

the gold, silver, or platinum metals in the Sudbury ores have been saved, and as yet no particulars of production are available. The platinum metals average about 1.25 oz., the gold 0.375 oz., and the silver is conservatively estimated at 7.5 oz. per ton. Dr. Barlow estimates the value of these metals produced from the beginning of operations to 1903, thus:—Gold, \$305,460; silver, \$195,286; platinum and allied metals, \$805,429. There may, indeed, be more of these precious metals taken out of Ontario than we suppose, for those in control of our nickel deposits are probably not interested in proclaiming from the house-tops the value of their by-products.



"TRANSITE" ASBESTOS FIRE-PROOFING LUMBER.

The advent of modern fire-proofing precautions, the renewed demands for the safeguarding of the public at large, and the exigences of strict sanitary conditions, call for something in the line of building construction which will meet the requirements to a high degree of thoroughness and economical stability. The H. W. Johns-Manville Co., of 100 William St., New York, the largest manufacturers of asbestos and magnesia fire-proof materials in the world, have put forth their efforts to produce a material which can be adopted by the modern architect, builder, engineer, and mechanic; something, which, in itself, will take the place of wood and other inflammable materials; and they are now able to put upon the market an asbestos lumber called "Transite Asbestos Fire-Proof Lumber." It is made in varying thicknesses from $\frac{1}{8}$ -in. to $\frac{1}{2}$ -in., and in standard sheets 40 by 40-in., or 42 by 44-in. It can be built up in larger sheets or curved as desired. In its simplest form, "Transite" is a firm fire-resisting board. Its main claim to a standing in the building world is its adaptability to an almost unlimited variety of requirements. It has been adopted by the Interborough Rapid Transit Company of New York City, both in the elevated and subway cars, for lining switch panel boxes, for the complete floor covering of the underbody of the wooden motor car, and on their sheathed and steel cars it is used in the deflector boxes and ducts for the motor leads, and for all car wiring. "Transite" is also being used as a flash board behind the fuse box on the third rail contactor. The Montreal Street Railway Co. have just placed an order for 150 linings for Type K-10 Railway Controllers, together with equipments, as above named. The Canadian Copper Co., of Copper Cliff, Ontario, have just completed a roofing on their works made of "Transite," consisting of 900 squares, 42 by 44-in. each, put in like shingles overlapped with "Transite" strip moulding for the up and down joints. This, in factory construction, directly overcomes a defect, hitherto unconquerable, where there is danger of corrosion on account of fumes, such as sulphuric acid fumes, etc., to which "Transite" presents an impassable barrier. A smoke-jacket, made of this material, is now available for the purpose of carrying off the acid fumes engendered in blast furnaces, and where the use of soft coal is prevalent. "Transite" is impervious to the attacks of acid fumes, steam and the elements.

It may be interesting to state the results of tests given to this material by the Shawinigan Water and Power Co., Shawinigan, Que. A piece of "Transite" was boiled in water for fifteen minutes, then taken out and boiled again for ten minutes. The edges warped very slightly, indicating a minute degree of absorption. It was then subjected, in its wet condition, to a fifteen-minute heat test over a white hot blast. The material came out whole, excepting for a slight hardening and brittleness, but retained all its fire-proofing qualities. It was then tested as an arc deflector on a circuit of 500 volts at 150 amperes. It took eleven minutes of constant arcing to burn a hole through it. This piece was only $\frac{1}{4}$ -in. thick. "Transite" was tested in conjunction with other boards of a similar character, and was the only one which stood the test; the others, after the boiling test, in the heat test, blew up, indicating the presence of much moisture which was absorbed during the boiling process.

Besides possessing these acid-, steam-, and moisture-proof properties, this board is absolutely vermin-proof, and in this regard its possibilities are unlimited for use in hospitals as a flooring, ceilings, walls, etc. Its non-absorbing qualities will practically eliminate the transfer of disease germs after thorough fumigation. "Transite" will take a screw or nail the same as wood, and can be sawed, cut, planed or otherwise manipulated to meet the requirements.

Further information may be obtained from The Fairbanks Co., 747-749 Craig St., Montreal, Que., who are sole Canadian sales agents.



POWER OF AN ENGINE.

Editor, Canadian Engineer:—

Sir,—As a subscriber to your paper for a number of years, I take the liberty of asking a few questions in regard to the Corliss engine. First, what power would be developed with a 24 by 36 cylinder with ninety pounds' steam pressure, speed ninety revolutions per minute, also 100 revolutions per minute, 115 revolutions per minute, and 125 revolutions per minute, same size cylinder and steam pressure to govern in each case?

It has also been stated by one of our leading manufacturers that the above engine equipped with an inertia shaft governor and double eccentric, running at a given speed per minute, with one hundred pounds' steam pressure, would develop 300-h.p.; while the same engine equipped with a double eccentric and an ordinary fly-ball Corliss governor would develop, with the same pressure and speed, 500-h.p. In other words, he claims that an engine with an ordinary Corliss governor would develop 200-h.p. more than the same engine with an inertia shaft governor. What has the governor to do with the development of power?

JOHN WHITE,

London, Ont.

London Bolt and Hinge Works.

Prof. R. J. Durley, professor of mechanical engineering in McGill University, answers the question, as follows: "I am not aware that the style of governor will have any direct influence on the power developed by the engine, this quantity depending primarily on the steam pressure, back pressure, cut-off, and number of revolutions. I should estimate that a 24-in. by 36-in. Corliss engine working with 90 pounds' steam pressure by gauge, and with a back pressure of five pounds absolute per square inch, would develop approximately the following indicated horse-power:

R.P.M.	$\frac{1}{2}$ Cut-off.	$\frac{1}{4}$ Cut-off.
90	500	340
100	550	380
115	620	430
125	670	470



CANADA CAR CO.

An important industry is being established in Montreal by the Canada Car Company, who have recently commenced construction on extensive car shops west of the city. This company was recently organized with a capital of \$3,000,000. The president is Mr. W. P. Coleman, of Montreal. On the board of directors are: Andrew Allan, Montreal; H. S. Holt, Montreal; E. L. Pease, St. John; Frederick Nicholls, Toronto; H. F. Hoffstadt, Pittsburgh, and E. A. Friend, Pittsburgh. Both American and Canadian capital is interested in the enterprise.

The company's shops, when finished, will have a capacity of fifteen freight cars per day, and ten passenger cars per month. Everything that enters into the make-up of a car will be manufactured. The plans show two main buildings, one 1,000 feet long by 280 feet wide, the other about 300 feet square. In one of these main buildings will be the pattern shop, foundries, and machine shop. In the other will be the planing mill, matching room, turning and upholsterers' shops and the erection shops. The arrangement of these shops provides for the most up-to-date and economical handling of the materials, and the machinery will be