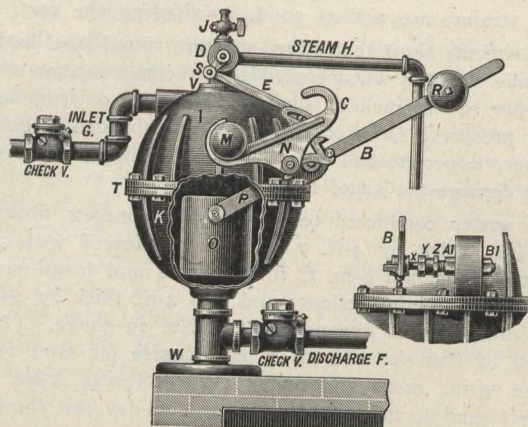
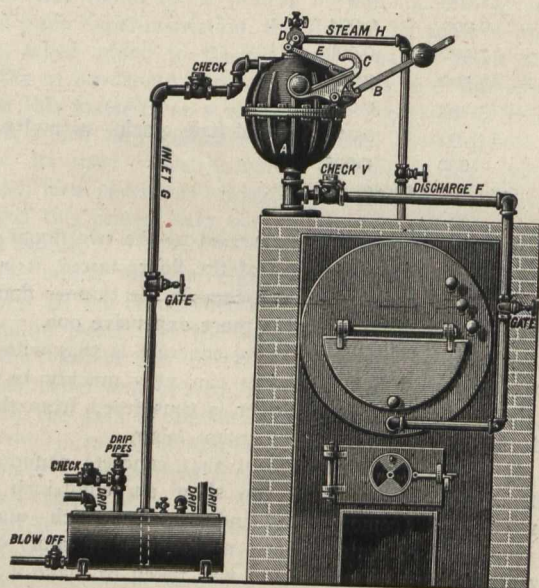


stantly watching the market for new devices which will bring about these results. The whole question of economy in a steam plant consists principally in the saving of heat. Every pound of water warmed from 50 degrees to 212 degrees, Fahrenheit, is known to have absorbed a certain amount of heat, and as other quantities are measured in units, such as feet, pounds, minutes, horse-powers, etc., heat is measured in units called heat-units. A heat-unit is equal to the amount of heat required to raise the temperature of one pound of pure water one degree Fahrenheit, at the temperature of its maximum



density; so that in order to raise the temperature of one pound of water from 50 degrees to 212 degrees Fahrenheit, about 163 heat-units would be required.

The amount of coal that would have to be consumed under the average boiler to produce this quantity of heat would be about .0142 pounds. It is evident, then, that for every pound of water at a temperature of 212 degrees Fahrenheit allowed to go to waste, .0142 pounds of coal are also sacrificed. The No. 1 Pratt Return Steam Trap will return to the boilers about 200 gallons or 1,668 pounds of water per hour. If the normal temperature of the feed water is 50 degrees Fahrenheit, using the information given above, we would save by using this trap,  $1,668 \times .0142 = 23.68$  pounds of coal per hour. With



coal costing \$4 per ton delivered, the total amount of money saved would be 43c. per day of ten hours. This does not include the value of the water saved, which would average for 2,000 gallons not less than 7c., making the total saving per day about 50c. This applies to the smallest trap, and the amount saved will, of course, increase proportionately with the number of gallons of water returned to the boiler, and the difference between the normal temperature of the feed water and the final temperature when entering the boiler. The use of the Pratt Return Steam Trap has effected a saving in many instances of from 10 to 25 per cent. In comparing this Trap with a pump for returning condensed water, it will be apparent to all that the pump requires live steam to perform its work, and unless the exhaust is condensed and passes through an oil filter into the receiver, a considerable heat will be wasted. In the matter of cost for repairs, the trap would also be found the most economical, as many cases are on record where the

Pratt Return Traps at the end of ten or fifteen years' constant use have been repaired and made absolutely as good as new at an expense of from \$15 to \$20. Steam fitters will experience no trouble in connecting, as there are no fine adjustments to be made.

The second cut shows the manner in which the Pratt Return Steam Trap is connected to a boiler or boilers for return automatically condensation direct the steam.

If any interested readers of this paper should be in need of any device of this nature, The Canadian Fairbanks Company, Limited, will be very pleased to give advice from experts who have made and are constantly making studies of this question to suit different requirements.



## INDUSTRIAL NOTES.

Winnipeg is to have a 6,000,000-gallon reservoir.

Ingersoll passed a by-law to loan \$20,000 to the Ingersoll Nut Co.

Work on the development of Kakabeka Falls will begin this month.

Mackenzie & Mann will establish a copper smelter at Port Arthur this summer.

A valuable sandstone quarry has been discovered about fifteen miles from Prince Albert.

The McLachlan Gasolene Engine Works Co., Toronto, will build new shops at Swansea.

Fire did \$20,000 damage at the Palmer Piano Co., Toronto, recently. Loss covered by insurance.

The Burrow, Stewart & Milne Co., Hamilton, are enlarging their stove foundry at a cost of \$15,000.

Whitby voted a bonus of \$25,000 to the Keystone Beet Sugar Co. for the establishment of a beet sugar factory.

The National Cream Separator Co. is considering removal from Guelph to Niagara Falls, N.Y., owing to trade difficulties.

W. Langford has been awarded the contract for the erection of a 100-foot extension to be made to the Peterboro Shovel and Tool Co.

The Peterborough Lock Manufacturing Co. will spend \$40,000 on new buildings and equipment. Wm. Langford has been given the contract.

The contract for the erection of the power house for the new water-works plant at Portage la Prairie was awarded to Chas. Jeffrey, a local contractor.

The Neptune Meter and Brass Works, of New York, intend to establish a branch in Canada. About eighty hands would be employed in the new factory.

The Imperial authorities contemplate the restoration of the military establishment at Esquimalt. An appropriation of \$1,500,000 has been voted as a beginning.

The Henderson Roller Bearing Co., of Toronto, are contemplating the building of a branch at Port Arthur, which will manufacture for the western market.

The Ogilvie Milling Company have let a contract at Fort William to a local firm for one million feet of lumber, to be used in the construction of the proposed flour mill.

The C.P.R. depot at Cranbrook, B.C., collapsed while undergoing certain changes, and eleven men were injured, of whom it is reported four will die, and five others are in a serious condition. The depot is having another story added to it, and the supposition is that the new part was not sufficiently braced.

The International Harvester Co., Hamilton, is installing a 36-inch intake pipe, which will extend 700 feet into the bay. This will be separate from the regular water supply, and will be useful in many ways, especially in case of fire. The company's large wharf will probably be completed this year. This will give the company the finest wharf frontage on the bay. The slips will be dredged, and there will be a depth of twenty feet at the wharves.