Hamilton engineer He had special opportunities in his travels of observing what was being done, and he could say that the association had done much to raise the status of engineers during the past three or four years. Those who had had to devote themselves to study in order to get certificates had found their reward in being able to get better wages than before. At the same time the association made it a principle never to interfere with the wages question by strikes or otherwise, but left each man to deal with the employer on his own account He commended the English law relating to the employment of engineers. There a steam user might employ any one he liked to run his engine, but if an explosion or accident occurred the owner of the plant was held responsible for the damage or loss of life. He spoke highly of the example set by the city council of Hamilton, which recently decided that no engineer shall be employed to run engines owned by the corporation unless he has a certificate from the association. Dr. Orr here broke in on the toast programme by proposing "Toronto No. 1," coupled with the names of Bros. A. M. Wickens and James Huggett. Bro. Huggett, in reply, spoke of the advance made by the association, which had grown from the 13 members with which it started to a present membership of 125. It had now a hall of its own and had the beginnings of a library, to which he invited contributions. Bro Wickens, in thanking the friends of Toronto No. 1, referred to the voluntary and educational character of the association. There were young men he could name who were now getting double the salary they were able to obtain before they joined the association. "The Visiting Brethren" was coupled with the names of Bro. Mackie, of Hamilton Branch, and Bro. Hazlett, of Winnipeg Branch. Bro. Robt. Mackie expressed his pleasure at being present, and in the course of his speech spoke of the influence which the Hamilton association had upon the prospects of the engineers in that city. Not only had the city council required that all the engineers in its employ should have certificates, but the school board had ordered that after the 1st September every engineer in the employ of the board must have at least a third-class certificate. The result was a large increase in the applications for membership and certificates. After Mr. Grant had sung "Scots Wha' Hae," Bro. G. M. Hazlett spoke and said that in Manitoba they had a provincial law providing for the inspection of boilers, and they have been trying to get a clause inserted in this Act covering an engineer's license. He failed to see why Ontario should not have a similar law. "The Press" was responded to by E. B. Biggar, of THE CANADIAN ENGINEER, and T. S. Young, of the *Canadian Electrical News*. The programme closed with a volunteer toast, "The President's Health," proposed by Bro. Edkins, who said that if anyone had told Bro. Fox when he first joined that he would be asked to fill the president's chair one day, he would have fainted—(laughter)—but he was actually in that position to-night, and it was not too much to say that his success in his career as an engineer was due to this association. President Fox, in reply, agreed with what Bro. Edkins said, and told how he had studied at the technical school, and had got help from kind friends like Bros. Wickens, Edkins and others, to whom he went at night after work was over. The toast was enthusiastically drunk. The dinner committee was composed of Bros. Thos. Eversfield (chairman), G. C. Mooring (secretary), J. Fox, A. M. Wickens, J. Marr and J. Bain, to whose exertions the success of the annual reunion was largely due.

LONDON BRANCH.

The Canadian Association of Stationary Engineers has reorganized, with a full set of officers, in London, Ont. G. B. Risler has been selected president; T. D Campbell, Pottersburg, vice-president; Wm. Meaden, secretary-treasurer; Duncan McKinley, recording secretary, and Wm. McLean, guard.

HAMILTON BRANCH.

An open meeting of the Canadian Association of Stationary Engineers was held on Nov 20th, at which a paper on "Heat" was given by James Gill, B.A., of the Collegiate Institute.

BERLIN BRANCH.

The secretary of the Berlin Branch writes. "We are few in number, but what there are of us want to do our share in the work before us, both as individuals and as an association. We are having interesting meetings, and are realizing the benefit to be derived from joining the C.A S.E. The members of No. 9 are all a wide-awake and intelligent set of 'boys,' willing to learn and extend a helping hand to all new comers, and we are being visited by our superiors, members of the executive. No. 9 is very much obliged to Bros. John F. Cody, District Deputy of London, and E. J Philip, executive vice-president, of Toronto, for a friendly visit paid No 9, C.A.S E., at their last regular meeting."

WATERLOO BRANCH.

