

## RAILWAY MATTERS.

The rails are being rapidly laid on the Galt & Doon Railway.

The permanent way of the Toronto, Grey and Bruce Railway will be completed between Wroxeter and Teeswater in about a month, between Harriston and Wroxeter the work is not progressing so rapidly.

**THE ST GOTHARD RAILWAY.**—According to the latest official returns it appears that the progress made, up to the 30th of April, at the St Gothard tunnel, was as follows:—At north end, Goschman, 117 metres; south, Aisolo, 177 metres. Total length of gallery driven up to the 30th of April, 294 metres; to the 31st of March, 252 metres. Length driven during the month of April, 42 metres.

**PROGRESS OF THE HOOSAC TUNNEL DURING THE MONTH OF JUNE, 1873.**—Headings advanced westward, 131 feet; eastward, 126 feet. Total advance during month, 257 feet. Length opened from east end, westward, 14,084 feet. Length opened from west end, eastward, 9,540 feet. Aggregate of lengths opened to July 1st, 23,624 feet. Length remaining to be opened July 1st, 1,407 feet, being 87 feet more than one quarter of a mile.

A new car, intended for railway construction and ballasting purposes, has been introduced into the United States. The floor is composed of a series of trap doors, which, when open, make a kind of grating, and when closed form a level surface. Being loaded with ballast, and removed to any required spot, the contents, by simply loosening a bolt, drop through upon the track, and an arrangement beneath secures their distribution between and outside the rails, which are kept clear. The invention is claimed to cost but little above an ordinary platform car, and it evidently saves much time in shovelling.

In every car on the Connecticut River Railroad there is a box overhead, at one end in which is contained the name of the next station, which it is the duty of the brakeman to change as they leave the stations. And it goes further; it states where they connect with other roads. As the change is made, a bell strikes twice, which attracts the attention of the passengers, so that the box always exhibits the name of the next station, and so on. Thus passengers always know the name of the stopping place, and also if it connects with any other railroad.

**MACHINE FOR TESTING THE CONDITION OF RAILS.**—A Russian engineer named Sakhovsky, has invented an apparatus, a kind of differential gauge, of very simple construction, which is said to have been found to work admirably at the Moscow Terminus of the Nijni Railway, and on several other lines. The apparatus consists of a wooden beam, about five feet long, provided at one end with an articulated lever, on the shorter arm of which is a stud that presses, by means of a spring, against the inner face of one of the rails, and at the other with a fixed stud, the beam is drawn along the rails by a man by means of shafts, or it may be attached to a truck. As the gauge proceeds along the line, the deviations from the normal width between the rails is shown by the longer arm of the lever, which moves against a dial-plate. The apparatus costs only eight roubles, and its superiority over the common gauge is striking, especially as regards the rapidity and continuity of its action. The directors of the Nijni and other lines have adopted the invention, which we believe is patented. Such a gauge run along a line every morning might save many an accident.

SINGULARLY enough, the *Iron Age* argues that paper is to become the general, if not the universal substitute for wood, leather, and Indian rubber, as also, to some extent, for copper, tin, and zinc, and that even iron is not adapted to uses so widely various—it being practicable, indeed, to bring paper pulp to such a state of toughness and solidity, by pressure as to be almost as fire proof and indestructible as iron, and thus our railroad cars may be made of paper, instead of iron, thereby preventing the dangers now incurred in case of accidents. It is claimed that, in proportion to its weight, paper is, probably, the strongest material of construction known, combining more perfectly than any other substance the qualities of strength, lightness, flexibility, durability, and

cheapness. So many and various, too, are the articles which can be made, that it can be manufactured in quantities practically unlimited in every civilized country, and, so long as plants continue to grow, paper manufacture can be sustained. It is, also, under all circumstances, an easy material to work and handle. The fact is probably well known that the paper wheels which have been used with success on some of the palace-cars are formed of compressed paper fitted into a steel tire; iron plates are then adapted to each side of the paper, and bolted together to prevent any displacement of the filling.

## DOMINION.

A joint stock company has been formed at Teeswater for the purpose of sinking a well to ascertain if salt can be found in that locality.

The Hamilton city bell tower is now 35 feet high, and 26 feet more are to be added. Its appearance is at once substantial and ornamental.

The shipments of oil from the Petrolia station for the week ending July 10th, were 5,060 bbls. crude, 6 refined, and 2,940 distilled.

The Ecogashka Magnetic Iron Ore Company, with a capital of \$84,000 in \$50 shares, intends applying for incorporation to carry on operations in the county of Saguenay with the head office in the city of Quebec.

The total shipments of oil from Petrolia station from the 1st of July, 1872, to the 1st of July, 1873, were 495,423 barrels. The totals for the three kinds shipped:—crude, 386,286 bbls.; refined, 13,195 bbls.; distillate, 95,942 bbls.

The Belleville Ontario says:—Mr. Vennor, of the Geological Survey, is at present making some explorations in Hull and Templeton. He reports favorably on one or two deposits of Baryta. The iron will require some further investigation; as will also the Apatite or Phosphate of Lime. Dr. Harrington will visit both the Hull and Haycock Mines during the coming week.

Very favourable accounts are given at San Francisco of the Douglass coal sent from Newcastle Island by the Vancouver Coal Co. It is reported that the Pacific Mail Steamship Company will become customers for a large quantity of Nanaimo's Black Diamonds, which are the best produced on this coast.

The Lower Fraser *Guardian* says coal of superior quality has been discovered at Chiliwhack by an Indian, who has made known its locality, and a company has been formed to work it. The seam is half a mile from Chiliwhack River, and eight miles from the Frazer. Caverns—in one of which Mr. Shannon, one of the prospecting party, walked 300 feet, are seen there.

**GODERICH.**—An English and Canadian Salt Company, with a capital of \$130,000, have purchased, to-day, the large farm to the south of the town known as the Wilson farm, for the sum of \$9,000, where they intend to commence at once the manufacture of salt on a large scale. The demand for Goderich salt has now become very great in the Western States, and the wells at present in operation, to the number of thirteen, cannot half satisfy it. There are half a dozen buyers in town now from Chicago, Milwaukee and other places in the West, and we may expect to see any number of wells put down during the season. Property has increased in value fifty per cent., and buildings are going up in every direction and Goderich promises to become a very important place.—*Globe* of the 8th July.

**ARTIFICIAL INDIAN INK.**—C. Kochlin, of Mulbausen, finds that by mixing lampblack with ten times its weight of sulphuric acid (sp. gr. 66° Beaumé), allowing the same to stand for some hours, and then washing out all the acid, the material has acquired the power of mixing readily with water, and possesses all the properties of genuine Indian ink.