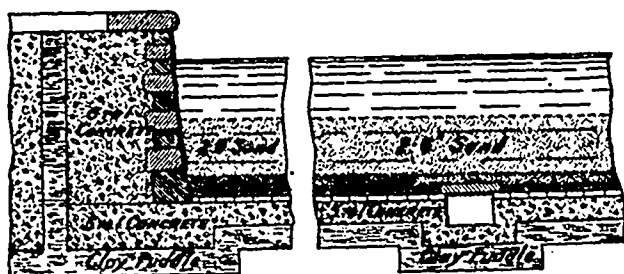


built in the walls of the tanks to expel the air from the bottom.

Each tank has a level trough across one end, about three feet above the water line, which delivers the water to the filters in a thin film over a lip 110 feet long. The filter water is drawn from the tanks into a basin holding 1,000,000 gallons. Each filter tank is provided with inlet and outlet valves, and first-class appliances for quickly cleaning and washing over the sand when the filters become so dirty that they fail to work properly.

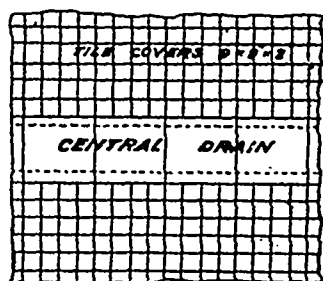
The six tanks are side by side, and each on the same level; five are always kept working, and one cleaning, which is done by scraping about two inches of the sand from the top, which is riddled and carefully washed, then spread out again.

SECTION ACROSS CENTRAL DRAIN SHOWING FILTERING MATERIAL



The Bradford supply is chiefly rain water collected from the hills in North Yorkshire, and is passed downward through the sand, leaving any dirt it may contain on the surface of the filters. The works were erected from designs prepared by the town engineer, Mr. Binnie, who has since left the corporation. They are now erecting another set of five filters at Chellow Heights, together with a reservoir, from plans prepared by James Watson, C.E., the present Bradford waterworks engineer. It will be seen by the accompanying

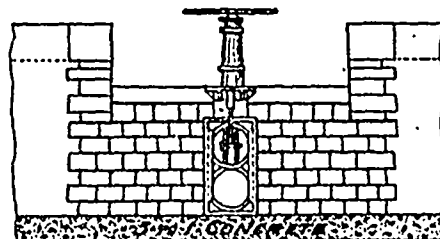
PLAN SHOWING TILE FLOOR COVERING



sketches that the inlet and the outlets of the filters are differently and better arranged on a less expensive style, while the mode of filtering is similar to the ones at Gilstead Moor.

The Bradford waterworks are all gravitation works. They supply 31 small towns having a population of 440,000, together with 226,610 of their own people, besides water for trade purposes to numerous dye works and manufacturers. The levels supplied vary from 200 feet to 1,200 feet above sea level. The rain fall, which is the source of supply, averages 42 inches per year.

ELEVATION



The collecting hills are about 50 miles from the town, and their elevations range from 600 to 1,475 feet above the level of the sea, and they measure over 13,000 acres. The water is stored when collected in nineteen reservoirs having a total capacity of 3,076,365,000 imperial gallons. The quantity used daily for manufacturing purposes through meters averages 21½ gallons per head, and for domestic use, without being locally measured, is 20½ gallons per head, making a total consumption of over 27,897,620 gallons of water per day, and is supplied at a pressure up to 200 lbs. to the square inch. The income amounts to nearly \$700,000 per year; the expenditure being a little more for the year 1895.

NO SMOKE.

The development of manufacturing interests in Canada has not yet reached a stage in which smoke prevention becomes a topic of great importance. Our large industries are not always in our large cities. Where this is the case, the drier atmosphere of Canada makes less noticeable the evil effects of smoke than are they in England. Existence in some English manufacturing cities, such as Sheffield for example, is rendered burdensome to all but those inured through a life-long experience to the noisome and dingy fumes. From a scientific standpoint smoke is a nuisance, and a preventable one, but, commercially, manufacturers claim smoke is a necessary evil. In England they have a Smoke Prevention Act, but legislation which demands the impossible, or that which is generally believed to be impossible, is usually more honored in the breach than in the observance. A movement has been under way for some time in England to demonstrate the fact that smoke prevention may be carried on upon an economical scale, the promoters believing that no argument in favor of reform is so potent as the short and simple statement, "it pays."

A large number of gentlemen eminent in science and commerce are included in the executive of the committee for testing smoke-preventing appliances. The president is Lord Egerton, of Tatton, while a duke, two bishops, two or three earls, and about a dozen mayors are members of the committee. A. E. Fletcher, formerly chief inspector of Alkali works, is the originator of the movement.

The object of the movement is told in the opening passages of the report of the committee.* The task of selecting the best method of effecting the reduction of smoke is not an easy one for the coal consumer. Very costly appliances sometimes fail to produce this end, and this has deterred others under the fear they will make large outlays in vain. Under these circumstances those interested in forming the committee came to a conclusion that a great step towards smoke-prevention

*Published by the Guardian Printing Works, Manchester.