to the Compressors, is a 75 ton Hydraulic Accumulator, developing a water pressure of 1,600 lbs. per square inch, for service to the hydraulic machines throughout the shops, etc., while in the corner behind the Steam Engine is located the excellent Hot Water System, invented by Evans-Almirall & Co., of New York, by which a proper temperature in the buildings is maintained by means of exhaust steam, with a vacuum ranging from 25 to 15 ins. From this compact Water Heater starts, in a winter's mornng, hot water at a temperature of 80 degrees or more, which circulates throughout the network of piping which lines the

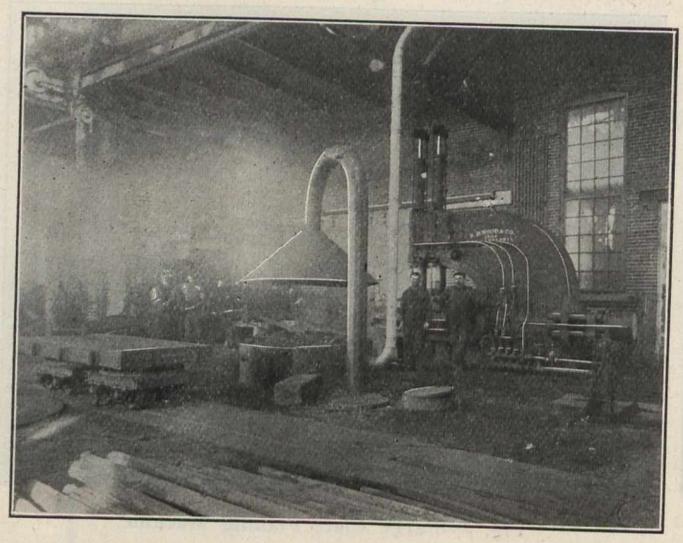


Fig. 9—Forge.

lower part of the walls everywhere, and quickly the general temperature of the shops is 65 degrees. Should the necessary opening of the main doors reduce the general temperature below the normal 65 degrees, the engineer can, by manipulation at the Boiler and Water Heater End, raise the temperature throughout the shops ten degrees in less than twenty minutes! An altogether admirable system of warming factories and workshops! All the Engines and appliances we have been describing are on the ground floor. We next descend to the basement, and first of all, run up against a vertical

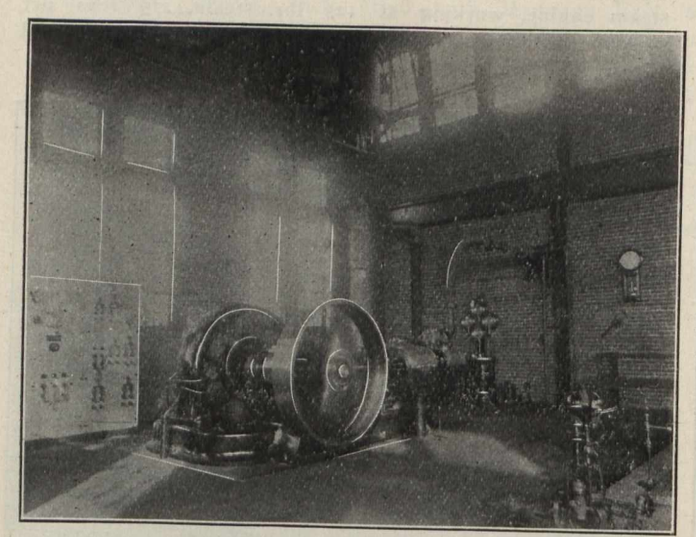


Fig. 10—Engine House.

