rial. Retaliation in trade matters will force them to reduce. All countries reduce first the duties on raw materials, and the need of foreign markets will force the United States into the same.

BOUNTIES ON STEEL.

Under the act the following companies have earned Dominion Government bounties for the production and manufacture of steel in the Dominion during the years 1898-1905:—

N. S. Steel Company	$276,278
N. S. Steel and C. Co., Limited	596,693
Mineral P. Co., Pictou, N.S.,	7,378
Dom. I. and S. Co., Limited	2,252,455
Canada Iron Furnace Co.	447,657
Ont. Rolling Mills Co.	18,712
Ham. Blast Fur. Co.	203,080
Ham. S. and I. Co., Limited	846,144
Deseronto Iron Co.	133,134
John McDougall and Co.	26,264
Electric Reduction Co.	2,222
Algoma Steel Co., Limited	328,740
Londonderry I. and M. Co.	64,493
Montreal Rolling Mills.	1,545
Total	$5,204,755

COPPER MARKET SITUATION.

The Journal of Commerce estimates in a recent issue that stocks in America have increased 26,000 tons since January 1, making a total stock of 80,000 tons on Oct. 1. But other reports show a material decrease during the past nine months, and based on the actions of the market our opinion is that the latter is more apt to be correct. The statistical position of this metal must always remain purely a matter of opinion until such a time as the copper producers resume their former policy of announcing their monthly output, with an annual or semi-annual statement of stocks on hand.

Messrs. H. A. Watson & Co., of Liverpool, report as follows:

"Intrinsically there is no change in the position of the metal; although consumers are naturally holding off the market for the present, trade generally continues to be good, and with the more important producers showing no inclination to reduce their limit, prices for refined copper have been well maintained.

"There is still a lack of confirmation of the report, of which so much has been made, that China is anxious to re-sell some of her recent purchases. It is quite possible that holders were tempted, when prices were at a high figure, to take a profit on copper not immediately needed, with the intention of replenishing their stocks later. It would appear, however, that the recent break has altered the position; in any case none of this copper is now apparently available.

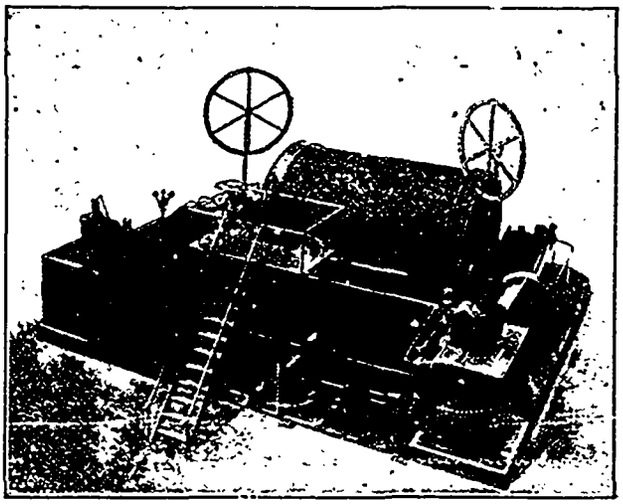
INDUSTRIAL AND MACHINERY NOTES.

The Imperial Steel & Wire Company, of Collingwood, Ontario, contemplate erecting important additions to their factory at that place, the cost of which will not be less than $100,000.

The De La Vergne Machine Company, East 138th Street, New York, send us a new catalogue, descriptive of the Koerting Four Cycle Gas Engine. This engine has been in commercial use since 1879, but has undergone numerous important improvements and is regarded to-day as a highly economical and efficient engine.

One important use for compressed air is in the operation of quarries. Messrs. Kelly Bros., of Winnipeg, have just purchased from Allis-Chalmers-Bullock, Limited, Montreal, six Haeseler Pneumatic Hammers for dressing stone. These will be operated by an Ingersoll-Sergeant Sir Compressor, Class "E," driven by a twenty-five H.P. induction motor.

The Calumet & Arizona Mining Co., of Bisbee, Ariz., is installing a Sullivan Corliss Cross-Compound steam two-stage air compressor, with a total piston displacement of 3,660 cu. ft., which, on account of the altitude at which the compressor operates is equivalent to an actual delivered capacity of 2,700 cu .ft. of free air per minute, against a terminal pressure of 100 pounds per sq. in., while running at 83 H.P.M. This machine is expected to attain a very high efficiency, being designed to run condensing, and to operate when carrying its most economical load on 15.2 pounds dry steam per 1 H.P. per hour. The steam cylinders are seventeen inches and thirty-four inches, and air cylinders twenty inches and thirty-four inches in diameter, with a common stroke of forty-two inches. Rolling inlet valves controlled by independent eccentrics are used on



both the high and low pressure air cylinders. Rolling discharge valves are also used on the low pressure air cylinder. In addition to these, a number of automatic poppet discharge valves are used on the same cylinder. The high pressure air cylinder is equipped with a full set of removable automatic poppet discharge valves, which act in a direction parallel with the steam piston rod. An interesting feature is the automatic oiling system, which lubricates all the working parts regularly and without the attention of the engineer. The machine will be used for operating rock drills and other pneumatic tools about the mines. The company already has 3 class WB-2 Sullivan straight-line compressors, giving a total air supply of about 5,700 cu. ft. per minute.

The Demand for Mechanical Stokers.—That the mechanical stoker has reached such a state of perfection as to be considered indispensable in the equipment of modern boiler plants is indicated by the large number of orders booked by the Westinghouse Machine Company for the Roney stoker, a type of their exclusive manufacture. During the past ten years this company has developed the Roney stoker by successive improvements until it has become capable of meeting successfully all the requirements of heavy modern service. During the past month orders have been received for no less than 51 Roney mechanical stokers, ranging in size from 54 inches x 20 grate to 132 inches x 26 grate, the largest of the orders being that of the Pennsylvania Railroad for six 132 inches x 26 grate stokers and five 100 inches x 20 grate stokers. A large order from the Ohio Hospital for Epileptics at Gallipolis, Ohio, has also been received and others from the American Bridge Company, Ambridge, Pa., National Tube Company, Pittsburg, Pa., Detroit United Railway Company, Detroit, Mich.; York Engineering Company, York, Pa., Proctor & Gamble Company, Cincinnati, Ohio; The Union Rolling Company, Cleveland, Ohio, Gulfport and Mississippi Coast Traction Company, Gulfport, Miss.; United Presbyterian Board of Publication, Pittsburg, Pa.; Indiana Boys' School, Plainfield, Ind., B. & O. Office Building at New York City and the Railway Exchange Building at Chicago, Ill.