CANADIAN SOCIETY OF CIVIL ENGINEERS.

G. A. Keefer was born in 1836, of a representative Canadian engineering family, and at the early age of 16 began his engineering career on the surveys and location of the Grand Trunk Railway, between Montreal and Cornwall, under William Kingsford. At the

G. A. KEEFER, MEM. CAN. SOC. C.E.

present date he has been over 40 years in the active practice of his profession. Up to the year 1867, Mr. Keefer filled successively the positions of assistant, resident and chief engineer on various railway works in the Dominion. During the temporary suspension of railway construction in Canada—or for a period of eight years, from 1867 to 1875—he spent in the United States, acting as United States civil engineer under General Wilson and Colonel Worrall on the hydrographical survey of the Illinois River, and on the construction of the Keokuk Canal for the improvement of the Des Moines Rapids of the Mississippi River, and later in charge of the lock and dam at Henry, Ill., for the improvement of the Illinois River for that State. Returning to Canada, in 1875, he was engaged by the Dominion Government on the surveys and construction of the Canadian Pacific Railway until the completion of the Government work in 1884. After the opening of this railway, Mr Keefer acted as Dominion Government inspector, for the years 1887 and 1888, of the line in British Columbia. Since that date he has been in private practice in that province, during which he designed and built the Vancouver waterworks system, now in successful operation, and is at present engaged as engineer for the Alberta and British Columbia Exploration Company, of London, England, on an extensive scheme of reclamation on the lower Kootenay. Mr. Keefer is a member of the English Institute, as also of the Canadian and American Societies of Civil Engineers, and is now filling for the third time the position as member of council in the latter.

At the meeting of this society at its rooms, Mansfield St., Montreal, on the 11th ult., Prof. Durley delivered a lecture on "Thermal Storage and the Distribution of Power by Steam." The question of holding a summer meeting in Quebec, postponed from a previous meeting, came up and was again postponed. At the meeting held on the 25th ult., Prof. Nicholson lectured on "The Transmission of Power by Gas." A vote of thanks to Profs. Nicholson and Durley was moved by W. J. Sproule, seconded by Henry Irwin, and carried. W. J. Sproule further expressed his appreciation of the course of lectures now closing and hoped they would be printed as transactions of the society. As a result of this Duncan McPherson proposed, and Henry Irwin seconded, that the lectures be so recorded. The question of the summer meeting in Quebec again came up and was definitely abandoned.

CARTER'S PATENT ACETYLENE GAS MACHINE.

The first principle upon which Carter's Acetylene Gas Machine is constructed is that a given quantity of water poured on any quantity of calcium carbide will evolve a known quantity of acetylene gas. Therefore, it is absolutely necessary to know the quantity of water passing to the generator, if we desire to know the amount of gas that will be made.

The automatic measuring device between the water supply and the generator as used in this machine, measures the quantity of water that is from time to time automatically brought in contact with the carbide, as the consumption requires, so that gas cannot be generated beyond the capacity of the holder. Not depending upon the gas pressure to regulate the supply of water, the pressure on all parts of the machine is at all times equal, and does not exceed the amount necessary to supply the burners, viz., one ounce per square inch. We have, therefore, a steady, unvariable gas pressure, requiring no regulating devices.

A simple trap containing a column of three inches of water, [illegible]ed to the outside atmosphere, is used as a safety device, so that if by any means the pressure should rise beyond two ounces per square inch, it would relieve itself through the trap outdoors. The ashes or residue are at all times in a dry state and not sodden with water, and can easily be handled. The generator containing a large quantity of carbide, requires but little attention.

The acquiring of local rights by companies in small towns and places beyond the gas companies' mains, and where there are no electric light companies, would seem to be a basis for a sound and profitable commercial business, by putting in an acetylene machine plant, which requires no steam or water power, and but little attention or expense after the gas houses is built and the generating machine installed. These machines may be had of the makers, the Niagara Falls Acetylene Gas Machine Co., Ltd., Niagara Falls, Ont. The company has an exhibit in its Toronto office, 42 York street.

TIDAL MOTORS.

Editor CANADIAN ENGINEER:

Concerning tidal motors the writer of this has thought for a long time, and pointed out in the *St. John Globe* of December 26th, 1896, that the rise and fall of the tide in the Bay of Fundy might be used to supply power. Now any practical mechanic or engineer could put up the machinery so as to utilize the power of the tide, but the difficulty would be at the lull of the tide, at extreme high or low tide. There is plenty of power to generate electricity, but a large battery would need to be used, and the question is, could it be made to pay? Trusting that some of your many readers will take this matter up and give it their consideration.

ALEX WILSON,
St. John, N.B., March 8th, 1897. Mechanical Engineer.

ONTARIO ASSOCIATION OF LAND SURVEYORS.

The officers elected at the annual meeting of the Ontario Association of Land Surveyors, which was reported in our last issue, are all well known to our readers, and of most of them we have published portraits and biographical sketches at different times. The 1st vice president, Peter S. Gibson, has not, however, appeared in our pages before.

Peter S. Gibson was born near Toronto in 1837, his father, the late D. Gibson, C.E. and P.L.S., being a member of Parliament for West York at the time. He passed the examination for P.L.S. in 1858, and graduated at the University of Michigan in 1861 as a civil engineer and bachelor of science, and in 1864 took degree of M.S. Mr. Gibson was appointed by the Government a member of the Board of Examiners of Provincial Land Surveyors in 1873, and on the incorporation of the Society of Ontario Land Surveyors, was again appointed by the council on the Board of Examiners. He became a member of the Canadian Society of Civil Engineers in 1887, and was for many years engaged in Government surveys,

PETER S. GIBSON, MEM. CAN. SOC. C.E.

laying out new townships and Government colonization roads, and, as civil engineer, constructing the roads. Of late years he has practised as a surveyor and civil engineer in the County of York and adjoining counties, and now, with his son, H. H. Gibson, C.E. and O.L.S., is engineer for the Township of York and other municipal corporations, and carries on a general business of surveying and engineering.