

### DEPOSITING CONCRETE UNDER WATER.

Laying submerged concrete for the Nussdorf lock at Vienna was described in the *Zeitschrift* of the Austrian Society of Engineers recently. The excavation was made to a depth of 26'24 feet below water level and a very large mass of concrete was deposited over the surface through movable vertical chutes. The lock has a total width of 92 feet over all and 49'2 feet clear inside. The excavation was made full width between sheet piling, and the bottom was filled in with rammed sand and gravel so as to form a kind of invert, with its upper surface horizontal in the middle and sloping upwards a little on both sides. On this foundation was built a mass of concrete having a total thickness of 13'12 feet in the centre, where the upper surface was 13'12 feet below water level. At the sides of the lock the concrete walls were carried up to a height of 3'28 feet above water level, with a thickness of 8'2 feet. Three longitudinal rows of piles were driven on each side of the axis of the lock and supported a six-rail track about 7 feet above water level. On this track moved three carriages which spanned the full width of the lock transversely. Each carriage had three trolleys, one in each of the main panels of the transverse bents of piles. Each trolley carried a vertical telescopic tube through which concrete was deposited on the bottom of the lock. The tops of these tubes were level with a transverse track which ran from end to end of the carriage. The ends of these tracks just cleared the outside rows of piles which, on one side of the lock, supported a distribution track parallel with the axis of the lock. The concrete was delivered by dump cars running on the distribution track which delivered it to smaller dump cars on the carriage tracks. These cars in turn discharge their contents into either of the three chutes on each carriage. The carriages were traversed from end to end of the lock, and as each chute moved nearly one-third the length of the carriage, the whole area of the lock was commanded by the nine chutes. The concrete was deposited in three horizontal layers 3'28 feet thick, but these layers were not laid

continuously, being built in comparatively narrow banks or ridges, so that the different strata would key together and form a corrugated mass that was thought to be more satisfactory than one with continuous horizontal joints. As the concrete was deposited the chutes were shortened, and the three layers were successively placed. After the main body of the bottom and the side walls had been built by this method, the water was pumped out and a 23-foot layer of concrete was rammed over the bottom and completed with a finishing surface 0'9 foot thick. The chutes were of different lengths in the three carriages, the first ones depositing the concrete up to a level of 23 feet below the surface, the next set depositing the concrete between that level and 19.7 feet, and the last completing the sub-aqueous work up to the final height of 16.4 feet below the surface.

### CONVENTION OF MASTER PAINTERS.

The annual convention of the National Association of Master House Painters and Decorators of United States and Canada will be held in Toronto, February, 9, 10, 11 and 12, 1904. This will be really the first international convention and it is being looked forward to with considerable interest. It is expected that there will be a large attendance of painters from the leading Canadian cities and towns.

### Speight & Van Nostrand LAND SURVEYORS, ETC.

Room 405 Temple Building, TORONTO, CAN.  
Field Notes of the late F. F. Passmore.

The Northern Industrial Company, Limited, of Montreal, has been incorporated, to manufacture charcoal products, lumber, pulp, paper, etc.

The Winnipeg Ceiling & Roofing Company has been incorporated at Winnipeg, Man., with a capital of \$50,000. The promoters are William J. McMartin and M. J. McMarrin, of Duluth, and W. D. McFarlane, H. M. Howell and J. G. Mathers, of Winnipeg.

### THE GREY AND BRUCE PORTLAND CEMENT COMPANY of Shallow Lake, Limited.

Manufacturers of

### "HERCULES" BRAND OF PORTLAND CEMENT

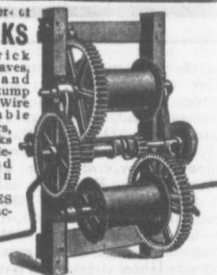
Very finely ground. Unsurpassed for Sidewalks, Floors and all work requiring the Highest Grade of Portland Cement. For prices address,

A. D. CREASOE, Sec'y-Treas.  
Head Office, Owen Sound, Ont.

Manufacturers of

### L. ERRICKS

and Derrick  
Irons, Sheaves,  
Hooks and  
Chains, Stump  
Pullers, Wire  
and Cable  
Stretchers,  
Tackle Blocks,  
Material Elevators,  
and  
Hoisting  
Engines,  
and Contractors'  
Supplies.



National Hoist & Machine Co.  
463 West 22nd Street, Chicago

## R. F. WENTZ ENGINEERING CO.

Consulting Engineers and Cement Work Specialists

Designing Cement Plants. Specifications and Estimates.

Superintendence of Construction.  
Inspection and Reports of Cement Material and Properties.  
Analysis and Tests of Raw Material and Cement.

Designed and constructed 24 CEMENT PLANTS in United States and Canada.  
20 YEARS PRACTICAL EXPERIENCE designing, constructing and operating cement works.

CEMENT PROPERTIES FOR SALE.

For further information address— ROBERT F. WENTZ, M.W.S.E., PREST

OFFICES: 12-15 Babb's Block, - - NAZARETH, PA., U. S. A.  
509-510 Manning Chambers, TORONTO, ONT., CAN.

## The Canadian Bridge Co., Limited

WALKERVILLE, ONT.

MANUFACTURERS OF

## RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables,  
Roofs, Steel Buildings and  
Structural Iron Work of all descriptions

## PORTLAND CEMENT, HYDRAULIC LIME, CHINA CLAY

E. FREEMAN, 20 Bucklersbury, LONDON, ENG.



Sole Agent for U.K. and Colonies for Oldest Continental Works



Supplying to Contracts on the Principal Railways, Large Sewage and Sea Defence Works, etc., in England. Will be Pleased to Quote to the Wholesale Trade Only.

CORRESPONDENCE INVITED FOR CONTROL OF BRANDS