

of 15/16-in. have been broken, as well as the ordinary type of hydrants.

William W. Brush, deputy chief engineer of the water works department of New York City, has advised the American Water Works' Association that there are several possible answers to the problem. First, there is the flush hydrant, but this type has not yet made appreciable progress. Secondly, in Boston a change has been made in the type of post hydrant which up to date has opened with the pressure. The compression type of hydrant opening against the pressure, is being substituted. A third possible solution is to move the hydrants from the curb line to the building line, but most water works superintendents will probably leave the hydrants in their present location and assume the additional cost of maintenance.

The cost of repairing the broken hydrants is materially reduced if the standpipes are repaired by welding, which can be done successfully with modern machinery, says Mr. Brush, at a cost of from \$6 to \$8 per standpipe.

CEMENTS PRODUCING QUICK-HARDENING CONCRETE

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maximum strengths. It should be remembered that the high early strengths are due entirely to rapid and more thorough hydration in the short intervals.

After the high results of the 1:6 concretes were obtained, it was thought desirable to make some leaner concretes. Consequently a 1:3:9 gravel concrete was made, using certain of the cements of which there was a sufficient amount available. Even such lean concretes developed surprising strengths in several cases. This is especially true of cement No. 8 which developed a strength of 3,415 lbs. per sq. in. at 28 days and 3,980 lbs. at 90 days, and a maximum strength, by the combined storage, of 4,445 lbs. per sq. in. at one year.

In conclusion it may be stated, therefore, that the aluminates of lime, even when they contain such amounts of impurities as 10% silica and 3% iron oxide, constitute a material which is a very valuable cementing medium when gauged with water. This particular value lies in the high early strengths which they develop. The greater the amount of the alumina present, as an aluminate of lime, the greater will be the early strength. Under certain conditions of curing there is a marked increase of strength with age, but this does not extend over a very long period of time. It also appears that if the concrete is subjected to an excess of water during curing there will be a decrease in strength. Such amounts of moisture as are usually present in the air do not materially affect the strength. It appears, therefore, that these cements might be of considerable value for certain special uses, where the principal requisite would be quick hardening.

The United States Engineering Societies' Employment Bureau received 2,891 applications for employment from December 1st, 1918, to May 1st, 1919, and placed 423 of the applicants. The total expenses from January 1st to May 31st were \$5,815. The manager of the bureau states that there is every reason to believe that many more have been placed who have failed to notify the bureau, so that the average cost of placing these men probably did not greatly exceed \$10.

The Ohio Electric & Controller Co., of Cleveland, Ohio, have appointed the following representatives:—Kelly Powell, Ltd., 403 McArthur Bldg., Winnipeg; Wonham Bates & Goode, Inc., Dominion Express Bldg., Montreal. They have also appointed the following export agents:—Gustave Neilson, A. S., Christiana, for Norway, Sweden and Denmark; Mitsui & Co., 65 Broadway, New York, for Japan, China, Phillipine Islands and Hawaii; Wonham Bates & Co., Inc., 17 Battery Place, New York, for Great Britain, France, Cuba and South America.

PERSONALS

LT.-COL. HAROLD L. TROTTER, who is a partner in the Henry Holgate firm of consulting engineers, Montreal, recently returned to Canada in command of the 11th Battalion, Canadian Engineers. Col. H. L. Trotter is a son of Col. W. C. Trotter, who for many years has been president of the Standard Clay Products, Ltd., of St. John's, P.Q., and New Glasgow, N.S. Col. H. L. Trotter graduated in 1903 from the Royal Military College, Kingston, with high honors, and then joined the firm of Ross & Holgate, consulting engineers, Montreal. When Mr. Ross and Mr. Holgate dis-

solved partnership, Col. Trotter joined Mr. Holgate as a junior partner. When war was declared, he enlisted immediately in the Canadian Engineers and was employed on fortifications below Quebec, and later installed new machinery in the Quebec Arsenal. He was also engaged in the construction of the Artillery Testing Depot in Quebec. From there he proceeded to Ottawa and, with the rank of major, took charge of an engineering company, but in England he was transferred to the 4th Division and placed in command of the 11th Field Company, which later became the 11th Battalion. This battalion particularly distinguished itself at the Somme in September, 1916, and at Canal du Nord two years later. The battalion was engaged in many other operations, however, including Vimy Ridge, Desire Trench, Arleux and Fresnoy, Lens, Hill 70, Passchendaele, Arras, Queant Drocourt Line, Denain, Valenciennes and the advance towards Mons. Col. Trotter was twice mentioned in despatches and was awarded the D.S.O.



DR. FRED A. ADAMS of the Department of Health, Toronto, has been appointed medical health officer for the Essex border cities by the Essex Border Utilities Commission.

LIEUT. RAYMOND STEVENSON, of Fredericton, N.B., who recently returned home after four years' service overseas, has received an appointment on the Welland Canal staff.

JOSEPH RACE, formerly city chemist and bacteriologist of Ottawa, Ont., returned home this week after six months' service in Siberia with the Canadian expeditionary force. Capt. Race will sail next week for a two or three months' visit to his former home near Manchester, England.

OBITUARY

FRANK N. McREYNOLDS, of the firm of Fussell & McReynolds, sewer contractors, Toronto, was accidentally drowned last Friday night at Honey Harbor, Ont., where he had gone for the purpose of repairing his summer cottage. A plank, across which Mr. McReynolds was walking, broke and dropped him into seven feet of water, where he was found on Sunday morning. It is thought that one end of the plank struck him on the head, rendering him unconscious. Mr. McReynolds was born 36 years ago at Cleveland, Ohio, but had resided in Toronto for the past eight years.