

agree with your correspondent, Mr. George Gilchrist, as to his idea of the form behind the bridge and space from the fire bars to the boiler. The distribution of the heat on this plan will be equalized on the bottom plates and not concentrated on one spot. In your next number, by your consent, I may be able to throw some light on boiler construction that will occupy the attention of those interested. Allow me to congratulate the stationary engineers on the educational work they are doing in raising their members to a higher plane in their business. The result should be a public and industrial benefit.

Yours respectfully,

J. H. KILLEY.

Hamilton, March 14, 1894.

### CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

Note: Secretaries of the various Associations are requested to forward to us matter for publication in this Department not later than the 20th of each month.

#### TORONTO ASSOCIATION NO. 1.

At the regular meeting on Feb. 23rd, Mr. W. J. Hursley was initiated and propositions for membership received from Mr. J. Marr, of the Incandescent Electric Light Co. and Mr. Meacham of the Don Valley Pressed Brick Co.

A committee was struck to look into the by laws of the Association and make a report thereon after a discussion had taken place on the meaning of one or two clauses which some of the members objected to.

Mr. Gilchrist promised to read a paper at the next meeting on "Shafting." Mr. McLaughlin also promised a paper in the near future on "How to Run an Electric Plant." The question box brought out the following query: "What is the greatest percentage of strength of joint compared with solid plate which it is possible to make in constructing longitudinal seams of steam boilers?" Mr. Edkins answered as follows:—A double strap butt joint with eleven sixteenths of an inch thickness of steel plate and eleven sixteenths of an inch diameter of rivet, pitch 4.56 inches, straps .52 of an inch thick, will give a percentage of strength of 84.9 compared with the solid plate.

At the regular meeting on the 9th of March the initiations of John Marr and Mr. Meacham took place. Two more propositions for membership were received. Brother Bredinas in a short speech bade farewell to the members as he is going away from Toronto to take charge of the Napanee paper mills. Mr. Gilchrist in a letter stated that owing to illness he was unable to get to the Association to read his paper on "Shafting," therefore it was postponed to a future meeting. Mr. Wickens read the proposed amendments to the Act relating to engineers, now before the Ontario Legislature. A long discussion took place thereon. Many of the members gave their views for or against the measure; several took petitions in favor of licensing engineers with them to obtain signatures from their fellow workers.

CHAS. F. KINSEY,

Corresponding Secretary.

#### WINNIPEG ASSOCIATION NO. 11.

Following are the names of the charter members of the above Association: Chas. E. Robertson, Luersidge Brandon, Thos. Gordon, Wm. Kennedy, John G. Kemp, Ed. Doran, John Stanley, James T. McDonald, John Harrison, Dan Doran, Thomas Grant, Ed. Alberg, Chas. R. Forge, Arthur Harper, James Albert Binns, Michael J. Sanders, J. R. Alexander, W. F. Brown, Thos. Hanes, Robert Hall, James Stuart, J. W. Schneider, R. Douglas, Amud Schmidt, Robert Sutherland, Thomas Brown, Thomas Dalziel, James Whyte, J. B. Crawford, Geo. M. Hazlett, Jos. Mills, Wm. Drever, Alex. Leighton, John Whittaker, Frank Thompson, D. Ramsay, W. C. Holder. The Association has elected the following officers: President, Chas. E. Robertson, Dominion steamboat inspector; first Vice President, James Whyte, chief engineer Ogilvie's mill; second Vice President, G. M. Hazlett, Northwest Electric Light Co.; Recording Secretary, L. Brandon; Financial Secretary, Arthur Harper; Treasurer, James Stuart; Conductor, Walter Alexander; Doorkeeper, W. L. Brown, engineer Clarendon hotel. At the second meeting eight additional members were received into the Association.

#### OTTAWA ASSOCIATION NO. 7.

Editor ELECTRICAL NEWS.

SIR, I have pleasure in saying that Ottawa No. 7, although one of the baby Associations, is not taking a back seat in the way of increasing its membership, which is due to the remarkable good will and activity of its members. Interesting meetings is what brings members, and the instruction received at each meeting is what adds to the membership.

