stomach when "raw water "is not possible, and being divested of all injurious solids, acts as an absorbent, assisting nature to carry on the natural functions of the system.



The New-Life Water Still is the invention of J. H. Killey, mechanical engineer, Hamilton, and is protected under industrial design No. 1,360, and manufactured by the New-Life Still Co., 37 King William Street, Hamilton, Ont.

ONTARIO LAND SURVEYORS.

A CONTRACTOR AND A CONTRACTOR OF

The sixth annual meeting of the Association of Ontario Land Surveyors was opened pro forma at the Repository of the Association in the Parliament Buildings, Toronto, on Tuesday, 22nd February, and adjourned to meet at the same place on the 8th March and the two following days. At the adjourned meeting the chair was occupied by T. Harry Jones, of Brantford, president. The attendance was larger than at any of the last three preceding years, and a lively interest in the proceedings was shown throughout.

Meetings of the council of management, board of examiners, and the standing and special committees for the association, year 1897-98, occupied the morning of the first day, the first session of the general meeting being held in the afternoon. The minutes of the previous meeting having been published in the annual report for 1897, the formality of reading them was, on motion, dispensed with Letters were read from C. E. Gauvin, president of the corporation of Provincial Land Surveyors of Quebec ; .W. F. King, Dominion Astronomer ; Capt. E. Deville, Surveyor General; Herbert Wallis, past president of the Canadian Society of Civil Engineers; Professor McLeod, secretary of the Can. Soc. C.E.; also from Joseph Kirk, of Stratford, an active member of the association, row in his 88th year, and from Sandford Fleming, C.M.G. A communication from the mayor of Hamilton, through E. G. Barrow, city engineer, inviting the association to hold its next annual meeting in that city, was also presented, and M. J. Batler and George Ross were appointed a committee to frame a suit. able reply thereto. The president then introduced Wm. Hamilton Merritt, who exhibited a field equipment for prospectors, and explained the method of operating it. Its weight being only 27 lbs., it is easily transported, and would serve a useful purpose. The annual address of the president was next read, and a brief account of the history of the association during his term of office therein presented. V. Sankey,

chairman of the council, presented the report of the council, including those of the board of examiners and secretary-treasurer, the financial statement being then handed to the auditors for verification. From these reports it was shown that the association had lost nine members by death during the preceding year, and eleven candidates had been admitted to practise at the two meetings of the board of examiners.

Reports of the committees on Publication, and on Repository and Biography, were read by Captain Gamble and H. L. Esten, the president announcing that a suitable album had been procured, and requesting that members who had not already done so would present their photographs to the last-named committee. In the absence of V. M. Roberts, his paper on "Acetylene Gas and its Uses" was read by H. H. Gibson. This paper set forth the advantages of acetylene gas over other luminants. H. D. Q. Sewell then read a paper on "Progress on the Lake of the Woods," being a supplement to a former article which he had contributed.

D. D. James read a paper by V. M. Roberts on "Water Power from the Niagara River," and discussion of various sources of water power in Ontatio and Quebec for conversion into electric energy followed the reading.

After referring to a number of schemes of power development, which were more or less visionary, the writer took up the plans of the Welland Power and Supply Canal Co. to construct a power canal from the Welland River to Lake Ontario. The proposed canal will be fifteen feet deep, one hundred feet wide at the bottom and one hundred and sixty feet wile on the water line, and the slope of its sides and banks two to one, having its intake on the Welland River near the village of Montrose, and will flow through the townships of Stamford, Niagara and Grantham to Lake Ontario, being fed by the Niagara and Welland rivers. The Welland River rises in the county of Wentworth, a few miles south of the city of Hamilton, and flowing through a comparatively level country empties into the Niagara River about two miles above the Falls and is navigable for some thirty miles above its mouth A canal or cut was made some years ago by the Dominion Government from Chippawa, a small village at the mouth of the Welland River, southerly across the northeast corner of the township of Willoughby into the Niagara River, to allow vessels bound for Welland to enter the river without risk, connecting with the Welland Canal at Port Robinson. The current of the Niagara-River forces its waters through this cut, and its influence is felt some twelve miles up the Welland River. Seven miles north of the Welland River the canal reaches what may be termed the Bluff, to distinguish it from the Niagara escarpment, of which it forms a prominent and isolated portion; seven miles north of this point is Lake Ontario. Between the point of intake and Lake Ontario there is a difference in elevation of 316 feet, of which 184 feet is available at the Bluff, 66 feet in the vicinity of the Queenston and Grimsby stone road, 33 feet in the vicinity of the Niagara stone road, and 33 feet at or near the mouth of the Eight Mile Creek, every foot of which can easily and with advantage be utilized for the development of power.

The engineering features in connection with this immense undertaking are, for the most part, of an extremely simple nature ; difficulties similar in all respects to those which will have to be surmounted. having already been successfully overcome in the construction and maintenance of the new Welland Canal, which lies about two miles to the west, and is a standing proof of the feasibility of the power canal. In the spring of the year when the disruption of the ice which has formed in the Welland River during the winter months takes place, the extremely swift current of the Niagara River, above the Falls, keeps the mouth of the Welland River open and carries the ice away immediately, preventing ice jams. The intake of the canal will leave the Welland River about three-quarters of a mile above Montrose bridge, at such an angle with the river as will afford protection from ice coming down stream, and crossing a small knoll, enters the bed of a creek flowing into the Welland River about half a mile lower down, and follows its course for about one mile and a quarter, thence almost due north across the height of land to the bluff, crossing under the Allanburg cut-off of the Grand Trunk Railway and the St. Catharines and Niagara Central Railway, and over the Great Western Division of the Grand Trunk Railway, thence following the general course of the Eight Mile Creek to Lake Ontario.

The deep cut on the proposed canal will be about 65 feet, the slope of sides of cut and canal will be two to one in carth, and have a batter of one in twelve in rock. A short distance south of the crossing or aqueduct over the Great Westle Division of the Grand Trunk Railway a regulating weir will be constructed of first-class masonry. The aqueduct will be similar in all respects to that on the new Welland Canal where it crosses the same railway about one mile to the west, being composed of a masonry tunnel, covered with puddle clay properly tamped and rammed to form the bed and banks of the canal. A storage basin or reservoir and head race will be constructed t t