A number of other orders are taken and will be rushed on in a few days.