in large quantities and hold for favorable markets, and the economic results on even a portion of the total imports into the United Kingdom, amounting to about 500,000,000 bushels per annum, would pay in a year for probably one such installation.

Cost of Elevators.—The cost of modern elevators has ranged from 40 cents to \$1 per bushel of capacity, so that a million-bushel house costs from \$400,000 to \$1,000,000. The harbor commissioners' system, with a storage capacity of 5,000,000 bushels, and with its extensive conveyer system providing galleries to nineteen berths, will cost about \$5,000,000, or \$1 per bushel. Elevators of similar type and working capacity can be built without the conveyer facilities for about 60 to 70 cents per bushel.

A detailed description of the construction of the latest elevator is given in an appendix.

Of importance to engineers and architects and builders is a section of the paper on Vibration Tests of Reinforced Concrete.

Considering the experiments as a whole, it would appear that the effect of the vibration was to increase the tensile and crushing strengths of the concrete, rather than to reduce them. This is probably due to the fact that the vibration had the effect of compacting the concrete, filling the voids more completely, and driving out any air bubbles.

General Organization.—The banks and river-bed making up the area included in the limits of Montreal harbor are owned by the Federal Government of Canada, represented by the Minister of the Department of Marine and Fisheries. Within the limits of the harbor is included the two banks and the bed of the River St. Lawrence for a distance of about 17 miles. The area of land, improved and unimproved, is approximately 350 acres.

By statute the administration and control of this property are entrusted to the harbor commissioners of Montreal, a corporate body having exclusive powers by Act of Parliament for the improvement and management of the harbor, subject to approval by Order-in-Council. Except for police and fire jurisdiction the harbor is quite separate from and independent of the city. The commissioners build and maintain all roads on their territory, do the electric lighting, and have absolute control of traffic.

From absolutely unimproved shores in 1830, the harbor has been developed until now the value of the land, without including the extensive improvements, is much in excess of the bonded debt of about \$20,000,000.

The present harbor commissioners are: Mr. W. G. Ross, president; Mr. Farquhar Robertson and Lieut.-Col. A. E. Labelle; Mr. David Seath is the secretary.

Ocean Tonnage.—The number of sea-going vessels which arrived during 1913 was 820, with a total net tonnage of 4,690,535 tons. An equal number of vessels with the same net tonnage departed.

COPPER-BEARING STEEL SHEETS.

B. and S. H. Thompson and Co., Limited, Montreal, announce that they are prepared to supply samples and descriptive booklets of Keystone copper-bearing steel sheets. These sheets were placed on the Canadian market last year, and it is claimed by their makers that they have greater durability than ordinary steel sheets and that they are therefore particularly adaptable for use in the manufacture of all exposed sheet metal work.

A NEW PATENTED GARBAGE CAR.

As cities increase in size, the disposal of garbage becomes of more and more importance and in connection with garbage disposal, the following points must be considered.

(1) The garbage disposal plant must be located so that it will not be a nuisance to surrounding property. This means that it will often be located some distance from the centre of the city, and too far out to haul the garbage to the plant by horse and wagon.

(2) The receptacles in which it is conveyed must be water-tight to avoid leakage of the material and consequent nuisance on account of the odor.

(3) The receptacles must be constructed so that they can discharge their contents with minimum labor and cost.



For cities located on the sea-coast, the material is generally loaded into barges from the garbage wagons; but for the interior city, this method is not possible, and the garbage disposal plants are usually located some distance out from the city and on a railroad.

A switch is then obtained as near the centre of the city as possible, and the garbage wagons go to this point and dump their loads in large capacity cars which are hauled to the garbage destruction plant. The type of car which has proven most satisfactory for this purpose is shown in the cut. It consists of a large tank with semi-circular bottom and capacity of 1,200 to 1,800 cu. ft. The tank rests on rockers at the ends and at intermediate points on rollers so that it can be dumped and righted with the expenditure of very little power. These cars are built to conform to standard M.C.B. requirements in every respect, and are accepted for transit on their own wheels by any railroad. Large quantities of these cars have been supplied to Cleveland, Columbus, Toledo, St. Louis, and a number of other cities by the Orenstein-Arthur Koppel Company, of Koppel, Pa., who control and have patented the design.

DISCUSSION OF TRANSIT FACILITIES.

An interesting topic and one of great economic importance at the forthcoming International Conference on City Planning, in Toronto, will be the improvement of rapid transit facilities in our growing cities. A paper on "Provision for Future Rapid Transit: Subway, Elevated or Open Cut and their Influence on the City Plan" will be delivered by J. V. Davies, Consulting Engineer, Brooklyn Rapid Transit Company, and will be followed by another paper on "Rapid Transit and the Auto Bus," by John A. McCollum, Assistant Engineer, Board of Estimate and Apportionment, New York City.

An estimate of the water extensions necessary for this season at Fredericton shows a total cost of work that will be about \$8,000; while the estimate furnished on sewer extensions approximates a cost of \$10,420.