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ROAD TAX ON GASOLINE

RAISING money for roads has always been the hardest part of their construction. Various means have been suggested from time to time for financing roads more readily than by the present methods of taxation. Several months ago, C. A. Mullen, director of the paving department of the Milton Hersey Co., Ltd., Montreal, contributed an article to *The Canadian Engineer*, suggesting a wheel tax. Mr. Mullen now writes that his attention has been drawn to the possibility of raising funds by taxing the gasoline used by motor vehicles.

While this is not a new suggestion, having been discussed many years ago by Clifford Richardson, of the Barber Asphalt Paving Co., it is one which has not yet received the thorough consideration and discussion which it very evidently merits.

A tax on gasoline would in many ways be a very equitable method of raising funds for road construction. There is an analogy between the wheel tax and the gasoline tax, as both try to secure money from the actual users of the road in proportion to the service they receive. But the wheel tax does not take into consideration the extent to which the vehicle is used, while a tax on the gasoline is in direct relationship to the actual use. The more a vehicle is operated, naturally the more gasoline it requires; also, the heavier the vehicle, the greater the amount of gasoline it consumes per mile. Therefore a tax on gasoline would approximately be a tax per ton-mile.

As Mr. Mullen points out, there would be certain difficulties to be solved, such as finding a means for taxing vehicles not using gasoline, and devising simple ways of rebating the tax on gasoline used for purposes other than to generate power for transportation over highways. More discussion of this plan of taxation might lead to a solution of some difficulties.

CANADA'S FUEL PROBLEM

THERE is no necessity for Canada, with her vast resources of fuel and water-power, to go cold or to have her industries throttled by shortage of power, but Canada may have a sore trial in both these respects unless every possible effort is made to deal with the fuel and power situation in a comprehensive manner, writes Arthur V. White, consulting engineer of the Commission of Conservation, in the last issue of the "General Electric Review," published by the General Electric Co., of Schenectady, N.Y. Mr. White's article, "Canada's Fuel Problem—Some National and International Aspects," was reprinted in full in last week's issue of *The Canadian Engineer*, on account of the vital interest to Canada of his subject, and the broad and statesmanlike manner in which he deals with it.

The fuel problem of Canada must be solved by the engineers of Canada. It cannot be left entirely to politicians or financiers. Their help is needed, but the way must be and is being pointed out by Arthur V. White, R. A. Ross, C. A. Magrath, B. F. Haanel, James White, J. B. Challies, H. G. Acres, John Murphy, Arthur A. Cole, and a score of other prominent engineers who have specially studied the problem and who realize, better than any other group of men in Canada, the steps needed for its solution.

Mr. White's article was the twenty-eighth in a series on the more efficient utilization of America's fuel resources that is appearing, one article each month, in the interesting and well-edited "house-organ" of the General Electric Co. This series of articles forms a very important contribution to the existing literature upon the subject, and no doubt has been followed with interest by many of those engineers who have recognized the importance of the problems discussed.

Letter to the Editor

PRESENT SYSTEM IS CONVENIENT

Sir,—In connection with the present attempt to introduce the metric system into North America, attention is called to an apparently unobserved connection between length, volume and weight contained in our system.

The American railway usage of a 100 ft. chain, with the foot divided into tenths, hundredths and thousandths, is the only decimal system applicable to office, shop and field. The meter (almost 3.3 ft.) is too long for the office, and its next division, the decimeter (4 ins.), is too short for office use. A 20-meter chain (almost 66 ft.) is, like the Gunter chain, too short for railway work, and in levelling it is difficult to catch which meter is being read on the rod when close up.

The foot furnishes a remarkable relationship between volume and weight through the fact that a cubic foot contains 1,000 cubic tenths and a cubic foot of water weighs 1,000 ounces (62.5 lbs.). Thus a cubic tenth holds a fluid ounce of standard water, which weighs an ounce.

To apply this, imagine a box 1.5 tenths (0.15 ft.) by 1.5 tenths (0.15 ft.) by 2.7 tenths (0.27 ft.) long. It contains 6.075 cubic tenths (0.006075 cu. ft.) and will hold 6.075 fluid ounces of standard water, weighing 6.075 ounces av.

It would be possible to obtain a much better international measure by dividing a meter into three parts, calling each a metric foot (almost 1.1 ft.). This metric foot could be divided in tenths and the cubic tenth would weigh a metric ounce and hold a fluid metric ounce. One cubic metric foot, weighing 81.749 lbs. av., could be taken to contain ten metric gallons and to weigh 100 metric lbs. Each metric pound would contain 10 metric ounces. The "Canadian Magazine" published an article on this subject by the writer about 1895.

C. R. COUTLEE.

Ottawa, Ont., July 22nd, 1919.