

driver of that truck stated that the truck in question had been going six or seven miles an hour but slowed down to about five miles an hour when about to cross the bridge.

"Two of the defendant's witnesses had seen the car, one of them just before the accident and another a short time before, and neither of them intimated that the car was going at any objectionable rate of speed.

"So that, taking all the circumstances into consideration, I find that the plaintiff has cleared himself of any charges of negligence with regard to the operation of the car at the time of the accident.

"Returning again to the matter of the bridge, there was no engineer's inspection of the bridge at any time so far as I was able to ascertain. It has since been repaired with second-hand timbers and probably is still insufficient for the purpose. It has been repaired by cheap work and cheap material. The defendants have not taken any advice as to strain or stress upon the bridge, and there was no notice up of warning of any kind, and everything goes to show that the bridge was not maintained in the proper way.

"The claim for non-use of the car is in my judgment over-estimated at \$150 and I will only allow one-half of this, or \$75. Under all the circumstances, I feel no hesitation in giving judgment for the amount claimed, \$333.82, with costs of action."

The township of Vaughan has entered an appeal.

AMERICAN METRIC ASSOCIATION

FOLLOWING is a summary of the proceedings of the second annual meeting of the American Metric Association, held in Baltimore, December 27th and in Washington, December 28th:—

David A. Molitor, consulting engineer, outlined his work for the C. E. Schmidt Co., of Detroit, tanners. He found that about 500 different commodities were being purchased for the use of this company and that they were received in many different units of weight and measure. It became clear that economy would be effected by entering the weight or measure of all material received in metric units. This step was taken with great success. The metric weights and measures were then used exclusively throughout the factory. The output of the factory was increased approximately 50 per cent. with the same working staff. The weighing in one department had previously been made by an expert in the old weights and measures. After the change to the metric system, this work was done by a laborer with fewer mistakes than formerly. Mr. Molitor estimated that a saving of approximately 20 per cent. could be effected in the bookkeeping and calculations of factories which introduced the metric weights and measures throughout.

Dr. C. O. Mailloux, consulting engineer, chairman of the United States Committee of the International Electro-Technical Commission, told of his practical experiences in the use of the metric system in the United States and foreign countries, describing his last interview with Sir John Wolfe Barry, who designed the London Bridge and other engineering enterprises in England. He expressed to Dr. Mailloux his firm conviction of the desirability and necessity for adopting the metric weights and measures in England and discussed the practical steps contemplated for their general use. Dr. Mailloux pointed out the fact that the electrical units throughout the world were based on metric weights and measures and that this in itself was indicative of their ultimate adoption for all purposes in America and England.

Will Establish Local Sections

Jesse M. Smith, past president of the American Society of Mechanical Engineers, stated that he had been in close touch with the metric movement for fifty years. He had frequently used the metric system in America and other countries and believed it to be only a question of time when that system would be adopted in all parts of the world.

Prof. Eugene C. Bingham, of Lafayette College, was appointed chairman of the Committee on Sections of the

American Metric Association. The following resolution on this subject was adopted:—

"Resolved, that the American Metric Association hereby requests the formation of local sections throughout the country."

United States Senator John F. Shafroth read a bill which he has introduced in Congress, and asked for a discussion on the subject. This bill is a step toward the general use of metric weights and measures, making exceptions where such seem to be advisable for special work. The bill was endorsed by the American Metric Association.

Address by Secretary Redfield

Secretary of Commerce William C. Redfield was the principal speaker at the "Metric Dinner," held on the evening of the 27th. After outlining his practical experience as a manufacturer for thirty years and his travels in other countries in the interests of his export trade, he voiced the conviction that the metric weights and measures should and would be adopted for general use in the United States. The Secretary of Commerce said in part: "I believe that the metric system offers a return to simplicity, offers an effectiveness of thought, offers more to little children in our schools, if you please, which we are not justified in withholding from them."

The following were among the resolutions passed:—

"Resolved that the American Metric Association hereby expresses its desire to co-operate more fully with those American industries and trades using and contemplating the use of metric weights and measures."

"Resolved that the American Metric Association send greetings to the universities, colleges and other educational institutions and respectfully invite their co-operation in bringing in the general use of meters, liters and grams for the welfare of America."

USE OF THE SURVEYOR'S COMPASS IN PRELIMINARY RAILWAY SURVEYING

By JNO. ALFRED MACDONALD

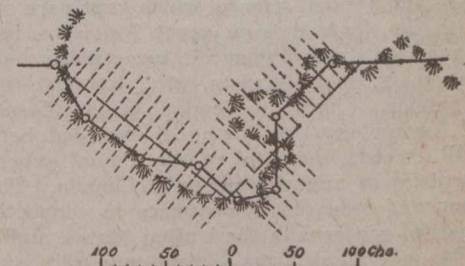
Provincial Land Surveyor, Hermanville, P.Q.

GILLESPIE says that the compass is seldom absolutely correct, but never very far wrong. The compass is not used enough in preliminary railway surveying. Hugh Lumsden, late chief engineer of the National Transcontinental Railway, in the building of that road, advised his engineers to use the surveyor's compass and not the transit in the work of getting a good line in the wild country, Winnipeg to Moncton.

The writer worked for two years on that line under Mr. Lumsden, and we used the surveyor's compass considerably—in difficult places only, however.

In one place we had very high ground to get over, and as the grades were very light, 0.6 going west, and 0.4 going east, we found the compass very useful in securing this grade.

In one case we had about two miles of very high ground to get around (see illustration). We first ran a compass line in a general straight direction on one side of the hill, or plateau, and took cross section every ten chains, in most cases on both sides of the compass line. Some of these cross lines we found necessary to run up or down the grade a distance of a half-mile. The leveler followed the compass, taking levels on all cross sections also. After reaching the terminus of one side of the plateau, we turned a right angle



PRELIMINARY LOCATION AROUND HIGH GROUND BY MEANS OF COMPASS