

teen storey "sky-scraper," however, a totally different plan prevails. After the excavations have been made, heavy steel beams or old rails are laid down and the spaces filled in with a concrete mixture of broken stone, cement and sand. This in a short time solidifies into a rigid mass of enormous strength, and the result is a footing course of practically a single stone to bear the weight of the great steel structure to be erected upon it. The builders and architects of Chicago are entitled to the credit of introducing this system, the soft nature of the ground and the vast size of the buildings necessitating a construction of the kind. The results were so superior to the old-fashioned way that the plan was speedily taken up in other cities and to-day there is scarcely a great building in any of the large cities which does not rest on a concrete mass.

Thousands of tons of crushed stone are used in a single building. Crushed stone and cement go hand in hand as concrete and assume various forms. Solid arch bridge work is just coming into use in the United States, but is old in Europe. Time and the elements have little effect upon these structures where honest material and honest work are the rule. England and Germany have worked out this form of construction with the most complete details. The crushed stone industry has a promising future in the United States.—Cement and Engineering News.

WATERWORKS DISPUTE.

Some time ago the Water Commissioners of Windsor, Ont., three in number, decided by a vote of two to one that a water filtration system was needed to furnish the city with a pure supply of drinking water, and accordingly a contract was made with McDougall and Sons, of Montreal, to furnish a polarite filter for \$40,000. Many people were against the

expenditure of the money, claiming it to be unnecessary, and considerable dissatisfaction was created all round. Recently the matter was brought to a climax by the issuance of a writ through Clarke, Bartlet & Bartlet, attorneys, against the commissioners, restraining them from appropriating the money of the Water Board for a filtering system. It is now proposed to test in court the legality of the commissioners' action, and if possible have a permanent quietus put to the proposition. Physicians differ as to the purity of the present water supply, and it is claimed by some that although the water is good enough for use in cold weather, when heat comes matter is generated in Lake St. Clair which has a tendency to germ-breeding, and consequent possible outbreaks of typhoid and other fevers.

PURIFICATION OF WATER.

The purification of drinking water by means of ozone has now been carried out on a large scale at Oudshoorn, Belgium, for over a year. The water source at this place was polluted, being, when untreated, absolutely unfit for use. At the first con-

tact of the water and the ozonized air the greater part of the microbes are killed, few however offering resistance, to kill which seven or nine minutes of constant application are required. A remarkable example of the power of ozone for this purpose is mentioned, namely, that of seventeen sample tubes thus treated, sixteen remained sterile. It has also been found that the ozonized water is very much less liable to reinfection than water which has been merely filtered, and that the beneficial salts in water are scarcely affected by ozone, while both the color and taste of the water are modified favorably. The only difficulty in the application of this process hitherto has been the want of perfectly constructed apparatus to produce the ozone economically and in large quantities—a difficulty lately overcome by Dr. Repin's process. The method of treatment in question depends, in respect of cost, upon the amount of organic material in the water and the price of coal, so that in the treatment of Seine water, for example, the expense is given as less than one horse power per hour for the sterilization of five cubic meters.

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