Each of these filters has a diameter of 8 feet and has a capacity of 3,000,750 gallons per day of twenty four hours.

Fig. 3.—General View of Filter House Interior.

After passing through the filter, the water goes into two covered tanks in the adjoining house and with a capacity of 250,000 gallons each, which are purposely reserved for that purpose. These tanks serve to equalize the delivery of filter water to the trunk main and thus avoid direct draughts being made upon the filters themselves.

In the annex referred to are placed the lime and alumina tanks, as well as the machinery for actuating the washing mechanism of the filters and the electric lighting plant. The alumina solution tanks are shown in Fig. 4, and the gauge will be noticed at the nearest end of the tank just next to the ladder. These tanks have their own flow indicator and gauge and are so arranged that they maintain a constant supply to a distributing tank with a ball valve in the filter house.

Cleansing of the filters is done once every 24 hours and takes for the 24 filters about thirty minutes. This cleansing is accomplished by reversing the current of clean water through the filters, at the same time passing a current of

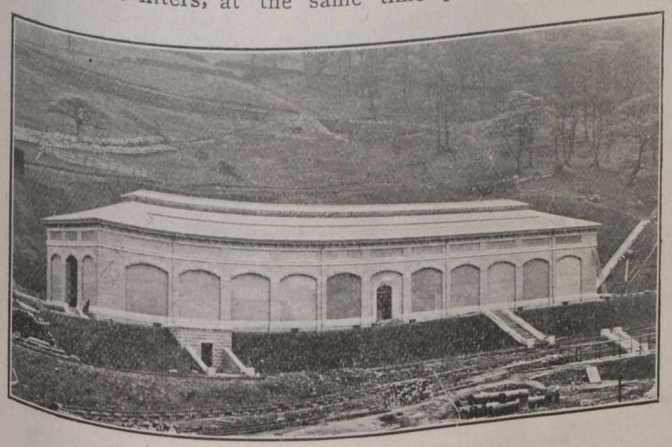

Fig. 2.—Showing Filter House.

clean water into the hollow shafts and wash arms, and also revolving the wash arms through the bed by means of a gearing supplied for that purpose. In this way the whole of the impurities which have accumulated in the filters are quickly separated from the filtering material and carried out through the washout valves and bell mouth to the sedimentation tanks. The quantity of wash water used is about three-quarters of one per cent. of the total amount filtered. After this is done the impurities in the wash water quickly precipitate in these tanks and the clear water is then discharged into the river. When cleansing is done it is only the filtered water from the other filters that is used for the purpose.

The process of washing out and stirring is continued until the water issuing from the washout tap is quite clear and free from dirt.

As showing the efficiency of the Stockport plant attached, we print herewith a report and test made by Sheridan Delepine, M.B., C.M.M.Sc., assistant director of the Public Health Laboratory, University of Manchester, under date of December 21, 1912. This report speaks for itself.

UNIVERSITY OF MANCHESTER.

December 21, 1912.

Public Health Laboratory,
York Place,
Manchester.

Sheridan Delepine, M.B., C.M.M.Sc.,
Assistant Director.
E. J. Sidebotham, M.A., M.B.,
Bacteriological and Pathological Section.
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S. M. Ross, M.D., D.P.H.,
Chemical Section.
H. Heap, M.Sc.

Received on 13th December, 1912.

Nature of sample...Water Where collected.Kinder Reservoir
Name of sender.Bell Bros. Address .....Ravensthorpe

UNFILTERED.

GGG

Quantitative Analysis	Average results of examination	
A, Acrobic micro organisms growing in 3 days in nutrient gelatine at 20° C. to 21° C.	No. of colonies in one gramme 15'43 grs. water	No. of kind Bacteria Recognizable
Non-liquefying bacteria	28	2
Liquefying	51 Total	8
Total	139	
Other micro-organisms		
B. Anaerobic Micro-organisms		

FILTERED. Results of 3 examinations

AS ABOVE TOTAL o

Analysis by **E. J. Sidebotham**

Remarks upon the meaning of the results of the analysis

The results are so perfect that comment is unnecessary.

Signed **SHERIDAN DELEPINE**

The Bell Filtration Company of Canada, Toronto, the Canadian company building the filters of the type herein described, have just completed the installation of a plant at Haileybury, Ont.