As stated in my last letter, we were favored with Bro. Latour's paper on the "Steam Indicator." Before entering into the details of the indicator he explained how heat could perform a relative quantity of work after being converted into steam, which is a medium of conveying the heat into the cylinder in which the motion of the piston converts a proportion of heat into work. After referring to different ways of measuring the work done by an engine he proceeded to show that the only accurate one was by the indicator. By blackboard illustration, a diagram

similar to one made by the instrument showed very clearly even to the unexperienced how to discover if the valves, either steam or exhaust, are working as they should when correctly adjusted. The engineer of the present, he said, began to realize that the indicator and the understanding of its diagram was an absolute necessity, for no man could conceive what took place in the cylinder without its use. For example he used some cards taken from his engine, which is compound condensing, whilst showing the defects of admission, steam expansion, exhaust, back pressure, and compression lines, and how to remedy the faults, some half a dozen or more cards were vouchers for the improvements on his engines, and the difference as Bro. Latour said, was very worthy of note, for with the same steam pressure and load the speed was increased by 12 revolutions per minute. The next question of importance was: should a steam dome be single or double rivetted to the shell? I may say here that our new mode of procedure in dividing the meeting on the subject taken, has revived more than ordinary interest in bringing out the two sides of the question and at the same time training the members to debate, for it is a well-known fact many a good engineer has an opinion but cannot very well express it. Bro. Robert conducted the affirmative or single row, and Bro. Latour the negative or double row. Bro. Donaldson, of Toronto, was appointed judge.

Bro. Latour opened the debate by saying that the two rows of rivets were preferable for many reasons, first, that the cutting of the plate under the dome weakened it to such an extent that it needed reinforcement and that the additional width of joint strengthened that part of shell to a degree that should not be left out of consideration. He also referred to the uneven and trying strains on that neutral part of shell under the dome.

Bro. Robert took the stand and contended that if it was necessary to strengthen any weak part of the shell there were many ways to do it either by having stays or bars of tee irons as the case might require. By making a rough sketch on the blackboard he showed how to stay that part of shell, if necessary, by calculating the upward pressure on any size dome and also the tensile strain on the rivets. It was argued that since one row of rivets was more than sufficient to resist the upward pressure, there was no necessity of having the shell weakened by the additional holes required for two rows of rivets, and furthermore the extra labor and material meant extra cost and nothing in return for it. After the other members had been heard from on both sides of the question, Bro. Donaldson decided that the weight of argument was in favor of the affirmative or single row. A vote of thanks was tendered Bro. Donaldson for acting as judge and taking such a general interest in the welfare of engineers, after which the meeting closed to be reconvened on the 13th of March.

A few meetings ago Bro. Hill directed our attention to a paragraph in the daily papers stating that His Excellency, Lord Aberdeen, the Governor General, had many times stood on the foot plate of a locomotive in the Old Country and was thoroughly acquainted scientifically and practically with the science of engineering and took much interest in the modern steam engine. In view of this, Bro. Hill suggested that our Recording Secretary be instructed to write asking His Excellency to extend His Patronage to Ottawa No. 7, C. A. S. E. It is needless to say that every member present at the meeting on the 13th of March was highly pleased to learn that a favorable answer had been received from His Excellency.

The following resolutions were adopted at the regular meeting on March 13th.

Whereas, it has pleased Almighty God in His infinite mercy and goodness to remove from our midst the beloved and affectionate daughter of our esteemed Bro. J. H. Thompson, therefore

Resolved—That we the officers and members of this Association do sincerely sympathize with our brother and his family in this their hour of affliction, and be it further

Resolved—That it is but a just tribute to the memory of the departed to say that in regretting the removal of this loving daughter we mourn for one who was in every way worthy of our most profound respect, and be it

Resolved—That a copy of these resolutions be transmitted to Bro. J. H. Thompson as a token of our respect and veneration, and that they be spread upon the records of our Association and published in the ELECTRICAL NEWS, Toronto.

(FRANK ROBERT, Pres.  
Committee: J. O. B. LATOUR, Rec. Sec.  
THOMAS WERNER

Yours truly,

Ottawa, March 19th, 1894.

PROGRESS.

#### WORK OF THE EXECUTIVE.

Mr. John J. York, Executive Secretary, writes as follows: The last month has been a very busy one in this office. Some time since we opened correspondence with Mr. Chas. C. Robertson of Winnipeg, who, by the way, is an honorary member of old Montreal No. 1, the result of which has been the foundation of an association in that city under the most favorable circumstances, there being 39 charter members, and I have to-day received word that they admitted eight others at their last meeting. It has created quite a stir among engineers in that city. I enclose you a list of the charter members and also a list of the officers of this new association to be known as Winnipeg No. 11.

A short time ago Bro. A. M. Wickens, of Toronto, paid a visit to Kincardine, and his labor has already borne fruit, as I have to-day received an application for a charter signed by the following well known engineers: John Cress, Daniel Bennett, Percy C. Walker, John Gillespie, Andrew Beidle, Andrew T.