

he wants at less than his rough estimate. Of course, it may equally have the opposite effect. But the point is that the preparation of a plan for a factory or a city does not in itself increase or lessen costs; it merely provides the necessary material and drawings to enable the cost, and the proper channels of expenditure, to be estimated. It is like preparing a city budget at the beginning of a financial year—the budget instead of increasing expenditure enables the city authority to “cut its coat according to its cloth,” and may help in securing reductions in expenditure.

If a man were to build a house and pay an architect  $2\frac{1}{2}$  per cent. on the cost to prepare plans and estimates and another  $2\frac{1}{2}$  per cent. to supervise construction, the architect does not by the act of preparing the plans involve the owner in greater cost than  $2\frac{1}{2}$  per cent. of the estimated cost and for that he may save 10 per cent. on the owner's own estimates in the building if he is a good architect. On the other hand, if no plans were prepared and the work proceeded piecemeal, the owner may spend twice as much for the same house before he completed it.

In many of our cities and towns we are spending money on the wrong things, we are wasting money on non-essentials; and we are creating the beginnings of bad conditions for future generations. By the preparation of a town planning scheme at comparatively small cost we would save much money and wasted effort, and we could avoid mistakes which are caused by want of planning.

These financial advantages are in addition to the social advantages produced by town planning—the improved living conditions, the better facilities for transportation, etc., the higher standards of public health and citizenship, and the greater equality of opportunity. It is sometimes said that the financial side of these problems is unimportant; that the human side is all we need concern ourselves about. That is just as unsound a view as the opposite which puts all the emphasis on the financial side. The best methods of solving social problems are those which have a sound economic basis. If our method of feeding the hungry results in creating paupers may not the remedy be as bad as the disease? If our method of city planning destroys the individual initiative and helps the waster at the expense of the hard-working citizen, will it not be unsound? The great value of town planning, however, is that while it does not directly solve social problems connected with the land it is a necessary basis for any proper solution—it is the only method by which they can be solved at reasonable cost to the community on the one hand or without injury to legitimate rights in property on the other hand.

But no town planning scheme, and still less no paper plan unaccompanied by a proper scheme of regulations, can be effective or save money unless it deals with the control of building development and sanitary conditions. Indeed, a wasteful and irrational system of development may result from having a street plan of a town, if land speculation is permitted and there is no regulation regarding sizes of lot and density and character of buildings to be erected.

The number of commercial and passenger motor vehicles exported from the United States of America during the last fiscal year was 77,496, compared with 37,876 for 1915, 29,090 in 1914, and 11,803 in 1911.

Russia's available water power in Europe, including Finland, the Ural district and the Caucasus, is estimated at 10 million kilowatts, or over 13 million h.p., only about one-fortieth of which is at present utilized.

## CANADIAN SOCIETY OF CIVIL ENGINEERS, TORONTO BRANCH.

An interesting meeting of the Toronto Branch was held at the rooms of the Society at the Engineers' Club on October 12, 1916.

The subject for the evening was “The Quebec Bridge” and Messrs. J. R. W. Ambrose and H. L. Steenbuch, who observed the operations in connection with the recent attempt to place the central span, addressed the meeting. Mr. Steenbuch gave a short historical review of facts in connection with the bridge and, by the aid of excellent slides, explained methods employed in the construction of the giant cantilever arms as well as of the central span. Mr. Ambrose confined his remarks more particularly to the central span, the method of floating it into place and raising it. These operations were illustrated by many photographs taken by the speaker, which gave a clear idea of the immensity of the task.

Both speakers laid particular emphasis on the apparent thoroughness and foresight with which every detail had been worked out.

At the close of the meeting a resolution was carried unanimously that the Toronto Branch convey to Mr. G. H. Duggan its sympathy and also its absolute conviction that success would crown the next effort to complete the bridge.

It was also resolved and unanimously carried that the Toronto Branch convey its hearty congratulations to Col. Mitchell, one of its most prominent members at present at the front, on his well-earned promotion to the position of First Staff Officer of the second British army in France.

The matter of the government employment of alien engineers was also considered and the following resolution carried:—

“That the members of the Toronto Branch condemn the practice of any government, federal, provincial or municipal, employing alien engineers to the exclusion of Canadians competent to do the work. And further, that a committee consisting of Mr. G. A. McCarthy, chairman; Mr. L. M. Arkley, secretary-treasurer; Prof. Haultain and Mr. J. R. W. Ambrose, be appointed to consider this question at a joint meeting of the Canadian Manufacturers' Association, Toronto architects and construction contractors.”

## LETTER TO THE EDITOR.

### Consistency of Concrete.

Sir,—Referring to “Consistency of Concrete,” page 181, issue of August 31, 1916.

The writer specifies a maximum amount of water of 6 lbs. per cubic foot of all loose materials in batch and resulting consistency of concrete to be that of a medium soft tooth paste. An apparently dry batch will become soft with mixing, so it should be mixed until the desired consistency is obtained. A desirable consistency may be obtained with 4 lbs. of water if the materials are damp and the mixing is continued for a long enough time—not less than one minute.

ERNEST McCULLOUGH, M. Am. Soc. C. E.  
Chicago, Ill., September 6, 1916.