$1,250,000, including engineering and architectural fees and the carrying charges during construction. It will be managed and operated by Messrs. J. and L. M. Wood, Toronto, It is being built to the designs of Messrs. Ross and Macdonald, architects, Montreal and Toronto, to whom we are indebted for the photographs and drawings illustrating this description of foundation work. The whole of the steel-work for the building and foundations

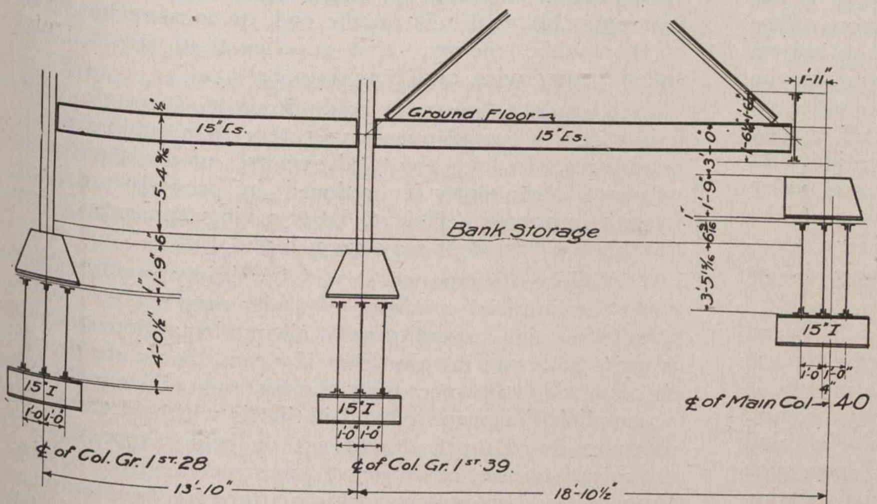

Fig. 7.

was designed by Messrs. Purdy and Henderson, Montreal. The steel is being supplied by the Dominion Bridge Company. Mill, shop and field inspection of all steel and testing of cement are being carried out by the Dominion Engineering and Inspection Company, Montreal and Toronto, to Mr. B. W. Seton of which firm we are indebted for much of the above information. The George A. Fuller Company, Limited, of New York, are the contractors and expect to have the building ready for occupancy in October next.

MOVING AN 8,000-TON BUILDING.

According to a recent article in the London Times an 8,000-ton three-story brick school building has been moved 1,650 ft. by placing it on a raft of timbers, cutting it loose from the supporting steel columns, hauling it across some sandy ground, four streets, and two street car lines, and turning it through an angle of nearly 180 deg.

The building rested on 60 steel columns, the heaviest load on an interior column being 135 tons and on an exterior column 160 tons. In preparing the building for the journey it was shored up on 12-in. by 12-in. timbers running under the floor-beams. The building is 142 ft. wide and 120 ft. deep. The columns are symmetrically spaced about the centre of the 142-ft. side, but are irregular in the other direction, which accounts for the uneven spacing of the 14-in. by 14-in. needles under the 12-in. by 12-in. cross timbers which were placed near the ends of each row of columns, even though there were only two columns in the row. Extra runs were placed near the end to take the extra wall load. As the footings for the steel columns extended below the ground surface into the basement the columns were cut off square about 4 ft. below the bottom of the floor-beams. Before removing the bases templets for the splices were applied and holes drilled in the portion above the cut, while prick marks were made on each footing. As the interior load was carried not by the cut-off columns, but by supports near it, 12-in. by 12-in. shores were placed on four sides of each column from the first floor to the second. On the shoring runways ½-in. by 6-in. steel plates were laid to receive the load from the 12-in. by 12-in. runners, 6-ft. long, under which were placed two similar steel plates turned up at the ends. There were 16 of these runners on each of the 19 runways and about 2,000 of the 3-in. steel rollers 2 ft. long. More than 1,500,000 ft. of 12-in. by 12-in. timber was used in the raft and shoring.

The blocking on the sandy ground rested on 6-in. by 8-in. ties laid close together with the material tamped under them as for a railway. Above these a blocking consisting of planed 4-in. by 10-in. timbers, and 6-in. by 8-in. or 6-in. by 6-in. cross-ties shimmed up to the bottom of the two 12-in. by 12-in. runway timbers, was used, the track plates being laid on the top of these last.

The pull was applied to six points at the rear of the building by 2-in. plough steel wire cables passed round the 14-in. by 14-in. timbers of the raft. Two loops in the centre permitted shackles to be attached at three points in the main cable. To these three shackles were attached triple blocks having seven strands of 1-in. wire rope leading 100-ft. away to the opposite blocks attached to a deadman. From the triple blocks a luff was made to double blocks, also attached to the same deadman, and a second luff, with a single block giving three strands of the 1-in. rope ending in a ⅝-in. cable, led to the drums of the hoisting engines used. The strain on the ⅝-in. cable was about one foot.

On the average the structure was moved 40 ft. each day, but the time actually spent each day in moving was only 30 minutes, the remainder of the time being taken up in carrying forward the runways and rigging the tackle and blocks. The building was moved a short distance and then turned slightly less than 90 deg. about the centre of the front wall as a pivot, after which the movement was in a diagonal line. It was again turned through almost a right angle, so that in its new position it faces in the same direction as before moving.

SLAG TAR MACADAM.

Slag tar macadam is a material very graphically described by its title. It consists of an improvement upon the early idea of tar macadam by the employment of a specially prepared furnace slag in the place of the usual road metal. In describing this product, it is stated that the metal consists of specially selected blast furnace slag, broken to standard gauges, mixed with selected tar and other ingredients, and specially treated for quick hardening by the company's own plant. The material is mixed hot by their own specially designed machinery, and stocked to mature. It is laid cold on the roads in one or more coats according to the nature and class of traffic, and the surface treated with fine chippings. As it sets very rapidly, there is no delay in opening the road to traffic. After a period of from one to three months when the surface has become completely solidified by traffic a dressing of specially prepared tar and chippings is applied. The initial cost is stated to be very little greater than that of an ordinary macadam road, whilst the life of the road is understood to be 80 per cent. longer. The surface of a slag tar macadam road is dustless and not slippery.