

The Canadian Engineer

VOL. I.—No. 3.

TORONTO AND MONTREAL, JULY, 1893.

PRICE, 10 CENTS.
\$1.00 PER YEAR.

The Canadian Engineer.

ISSUED MONTHLY

BY THE CANADIAN ENGINEER COMPANY

IN THE INTERESTS OF THE
MECHANICAL, ELECTRICAL, MARINE, LOCOMOTIVE, STATIONARY
AND SANITARY ENGINEER, THE MANUFACTURER, THE
CONTRACTOR AND THE MERCHANT IN THE
METAL TRADES.

SUBSCRIPTION:

Canada and the United States, \$1.00 per year; Great Britain, 5s. Advertising rates on application.

OFFICES:

62 CHURCH ST., TORONTO.

AND THE

FRASER BUILDING, ST. SACRAMENT ST. - MONTREAL.

Represented in Europe by POLSUE BROS.,

30 POPPIN'S COURT, FLEET ST.,
LONDON, ENG.

NOTICE.

W. G. BLACKGROVE, secretary of the Canadian Association of Stationary Engineers, is authorized to act as agent for THE CANADIAN ENGINEER in the city of Toronto and vicinity.

OUR CIRCULATION.

OFFICE OF MONETARY TIMES PRINTING CO.

This is to certify that we have printed and mailed TWO THOUSAND copies of THE CANADIAN ENGINEER for the month of June.

MONETARY TIMES PRINTING Co.

OF CANADA (LIMITED).

Per A. W. LAW, Sec.-Treas.

Toronto, July 1, 1893.

CAST iron fly-wheels should not be run at a greater speed than 80 feet per second to be quite safe.

AN Italian engineer has discovered a process of making cheap hydrogen. Apart from its intense heat when ignited, it has the advantage of leaving no ashes and giving out no smoke during combustion.

AN electrical acid meter, or instrument for measuring the amount of acid substance in liquids, has recently been invented, and is expected to come into use in refineries, breweries and similar places.

To harden cast iron heat it to a cherry red, cover it with potash and dip into water. Pulverize the potash so that it will readily melt. Repeat the process three or more times, taking care when reheating not to burn the potash off, or the iron will remain soft.

HOT bearings may be remedied by pouring upon them a liberal quantity of liquid ammonia and following this by a fair amount of good oil. The bearings should not be adjusted too close. A mixture has also been recommended, made from plumbago and cold beef tallow.

AN instrument has been invented for facilitating the stopping of a vessel moving in dangerous places, or in danger of colliding with other vessels. It is fixed to the ship's bow and consists of large pivoted wings, which expand transversely and offer resistance to the further progress of the boat.

PURE metals reduced to abnormally low temperatures increase in the power of conducting electricity. Indeed, Profs. Fleming and Dewar state that perfectly pure metals show a conductivity increasing as the temperature falls in such a manner that all the temperature curves, if produced, would pass through the zero of absolute temperature.

Now that the Hudson Bay railway scheme has temporarily failed, it is proposed to reach the great northern waters by means of combined river and canal navigation. The idea is to utilize the Saskatchewan river from Prince Albert, crossing Lake Winnipeg, and thence up Nelson river to Hudson Bay, constructing short canals where necessary.

THE principle that carbonaceous matter when very finely divided is capable of exploding with great violence has been taken advantage of by a German inventor, who proposes to grind coal to an impalpable powder, and then, after introducing it into the cylinder of an engine, to explode it. Krupp, the gunmaker, is making some engines with which to experiment on the idea.

A METHOD for rendering coal smokeless consists in reducing the coal to a fine powder and feeding this to the furnace by means of a blast of air. Coal prepared in this manner burns up at once and gives an intense heat. There are no ashes and there is no falling dust; the latter floats in the furnace chamber until altogether consumed. It is said to be quite as easy to extinguish or regulate a fire using this fuel as one which uses oil.

A RECENT invention is a draught indicator to be placed at either or at both ends of a ship, in order to show at a glance to the officer how much water she is drawing. It may also be set at any desired point, so that when a certain draught is reached an electrically worked signal bell is automatically sounded and continues ringing until stopped. The rise and fall of the waves alongside do not affect the accurate working of this instrument in any way.

A METHOD is described in the French journals of deadening the noise caused by the puffing of the exhaust pipes in gas engines. It consists of attaching to the end of the exhaust a pipe split for a considerable distance. It is so placed that the split end turns upward, and the slotted opening is widened out toward the top until it is as wide as the diameter of the pipe. Under this arrangement the puff of the exhaust spreads out like a fan and takes place gradually.

TWICE in a year the village of Fairville, a suburb of St. John, has been swept by fire, this time 35 or 40 dwellings and stores being destroyed. The place had no proper water supply and no fire brigade, and all the companies raised the rates so high that few people were insured, so that the loss this time will be more severe than before. The history of the two great fire scourges of St. John and of its unfortunate suburb ought to shed a lurid light on the question of fire protection, and the construction of flammable and inflammable buildings.