ESSEX COMMISSION IS GROWING

HAVING as its purpose the extension of the duties of the Essex Border Utilities Commission, a bill which was introduced in the Ontario legislature by S. Ducharme has been favorably reported by the Private Bills Committee. Several years ago this commission was formed to construct certain works within the municipalities of Windsor, Walkerville, Sandwich, Ford City, Ojibway, and the townships of Sandwich East and Sandwich West. Its main duties at the time of organization were to build a joint sewerage system. Under the proposed bill it is the intention to give the commission authority to proceed with other works, including a joint hospital, and also to do away with the separate Boards of Health, and substituting therefore the commission as a joint Health Board.

Dr. J. W. S. McCullough, Provincial Officer of Health, approved of the centralization of health administration, but he objected to the commissions assuming the duties of a Health Board. To overcome this criticism, an amendment is to be drafted by the Law Clerk to provide for the appointment of a separate Board of Health by the commission.

FUEL CONTROL NO LONGER NECESSARY

THE office of the fuel controller for Canada was formally closed about the end of last month. The last official statement was issued a couple of weeks ago by C. A. Magrath, announcing that supplies are now ample for requirements. The coal regulations will probably be allowed to remain in force until the actual declaration of peace, although importers and dealers will not be required to take out new licenses for the coming coal year. In the United States the fuel administration, as constituted under the Lever Act, officially continues until peace is declared, although the organization at Washington has been reduced to the vanishing point.

During the war the United States Bureau of Mines made strenuous efforts to find a special fuel for airplanes that would be superior to others already in use. Of the numerous products and mixtures obtained some were originated by the bureau engineers and chemists and others were suggested by outside interests. Through its own experiments, or by co-operation with other organizations, notably the Research Division of the Dayton Metal Products Co. and the Bureau of Standards, it was possible to establish the fact that certain types of fuels had elements of superiority that had not before been noted or appreciated. Of the fuels proving most satisfactory, gasoline refined from the crude petroleum of certain producing fields was distinctly superior to the type most extensively used. The blending of moderate proportions of benzol with gasoline was found to be distinctly advantageous, and motor fuel of this type would undoubtedly have been employed for military purposes if the war had continued much longer. It is believed that through the proper use of benzol and other distillates derived from coal, it may be possible to embody features in the design of internal combustion motors that will notably increase their efficiency. Benzol and other coal-derived fuels are already being sold for use in automobiles and are believed to be giving satisfactory results even with present types of motors. The bureau was particularly interested in a special fuel tested in co-operation with the Dayton organization and named "hecter." This fuel, which was a mixture of cyclo-hexane and benzol, gave indications of marked superiority over any other product tested and should, unless unforeseen deficiencies appear, prove ideal for the military aviation service. In some experimental flights, this fuel has given ten miles an hour more speed. It is not certain that the cost of production will ever be low enough to permit its use in peace times, but it is planned to complete the work of obtaining comprehensive information regarding all of its possibilities and to publish reports on the subject.

PUBLICATIONS RECEIVED

GEOLOGICAL SURVEY.—Summary Report, 1917, Part A, issued by the Department of Mines, Ottawa. 20 pages and cover, 6 by 9¾ ins.

BOILER WATER TREATMENT.—Reprint of engineering bulletin No. 3 prepared by the United States Fuel Administration in collaboration with the Bureau of Mines. Issued by the Government Printing Office, Washington, D.C. Copies, 5c. each; 8 pages, 5¾ by 9 ins.

THE LARGER UNDEVELOPED WATER POWERS OF TENNESSEE.—Reprint by the Tennessee State Geological Survey of paper read by J. A. Switzer, professor of Hydraulic Engineering, University of Tennessee, and hydraulic engineer of the Survey, before the American Electrochemical Society.

ABSOLUTE PERMISSIVE BLOCK SYSTEM CIRCUITS.—Bulletin 135, issued March, 1919, by the General Railway Signal Co., Rochester, N.Y., reprinting article by Sedgwick N. Wight descriptive of this system, of which 54 miles have been installed by the T.H. & B. R'y, 31 miles by the G.T.R., 25 miles by the C.P.R., and 3,185 miles by railways in the United States.

STORAGE OF WESTERN CANADIAN COAL.—Issued February, 1919, by the Western Canada Fire Underwriters' Association, Winnipeg. Twelve pages and cover, 8 by 10½ ins. Discusses spontaneous heating, sulphur, moisture, size of coal, mixing, temperature, size of piles and prevention of heating. Deals particularly with the shipment and storage of lump lignite and lignite slack.

DESIGN OF CONCRETE MIXTURES.—Bulletin No. 1 of the Structural Materials Research Laboratory, Lewis Institute, Chicago, April, 1919. Reprinted from the minutes of the annual meeting of the Portland Cement Association held last December in New York. Twenty pages and cover, 6 by 9 ins., 7 figures. Discusses effect of quantity of mixing water, effect of fineness modulus of aggregates, effect of grading of aggregates, quantity of mixing water required, etc. Engineers and contractors who are interested should address Prof. D. A. Abrams, c/o Lewis Institute, Chicago, for copies of this bulletin.

ANNUAL REPORT DOMINION WATER POWER BRANCH.—For the fiscal year ending March 3st, 1917. Published by the Department of the Interior, Ottawa; 106 pages and cover; 6½ by 9½ ins.; with a number of colored maps and frequent half-tone illustrations. It contains the reports of the superintendent of water power, the chief draftsman, the accountant and the chief hydraulic engineer, and reports regarding the British Columbia and Manitoba Hydrometric Service, and the Alberta and Saskatchewan power and storage investigations; also report on the work carried out in co-operation with the Nova Scotia Water Power Commission, and a report on reclamation.

Australian railway engineers recently made 2,000 tests of 126 devices submitted by inventors for overcoming variations in railway gauges. There are in Australia 12,252 miles of 3 ft. 6 in. gauge track, 7,171 miles of 4 ft. 8½ ins., and 6,356 miles of 5 ft. 3 in. In order that an effective and complete interchange between all the states may be possible, any device should be applicable to all classes of rolling stock, including locomotives, and should be interchangeable between all states. In considering the devices submitted, the engineers rejected everything that unduly increased the cost or the danger of train-running, or that caused a delay of more than half an hour in the case of passenger and two hours in the case of freight trains. A third rail was seriously considered, but as the gauges of all the states are different, something more than a third rail will be necessary. Victoria, for instance, would have to add a third rail for N.S.W. cars, and a fourth for Queensland cars; moreover it was thought that a train of cars of different gauges would not be very satisfactory. The 4 ft. 8½ in. gauge has been accepted as the standard, and the Australian papers seem to think that the problem will be solved only by changing all the other gauges.