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Comprehensive Topographical Surveys Required

Planning of Land and Water-Power Developments, Roads, Canals, Etc., Would Be Facilitated by Standard Maps Showing Important Topographical Details—Faults of Present System and Suggestions for Improvements—Plane Table in Peace and War

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MUCH has been said and little of a tangible nature has so far been accomplished in organizing a better system of topographical maps for the use of the public in Canada. At this time of industrial and agricultural development, efficiency is a positive necessity. Engineers confronted with problems of land and water-power development, roads, canals, town-planning, etc., are at a loss for skilled topographers to give them the information necessary for accurate estimates.

There are numerous maps and innumerable surveyors engaged in making them, but they are in most cases merely skeletons; the important topographical details are missing. It is to be regretted that co-operation rather than controversy is not made the ground for solving this difficulty. Differences of opinion between surveyors and legal arguments are, unfortunately, too common to convince the public that they are getting the best service for the money expended on surveys in this country.

Everybody will admit that there is much survey work being done which is not directly required, and the requests which are being made to the Dominion government for resurveys of land where boundaries and corner posts have disappeared, tend to show that a lot of this work has been premature. Some of the time and money could have been expended to advantage in making a permanent detail survey of more important territory. The absence of detail maps of our cities and towns has been discussed frequently at meetings of engineers and town-planners, but no practical solution is apparent.

Faults of Present System

To a person who has spent many years in the field of standard surveys, some of the present methods of procedure appear incomprehensible. In the preparation of maps, there seems to be confusion as to the actual meaning of the word "topography." One government issue carries the impress "Standard Topographical Sheet," although a close inspection does not reveal anything of a topographical nature except the water outline; the land divisions shown in firm lines are in most cases undefined by fence or ditch on the ground, and therefore not topographical features at all.

It is also noticeable that the cost of surveys is very high for the results obtained. There are too many men employed and a tremendous amount of energy expended and time wasted in cutting wide avenues through woods for traverse and cross section lines. Abundant opportunities for triangulation in open country and across lakes and wide rivers are seldom taken advantage of. The use of stadia "shots" for supplying detail is a very complicated arrangement to feature on plan, as the draughtsman knows to his sorrow. And so on. The more we study the maps at our disposal, the more we are impressed with the need for drastic changes. There is room for much improvement in our "one-method" system of topographical surveying.

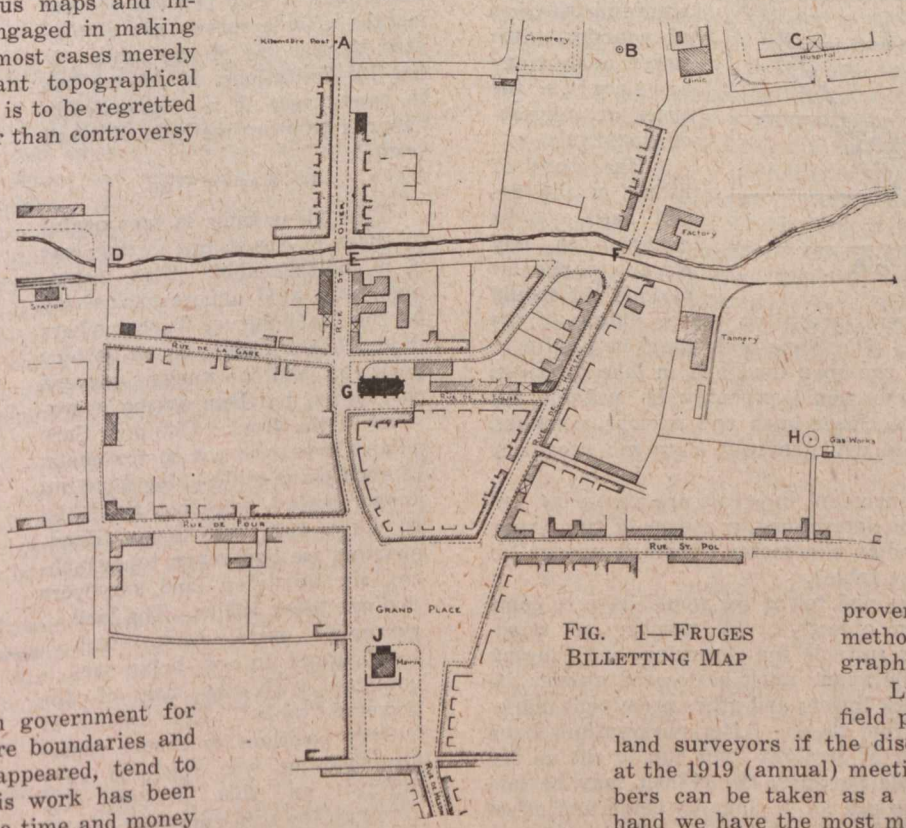

FIG. 1—FRUGES BILLETTING MAP

Little can be expected in field practice from provincial land surveyors if the discussion on this subject at the 1919 (annual) meeting of the Ontario members can be taken as a criterion. On the one hand we have the most minute accuracy:—

Chairman of the Committee on Topography—"But with reference to the tower of the City Hall (Toronto), we have found that as a permanent point it is of no value whatever. It moves a number of *inches* throughout the day. When there is no wind there is a movement due to the sun."

Comment on this would be superfluous. On the other hand we hear:—

Mr. D.—"On the last map which has been issued by the Department of Lands, Forests and Mines, this line is also projected and apparently would cross the Albany River about *50 miles* east of the point shown on the other map."