A branch of the Canadian Association of Stationary Engineers was organized in Waterloo recently by District Deputy John F. Cody, of London, assisted by E. J. Philip, of Toronto; W. J. Rhodes, Geo. Steinmetz and W. Tiedt, of Berlin. The officers' names of the C A.S E. No. 17, of Waterloo, are: John Nihill, past president. John Uttley, president; Jos Srosz, vice-president; John Wendel, secretary; Nathan Uttley, treasurer; F. A. Sflug, finance secretary; Peter Hartlieb, conductor; John Teufel, doorkeeper. This branch meets every Tuesday evening, at 7 30, in the Waterloo Woolen Mills engine room.

KINGSTON BRANCH.

At the last meeting of Kingston Branch, No. 10, of C.A.S.E., it was decided by a standing vote of the members present to change the meeting nights from the 1st and 3rd Tuesday of each month, to the 1st and 3rd Thursday of each month. The first meeting under the new arrangement occurs on Thursday evening, December 3rd.

BROCKVILLE BRANCH.

Since the last report, the Brockville Branch has removed to other rooms that are more suitable, and when any of our visiting brethren happen to come to Brockville, they will find our association rooms on the second story in Richards Block, on King street. We still have a good attendance, and hard workers for the good of the order are usual with us. One new member has been admitted since last report, writes Secretary Jas. Aikins.

BOILER PRACTICE IN EUROPE.

The Steam Users' Association of the U.S., of which Edward Atkinson is president, recently sent R. S Hale to Europe to study, and report on European boiler practice. The report now published as circular No. 5, is a very instructive one, as the following extracts will show:

The standard type of boiler in use through Europe, with the exception of France and the Province of Alsace in Germany, was decidedly the internally fired flue boiler known as the Lancashire when it has two flues, and the Cornish when it has one. The Lancashire boiler is generally about 30 ft. long by 7 ft. 6 ins. in diameter. The two internal flues are about 3 ft. diameter, and the grates in them are generally 6 ft. long. Galloway, or cross tubes, about 6 ins. diameter, are often placed in the tubes back of the bridge wall, five to each flue, but this is advised against by some of the best authorities. The gases after leaving the furnace tubes pass underneath the boiler to the front, then back along the sides to the underground flue. Such a boiler would have 36 sq. ft. of grate surface and about 1,000 sq. ft. of heating surface, giving a surface ratio of 28 When built for 160 lbs. steam pressure, it costs about $2,500 in England, and will deliver easily 6,000 lbs. steam per hour. At this rate it is not very economical, but if used at a lower rate, or in conjunction with an economizer, it is as economical as any type of boiler. It is a boiler that is very easy to keep clean, since every portion of the surface outside and inside is of easy access.

The Cornish boiler is exactly like the Lancashire, except that it has only one furnace tube. This single tube is in England placed in the centre; in Germany it is placed to one side with the idea of improving the circulation. It is nowadays rarely built except for small plants, so that the average Cornish boiler is probably considered older than the average Lancashire.

In France and in Elsass, Germany, the type of boiler known as the "elephant" is the standard. This is classed under the head of externally fired cylindrical in Mr. Hiller's table. It is not as regular in size or proportion as the Lancashire. The upper shell is generally from 20 to 30 feet long and some five feet in diameter. The two lower shells called "bouilleurs," are about 2 feet diameter. They have one and sometimes two connections to the main shell. This boiler has the advantage of allowing a very large grate surface, an important consideration with the poor coals in use on the continent.

In boiler construction I judged the English workmanship to be fully equal to our best. In England no punching is allowed; the plates are always planed on the edges and then drilled in place. Steel is being used almost exclusively in England; iron is still preferred in some places on the continent.

The internal flues in the Lancashire boilers are generally welded along the longitudinal seam, and the cross or Galloway tubes are frequently welded in. I did not hear of any cases of welding the boiler shell itself. The flues are occasionally made corrugated in various ways, as the Fox, Purves, and other patents. My impression was that these were considered better, but that most frequently the improvement did not warrant the expense. The steam-pressures, of course, varied from plant to plant. I should judge