

The function of the air pump and its relation to the condenser proper are first taken up and then the construction and operation of the Wheeler-Edwards air pump and a comparison of the efficiency of the Wheeler-Edwards air pump with other types of pumps handling air and condensate discussed in detail. The pages following are devoted to the various uses for the Wheeler-Edwards air pump, such as high vacuum Wheeler dry tube condensers for steam turbines, special application in marine work, giving a drawing showing how the Wheeler-Edwards air pump is built into the main engine frame, the use of the Wheeler-Edwards air pump in connection with small jet condenser and in connection with sugar effects for handling both the sweet water and the air and water from the condenser.

This bulletin contains upwards of fifty illustrations, including photographs of the numerous types of Wheeler-Edwards air pumps, for instance, single steam driven, twin steam driven, triplex motor and steam driven, twin steam driven with separate hot well pumps, combined engine driven single air pump and centrifugal pump, combined motor driven, triplex Edwards pump and centrifugal pump, and also several charts relative to the question of air and its removal from condensers, line drawings showing the manner of installation of the Wheeler-Edwards air pump on board ship and also for use in connection with multiple effects, and lastly, numerous illustrations of Wheeler-Edwards air pumps installed in connection with condensers for various classes of services. The frontispiece of the bulletin shows eight notable power plants wherein Wheeler condenser equipments of a rated capacity of over $4\frac{1}{4}$ million pounds of steam per hour are installed.

The last pages of the bulletin contain an outline drawing of a Wheeler-Edwards air pump, together with a list of details which may be used in ordering repair parts. This list is also furnished in blueprint form for posting in the engine room. Pages 30 and 31 give an illustrated condensed catalogue of the Wheeler line of condensing apparatus covering the following headings: Wheeler surface condensers, Wheeler Volz combined condenser and feed water heater, Wheeler dry tube condensers, Wheeler rectangular jet condensers, Wheeler barometric and jet condensers, Wheeler-Edwards air pumps, Wheeler rotative dry vacuum pumps, Wheeler centrifugal pumps, Wheeler-Barnard cooling towers, Wheeler feed water heaters, Wheeler atmospheric exhaust valves.

Copies of this bulletin, No. 103, will be sent by the Wheeler Condenser & Engineering Company, of Carteret, N.J., to engineers and others on receipt of their name.

THE CANADIAN RED CROSS SOCIETY.

Empress Marie Feodorovna Prize Competition.

To Be Held in Conjunction With the Ninth International Red Cross Conference, Washington, D.C., May 7-17, 1912.

Programme.

1. A scheme for the removal of the wounded from the battlefield with the minimum number of stretcher bearers.
2. Portable wash-stands for use in the field.
3. The best way of carrying dressings for use in regimental aid posts and dressing stations.
4. Wheeled stretchers.
5. Transport of stretchers on mule back.
6. Easily folding portable stretcher.
7. Transport of the wounded between warships and hospital ships and the coast.

8. The best method of heating railway carriages by a system independent of steam from the engine.

9. The best model of portable Roentgen Apparatus for the employment of X-rays on the field of battle at the regimental aid posts.

Inventions entered in this competition are to be displayed at an exhibition to be held on the occasion of the Ninth International Red Cross Conference at Washington, D.C., May 7-17, 1912.

Persons intending to compete for these prizes must forward to the General Secretary, at Toronto, on or before December 23rd, 1911, a statement of such intention, giving the number of cubic feet which will be required for the exhibition of their inventions.

Articles entered in this competition must be received carriage prepaid, at Washington, D.C., on or before April 15, 1912. Arrangements are being made with the United States Customs for the free entry of objects intended for the competitions.

Further information may be obtained from Dr. C. R. Dickson, General Secretary, Canadian Red Cross Society, 192 Bloor Street West, Toronto.

PERSONAL.

Mr. F. McCormick, assistant solicitor of the Department of Railways, has been sent by the Hon. Frank Cochrane to Sault Ste. Marie to investigate the accident at the Soo Canal caused by the collision of the steamer Emperor with the locks, and resulting in a partial blockade of the channel.

Mr. Rueben W. Leonard, of St. Catharines, has been appointed successor to Hon. S. N. Parent as chairman of the National Transcontinental Railway Commission. Mr. Leonard is better known as a mining capitalist than as a railway engineer, although he has had some experience in railway construction in connection with the building of some of the C.P.R. lines and of the St. Lawrence & Adirondacks Railway.

Mr. C. G. McFarlane, Belmont, Ont., has been appointed chief engineer of Division "F," National Transcontinental Railway.

Mr. L. Uglow, B.Sc., of Kingston, Ont., has been awarded the gold medal and cash prize by the Canadian Mining Institute in a competition open to students of all Canadian universities. The competition consists of an investigation and thesis of some problem in connection with mining.

OBITUARY.

Samuel Hooper, Provincial Architect, Province of Manitoba, died in London, Eng., of asthma. He had held this position for 30 years and designed some of the largest buildings in the city of Winnipeg, and all the public buildings in the province for the past 10 years. He came from London, Ont., where he was in the marble business.

INTERNATIONAL ASSOCIATION FOR TESTING MATERIALS.

At the fifth congress of the International Association for Testing Materials, held at Copenhagen in September, 1909, it was voted, on the invitation extended by the American Society for Testing Materials, to hold its sixth congress in this country in 1912. It will be under the patronage of