cold water Reservoir, which receives its supplies from a drinking water well in the corner, 6 in. diameter by 200 feet deep. This water is pumped into the said reservoir (also the large tank outside) by a compressed air pump and to Water Tower (pictured on Fig. 1) by means of an Underwriter Fire Pump, 18 in. by 10 in. by 12 in., with a capacity of 1,000 gallons per minute, at 70 revs., made by the Canada Foundry Co. Next is a Moffat Patent Feed Water Heater and Purifier, manufactured by Goldie & McCulloch, which has only to be used in any steam plant to be appreciated. After examining the 8 in. by 14 in. by 12 in. Air Pump and Jet Condenser, made also by Goldie & McCulloch, our attention was directed to an imposing, and well-finished Hydraulic Pump, 14 in. by 22 in. by 4 in. by 16 in., made at the Snow Steam Pump Works, Buffalo, N.Y. But not the least attractive object lesson in these subterranean vaults was the miniature Water Turbine, 10 h.p., 2,400 revs., made by Greenwood & Batley, Limited, Leeds, England, a cunningly designed, finely and effective piece of mechanism.

The last thing which engaged our attention was the Steam Generating System. This consisted of two 84 in. by 18 feet Return Tubular Boilers, each 200 h.p., hand-fired, and artificial draft, induced by a Sheldon & Sheldon

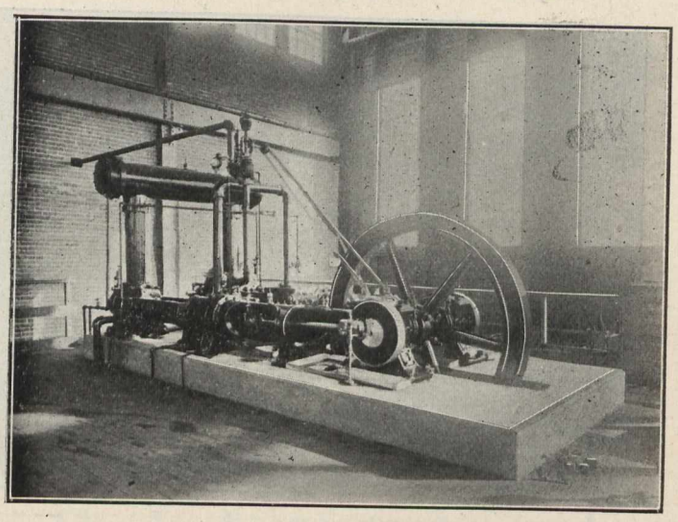


Fig. 11—Compressors.

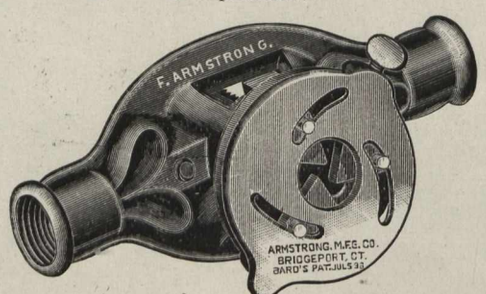
7 ft. Fan, driven by a 6 in. by 6 in. Goldie & McCulloch "Ideal" Steam Engine.

In saying this, we are not unmindful that the Works we have been describing have not reached finality; but even as it stands, is a plant of which any firm can be justly proud. The Goldie & McCulloch Co. are to be congratulated on having set before the engineers of Canada, an object lesson in workshop design, worthy of attention. The startling fact that the tools, machines and appliances installed in this modern plant have been bought wherever the best could be found is a cheering sign of the times.

BARD ADJUSTABLE BUSHING.

The Bard adjustable bushing made by the Armstrong Manufacturing Company, of Bridgeport, Conn., has some new features which will recommend it at once to all users of bushings, as well as to the trade in general.

This bushing is fitted with hardened jaws, which are moved to and from centre by means of a cam plate, and by fastening the plate with the thumb screw the jaws are firmly held in any desired position.



The adjustable jaws make a perfect centre for the pipe or rod, fit closely around the same, and ensure the cutting of a straight thread. When necessary a crooked or drunken thread can be cut with this bushing as easily as with a ring bushing.

When once attached to the die stock it can always remain there. It does away with the necessity of carrying a number of loose ring bushings, and saves the time now lost in hunting for, and changing the bushing for each size of pipe.

No more winding tin or paper around pipe or rod.

This adjustable bushing can be furnished to fit the genuine Armstrong stocks and dies, Nos. 1, 2, 2½ and 3.