

in French on the administrative organization by which French roads are constructed and maintained. As numerous references had previously been made to the excellent roads in France, the observations of Mr. Lehmann were followed with close attention.

On Tuesday evening a banquet in honor of the guests of the Congress was held at the Hotel Windsor, and was attended by approximately 100 delegates. The speeches were such as to arouse enthusiasm in the building of roads, while several announcements of importance were made pertaining to appropriations in Quebec for the same.

On Wednesday morning tours of investigation were held whereby the delegates had an opportunity of seeing for themselves roads and streets in and around Montreal and the adjoining towns.

At the Wednesday afternoon session Mr. C. L. Shorey, of Beaconsfield, P.Q., began the proceedings by a brief talk on road improvement in that town.

"Concrete Roads and Streets" was the subject of a paper by Mr. L. R. Ferguson, assistant secretary, Association of American Portland Cement manufacturers, Philadelphia.

Mr. Ferguson's paper dealt largely with the cost of construction of cement roads as compared with that of other types, and dwelt upon the relative costs of maintenance. He spoke of the burdening of municipalities to the extent of \$650 to \$1,000 per mile per annum in the case of several types, whereas the cost of maintenance of the cement roads was placed by him at from \$25 to \$50 per mile per annum.

When the bonds matured, the latter road still remained in good condition, whereas other roads were frequently found to require replacing before the expiration of the usual 20 years. Another advantage voiced was the low crown of the concrete roads which reduced the danger from side-slipping, thereby being a distinct advantage both to horse and automobile traffic.

Professor Arthur H. Blanchard, of the Department of Highway Engineering of Columbia University, New York, gave an illustrated talk on modern bituminous surfaces and bituminous pavements. He dealt to considerable length with the construction of such roads and the improvements which the practice of later years have presented. Various types of machinery were illustrated and the most satisfactory methods of construction and maintenance clearly outlined. Professor Blanchard showed a number of interesting views of roads and road work in America, and in England, France and Germany.

Mr. A. T. Laing, of the Department of Highway Engineering in the University of Toronto, read a paper entitled "Technical Training for Highway Engineers," in which was clearly brought out the value to the road movement which would accrue from the courses of instruction that were being given at the principal universities and colleges throughout the Dominion.

"Road Designing" was the subject of a paper by Mr. R. A. Meeker, engineer, Department of Public Works for the state of New Jersey. In the course of his paper he emphasized the importance of selecting the best route and also the importance of proper grading. Mr. Meeker reiterated the words of the prophet Isaiah who, over 2,600 years ago wrote, "Every valley shall be exalted and every mountain and hill shall be made low, and the crooked shall be made straight and the rough places even."

Mr. Will P. Blair, secretary, National Paving Brick Manufacturers' Association, read the next paper, which was entitled "The Economy of the Brick Highway." Mr.

Blair based his remarks upon the value of making careful comparisons with respect to the relative merits of paving material and outlined the elements in the economy of the road and the relation which they bear to each other.

"The Relation of the Technical Press to the Good Roads Movement," was commented upon by Mr. H. Irwin, editor of *The Canadian Engineer*. His paper dealt with the classification of the engineering literature at the service of the man associated with road administration and development. Respecting the selection of technical books on road work, he emphasized the value of dependence upon unprejudiced and straightforward reviews which are to be found in the recognized technical journals published from time to time. He outlined the growth of engineering literature on the subject of roads and suggested a plan whereby the road man could equip himself with a valuable library of information upon his subject. He strongly emphasized the value of the card index system in the preservation of articles of interest. The road man was warned against limiting the scope of his reading to that which pertained only to his immediate needs. It was claimed that the successful road engineer should read much more than that which deals with his own special work.

At Thursday's session Mr. O. Hezzelwood, chairman of the Canadian Automobile Federation, presented the first paper, which was entitled "The Relation of the Motorist to the Good Roads Movement." Following him, Mr. H. W. Pillow, president of the Automobile Club of Canada, made some observations and some valuable suggestions regarding the road movement.

The secretary of the American Society of Engineers, Architects and Constructors, Mr. T. Hugh Boorman, presented a paper entitled "Modern Road Construction in the United States and England." Mr. Jean De Pulligny, chief engineer, bridges and roads and the director of the French Mission of Engineers to the United States, spoke concerning the International Good Roads Congress, while Mr. J. W. Levesque, of Montreal, gave an address entitled "The Improvement of Rural Roads as a Source of Considerable Economy to the Farmer."

Another paper, entitled "Automobile Organization and Harbor Improvement," was read by Mr. W. G. Robertson, secretary, Ontario Motor League.

Mr. H. M. Capron, of Chicago, addressed the Convention on the subject of the bulk handling of cement.

Mr. Lucius E. Allen, consulting engineer, Belleville, Ont., read the last paper of the session, entitled "The Construction of Modern Highway Bridges."

Toward the close of the Congress the committee which had been appointed a few days before to make a report respecting a permanent organization, brought in their report, which was received and unanimously adopted. The officers elected were: Honorary President, A. U. Dandurand, Montreal; President, W. A. McLean, Toronto; First Vice-President, D. Michaud, Quebec; Second Vice-President, O. Hezzelwood, Toronto; and Secretary, G. A. McNamee, Montreal. Directors: H. W. Pillow, Montreal; W. J. Kerr, Vancouver; Col. W. N. Ponton, Belleville; Ald. R. J. Shore, Winnipeg; R. S. Henderson, Winnipeg, and J. Duschatel, Outremont, Que.

The list of directors has been left incomplete in order that the present executive may add to their numbers representative men from all parts of the Dominion.

Among the delegates who attended the convention from the United States were the following: J. S. Barron, Baker & Barron, New York; Col. T. H. Boorman, secretary American Society of Engineers, Architects and Con-