

### THE BROTHERHOOD OF LOCOMOTIVE ENGINEERS.

The Brotherhood of Locomotive Engineers, which assembled in convention in Ottawa, Ont., on May 14th, is a most perfect example of what can be done by organized labor. The brotherhood stands alone in the perfection of its organization, its wide spreading influence, and its strong financial position. Much of this superiority is due to the high average intelligence of the members, the fact that the labor they supply is skilled labor of a superior class, and that none but men of good moral character are able to retain their membership. During its prosperous career, this society has spent an exceedingly small proportion of its income in promoting strikes. The policy of the organization has been intensely conservative, and its enormous influence is always thrown into the balance in favor of the peaceful solution of industrial complications.

At the formal opening of the convention on May 14th, the chairman of the committee on arrangements, W. B. Prenter, read an address of welcome to the visiting delegates. Mayor Borthwick, Hon. E. H. Bronson, and Rev. W. T. Herridge, made speeches. One of the most noted men present at the opening meeting was the Hon. L. S. Coffin, of Fort Dodge, Iowa, who first organized the Railroad Temperance Association. Mr. Coffin is now at the head of the Home for Aged and Disabled Railroad Employees at Highland Park, Ill. In addition to caring for the aged members of the order, all disabled members who are young enough to profit by it are given a business education at the expense of the institution and are thus rendered self-supporting. This splendid home is maintained by the voluntary contributions of the Brotherhood of Locomotive Engineers, Order of Railroad Conductors, Brotherhood of Locomotive Firemen, and Brotherhood of Railroad Trainmen.

In connection with the Brotherhood of Locomotive Engineers is the Grand International Auxiliary, an organization of women interested in the work of the Brotherhood. At the formal opening of the Auxiliary on May 15th, Mrs. W. B. Prenter read an address of welcome on behalf of the Canada Lodge. Mrs. Murdock, Grand President, made a splendid speech on auxiliary work. Grand Chief Arthur, Sir James Grant, and others, gave short addresses.

One of the pleasantest features of the Ottawa meeting was the garden party given for the Brotherhood by the Governor-General, Lord Aberdeen, and Lady Aberdeen. The guests were taken to Rideau Hall in special cars, and were presented to Lord and Lady Aberdeen by W. B. Prenter, of the Ottawa Lodge.



GRAND CHIEF ARTHUR, OF THE B.L.E.

A system of insurance is carried on in connection with the Brotherhood. The officers which have been elected for the ensuing term are W. E. Futch, of Brunswick, Ga., president, defeating the late president, A. B. Youngson, and eight other candidates. W. B. Prenter, of Ottawa, secretary, in place of H. Hays. The position of secretary is worth \$3,000 a year. Mr. Prenter's acceptance of the position of secretary will necessitate his leaving Canada and residing in Cleveland, Ohio, where the headquarters of the association are.

The Brotherhood has an official organ, the *Brotherhood Journal*, whose editor, C. H. Salmons, is an old railroad man and veteran of the civil war.

Grand Chief Arthur, of the headquarters office, Cleveland, is an elderly man of unassuming manner and most pleasing disposition. He was born in Greenock, Scotland, and came to America

when ten years of age. He entered railway work on the New York Central in 1852 as fireman. After 25 months he was promoted to be engineer, and remained in the service of that line until elected to his present position in 1874. Since then he has devoted all his energies to the work and interests of the Brotherhood of Engineers. Before being elected Grand Chief he was for five years Second Grand Assistant Engineer and also Chief of Division 46, Albany, New York. His work has been of great value to Canadian engineers. At the time of the great strike on the G.T.R., in 1877, he visited Ottawa and consulted Hon. Edward Blake, then Minister of Justice, with a view to have amendments made to the Master and Servants' Act, which was, the brotherhood complained, severe on employees and not equally so on railway companies. He was well received, and shortly after his visit legislation was modified to meet the wants of the men. Since that time the same law is in force, and no trouble on the G.T.R. has been experienced.

### PECULIAR BEHAVIOUR OF CHARCOAL IN BLAST-FURNACES.

An interesting article on the "Peculiar Behaviour of Charcoal in the Blast-Furnaces at Radnor Forges, Quebec," has recently appeared by J. T. Donald, which has been quoted in the *Iron and Steel Trades Journal*. In October last the Canada Iron Furnace Company sent Mr. Donald a sample of what they termed partly consumed charcoal, containing a large percentage of siliceous matter, and which they stated "had been thrown out at the cinder notch of the furnace in large quantities unconsumed, and showing fibres or threads of a yellow color and similar to mineral wool." It was further stated that "the coal which was made from oak, and apparently basswood and elm, seems unfit for use in furnace work." A very superficial examination was sufficient to show that this charcoal was very peculiar indeed. Its unusual weight at once challenged attention, and a closer inspection showed in the specimen a framework in the form of a fibrous mass not unlike a piece of harsh fibred asbestos. Analysis showed that this fibrous matter amounted to no less than 41.16 per cent. of the coal. The question now was to account for this large percentage of mineral matter. The only explanation Mr. Donald could offer was to suggest that it might be the result of charring wood that had been partially fossilized, for it is well known that such silicified wood is not uncommon. At the same time this suggestion was not altogether satisfactory. It did not cover the fibrous or rod-like structure of the mineral matter. Mr. Donald therefore decided to send portions of the sample to Professor Penhallow, of McGill College, and W. Ferrier, of the Canadian Geological Survey. These gentlemen are authorities in their own departments, the former as a botanist, and the latter as a mineralogist and lithologist. Professor Penhallow, having examined the specimens, reported that "it seems difficult to think that these rods are the result of natural processes of growth." Mr. Ferrier said he thought the siliceous matter had not been present in the original charcoal, but that it was slag that the coal had absorbed in the furnace. Then, next, word came from the furnace at Radnor that similar fibrous charcoal had again been ejected from the slag notch, and this while charcoal from a totally different locality was being used in the furnace. The evidence was thus strongly against the view that the siliceous matter was part of the original coal, and in favor of Mr. Ferrier's suggestion. The question was thus again, as it were, thrown back into the sphere of chemistry, and it appeared probable that an analysis of the fibrous matter would settle it. After much care and labor a quantity of fibre, sufficient for analysis and free from the ash naturally present in the charcoal, was obtained. The difficulty in securing a satisfactory sample lay in the fact that the alkali of the true ash caused the fibres to fuse, forming little glassy globules. It was desirable to avoid these, in order that the analysis might show the composition of the fibre itself. The analysis of the fibre is stated in column 2. Column 1 is the partial analysis of a sample of Radnor slag made in January, 1891:

	1 Per cent.	2 Per cent.
Alumina.....	13.52	18.15
Ferrous oxide .....	1.44	.51
Manganous oxide.....	3.48	Traces.
Lime .....	22.89	35.44
Magnesia .....	.74	1.47
Sulphuric anhydride .....	1.52	Traces.
Silica .....	54.00	42.15
Alkalies, phosphoric anhydride, etc., by diff. ....	2.41	2.25

It is thus very evident that the fibrous matter of this charcoal is simply absorbed slag. Two questions of interest then arise. They are, first, what were the conditions in the furnace that caused char-