

THE QUIMBY SCREW PUMP.

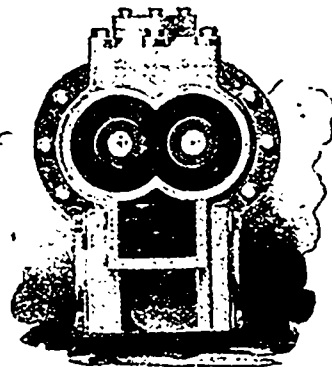
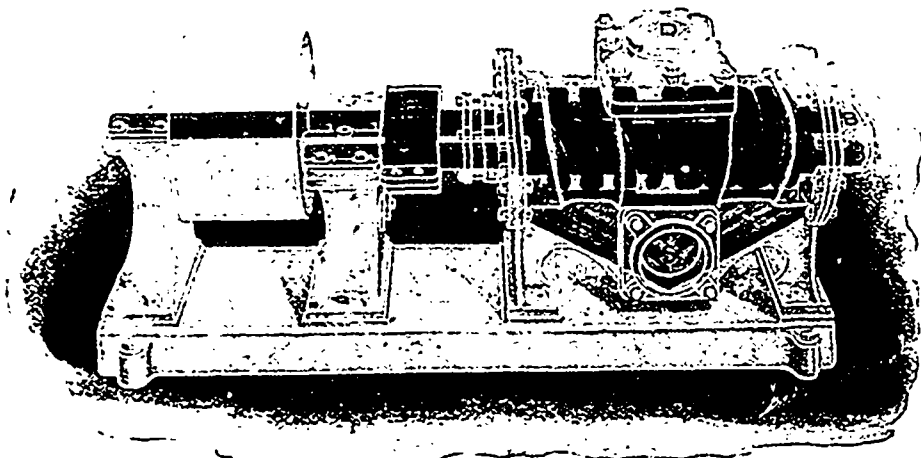
By W. T. BONNER, MONTREAL.

The novel feature of the pump is its simplicity, utilizing as it does a very simple mechanical principle in a very unusual manner for performing useful work.

As will be noticed by an inspection of the accompanying illustrations, the Quimby pump consists of two parallel shafts, on which are mounted the four screws that act as pistons in propelling the water, so arranged that in each pair the thread of one screw projects to the bottom of the space between the threads of the opposite screws. The screw threads have flat faces and peculiarly undercut sides, the width of the face and

used in connection with the gravity system, the pump section is connected with the lower discharge tank, and the discharge from the pump is elevated into the roof tank. The pump is controlled by means of a float in the discharge tank, and a starting box.

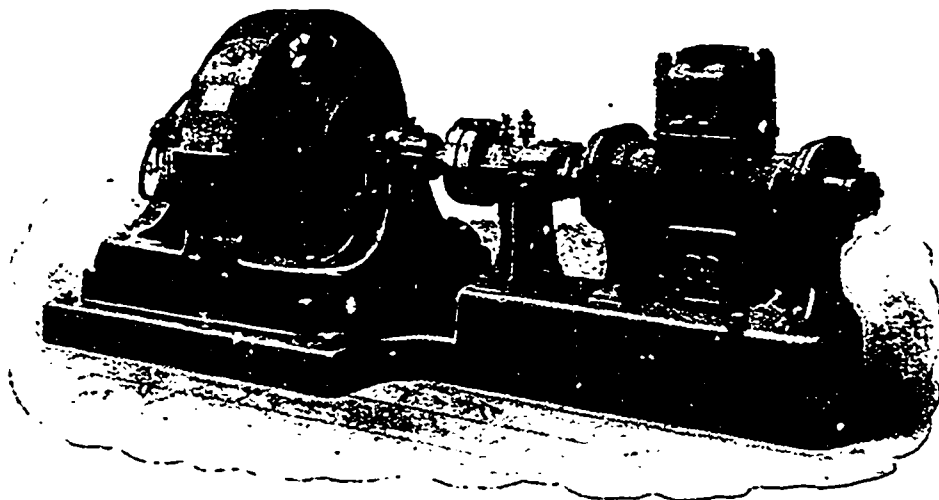
The Quimby electric pump, when applied to an elevator, can be automatically operated, thus doing away with the constant care and attention required by a steam pump. Whether operated by belt or direct connected to electric motors or steam engines, the Quimby pump has many advantages. For waterworks, oil refineries, or other service where liquids are pumped through long pipe lines, any pulsation in the delivery adds to the difficulty of maintaining tight joints. The Quimby pump, however, has an absolutely pulseless delivery, and at the



the base of the thread being one-half the pitch. The pump cylinder fits the perimeters of the threads, as shown in figure 2. Space enough is left between the screws and the cylinder and between the faces of the intermeshing threads to allow a close running fit without actual contact. There is no end thrust of the screws in their bearings, because the back pressure of the column of liquid is delivered to the middle of the cylinder, and the endwise pressure upon the screws in one direction is exactly counterbalanced by a like pressure in the opposite direction. The suction connection is shown at S in Fig. 1, and opens into a chamber underneath the pump cylinder. The power to drive the pump is applied to one of the shafts, and the second shaft is driven by means of a pair of gears, shown at G in Fig. 1. The pump has no internal packing, no valves, and no small moving parts.

same time a very high efficiency. Long series of tests show an average efficiency of more than 55 per cent. from wire to water. In many instances tests have shown as high as 65 or 66 per cent. efficiency.

The pump will readily handle thick products, such as paraffine, hot tar, pitch, white lead, melted sugar, glucose, soap, lard, etc. For this service, reciprocating pumps are not desirable, for the reason that heavy liquids are likely to be churned by the action of the plungers, and the friction of the material passing through the valves and ports, greatly reduces the capacity and efficiency. Altogether the Quimby pump appears to offer a wider range for the utilization of electric power than any other apparatus presented for some time past and in a field also where cost of installation and operation are both very important factors.



The Quimby electric pump is especially valuable in connection with the hydro-electric operation of elevators. When used in connection with the pressure tank system, the suction is connected with the elevator discharge tank, the pump discharging into the pressure tank. The pump is controlled by means of a pressure regulator and starting box. When the pressure in the tank falls, the regulator operates the starting box and the pump runs until the pressure has been restored in the tank to the required number of pounds. By the peculiar construction of the Quimby pumps there is no pulsation. When

W. Edmonds, contractor, has begun the brick work of the addition to McDougall's foundry, Galt, Ont.

The output from the Chicoutimi, Que., 1 hp mills is to be exported from Quebec, a steamer being loaded every second week.

The Brockville, Ont., city council has purchased a site for the factory of the Brockville Provision and Packing Company. Plans and specifications are being prepared by Montreal and Chicago experts, and an extensive plant including first-class cold storage facilities will be installed.