

Weather Troubles, by Charles R. Bettes, chairman. Reports of officers and standing committees. Nomination of members of the Nominating Committee. Selection of place for holding the 1921 convention.

Evening

8.30 p.m.—The Water Works Manufacturers' Association invite the men to a smoking concert and cabaret, Rose Room, Windsor Hotel.

Thursday, June 24th, Superintendents' Day

Forenoon

9 a.m.—Report of committee on Standard Specifications for Water Meters, by Caleb M. Saville, chairman.

Topics for general discussion:—

"What is the Proper Size of Meter for Multiple Family Houses?" Introduced by short papers by H. P. Bohmann, G. A. Elliott, D. W. French, W. R. Edwards.

"Testing Meters in Series." Introduced by short papers by J. A. Murray, C. M. Saville, Fred. B. Nelson.

"Experience with Compound Meters." Introduced by short papers by C. M. Saville, Seth M. Van Loan.

Afternoon

2 p.m.—"The Prevention of Water Waste on Railroads," by C. R. Knowles. Illustrated with lantern slides.

Topics for General Discussion:—

"What is the Legitimate Use of Water?" Introduced by short papers by E. W. Cuddeback, C. M. Saville, W. W. Brush.

"Some Aspects of Electrolysis," by Dr. Gellert Alleman. Illustrated by lantern slides. "The Revenue Chargeable to Public Uses of Water in the City of Rochester," by Stephen B. Story.

Evening

8 p.m.—"Damage to Deep Wells by Sea Water," by Dr. William P. Mason.

"Cost-Plus Contracts in Water Works Construction," by G. W. Fuller.

"The War Burden of Water Works in the United States Continues," by Leonard Metcalf.

Thursday, June 24th, Chemical and Bacteriological Section

Forenoon

9 a.m.—Special Session on Quality of Water.

"Quality of Water," by George A. Johnson.

"Standards of Quality of Water," by Jack J. Hinman, Jr.

"Index Numbers and the Scoring of Water Supplies," by Abel Wolman.

"Recent Progress in the Fight Against Typhoid Fever," by W. J. Orchard.

"Controlling Water Purification Plants in the Province of Quebec," by MacH. McCrady.

"The Operation of Small Water Works Plants from the Viewpoint of the Quality of the Water," by Paul Hansen.

"Co-operative Research in Water Purification," by Abel Wolman.

Friday, June 25th

Forenoon

9 a.m.—Entertainment Committee in attendance to take party to inspect the filtration plants of the city of Montreal and the Montreal Water and Power Company. Returning to the Windsor Hotel at 1.00 p.m.

Afternoon

Visiting and getting better acquainted.

Evening

7 p.m.—Entertainment Committee in attendance to give full information and instructions for members leaving for Saguenay River trip.

Arrangements have been made with the Canada Steamship Lines, Limited, to set aside space on the S.S. "Saguenay," leaving Montreal, Friday, June 25th, at 7.15 p.m. (Standard time), returning to Montreal Monday morning at 9.00 o'clock, for trip to the Saguenay River and return.

WATER SUPPLY MADE SAFE FOR A TROPICAL TOWN*

Town of Secondee, Gold Coast Colony, Provided With Complete Water Works System—Excess Lime Process Destroys Bacteria and Algal Growths—Sand and Broken Stone Filters

A DEQUATE and reliable water supply for the towns has long been recognized as an especially important factor in conserving the health of the people in tropical and sub-tropical regions. Through the provision of such, and through improvements in drainage and other sanitary measures, the British authorities have made of the Gold Coast Colony, on the Gulf of Guinea, a region habitable for Europeans for the greater portion of the time.

One of the important works carried out in this process of making the Gold Coast a fit place to live in, was the provision of a water supply for the town of Secondee, next in importance to Accra, the capital. There is in this work much that may be of assistance to those who have to deal with situations involving unusual difficulties of purification.

Preliminary Studies

The pioneer work of collecting data upon which water supply projects could be based was done some fifteen years ago by British engineers. It was found on a careful examination of rainfalls and the gaugings of streams, that, in years of low rainfall (such, however, as would be called a large rainfall for the east coast of England), the run off was so small that a catchment area which in England would afford a large supply with ordinary storage might fail altogether in the Gold Coast, even though storage to meet the demands of several years were provided. It was, therefore, necessary, in order to obtain even so small a quantity of water—about half a million gallons per day—as would satisfy each of the towns of Accra and Secondee to utilize streams which, though in occasional years altogether empty in the dry season, assumed the character of considerable rivers in the wet season. Such a stream was found in the River Densu for the supply to the town of Accra, and the works were finished in 1914-15.

For the town of Secondee, with the introduction of a water supply to which this article deals, the Anankwan River was selected, a reservoir being formed in the river bed near the village of Inchaban, at a distance of about 3½ miles, in a straight line from Secondee. The needs of the town were considered up to the year 1924, when it was estimated that the quantity of water required would be 658,500 (Imperial) gallons per day, and the works were designed in the first place to afford a supply of 500,000 gallons per day. From the available data, the estimated average rainfall worked out at about 43 in. per annum, and the available supply from the river was calculated to be 1,040,000 gallons per day, so that the required supply was only 66 per cent. of that available. The water is of low mineral content, but is highly charged with organic matter, chiefly of vegetable origin; it was, therefore, necessary that it should be filtered before being used.

The works consist of a concrete dam with outlet works and sluices for passing floods, filters, clear water tank, pumping station, service reservoir and the necessary mains and contingent works. A glance at the general plan, Fig. 1, will show that the site of the reservoir is almost at the sea coast; unfortunately there was no suitable site farther upstream, consequently the reservoir had to be made at this low elevation, and pumping machinery introduced to lift the water to a service reservoir high enough to supply the town.

Mass Concrete Dam Faced With Concrete Blocks

The dam is 360 ft. long, with a maximum height above the original surface of the rock in the river bed of about 40 ft., and two large sluices are provided in the centre for passing flood water. Flood water can also be passed over

*From "Concrete and Constructional Engineering," May, 1920.