

MECHANICAL ENGINEERS IN SESSION.

We gave a brief account of the deliberations, at their annual meeting of May last, in London, of the Iron and Steel Institute of Great Britain. It will be of interest to many of our readers, doubtless, to read a *resume* of the gathering together, on the 15th to 17th August, at Leeds, of some 400 members of the Institution of Mechanical Engineers in their twenty-seventh summer meeting. The membership of this important body now numbers about 1,500, and includes some of the most prominent engineers of the day. The chair was occupied by Mr. Percy G. B. Westmacott, of Sir William Armstrong & Co., Newcastle, the President of the institution for the year, and among those present were Mr. I. Lowthian Bell, F.B.S., Northallerton; Mr. F. C. Marshall, Newcastle; Mr. R. Peacock, Manchester; Mr. E. W. Richards, Middlesbrough; Mr. W. Richards, Oldham; Sir James Douglas, C.E., Mr. J. C. Rilday, Newcastle; Mr. E. Spencer, Oldham; Mr. T. Routledge, Sunderland; Mr. E. A. Cowper, London, and Mr. George Tange, Birmingham.

The Secretary read a paper by Mr. Charles Cochrane, of Stourbridge, on the working of blast furnaces of large size at high temperatures, with special reference to the position of the tuyeres. The writer stated that the results of investigations in the Cleveland district within the last ten or twelve years were not favorable to the employment of very large furnaces or very high heats.

Mr. Jeremiah Head (Middlesbrough) said that within the last year at least twelve most disastrous colliery explosions, attended by most terrible loss of life, had taken place in the North of England. The mechanical ventilators for mines now in existence were on the principle of exhausting the air from the mine. Reports as to the state of the barometer were circulated, and the colliery owner was told that when the barometer was low there might be explosions. As the pressure of the air on the face of the coal was of great importance, the colliery owner was recommended to set his ventilator going more quickly, the effect of which was still further to lower the pressure in the mine. Of course the admitting of gas coming from the coal and allowing it to exude into the mine quicker did not mend matters. The right principle of mechanical ventilation was rather to force the air through the mine than to suck the air out of it. (Applause.)

A paper was read from Mr. Henry Davey, of Leeds, upon Mining Machinery. Electricity was recognized by the author as a practical method of transmitting power, and he deemed it possible that the mechanical operations underground requiring small powers, together with the lighting, might be done eventually by means of electricity transmitted from a dynamo-machine worked on the surface. From the same source the pit top might be lighted. Electricity as a transmitter of energy was economically practicable, but as a source of power or prime mover there was little likelihood of its competing with coal. Modern experience pointed to the hot air or gas engine as the prime mover, he thought, for remarkable results had been attained by them in economical production of power in mines. He predicted that the gas engine, or rather the hot-air engine, worked by the quick combustion of gas, was likely to play an important part in mining as well as other spheres of industry.

The President's address was a very interesting one, and a good summary of it appears in the *Iron Trade Exchange*. That gentleman pressed the point of greatest interest to engineers, viz: that "the nation or community which applied its inventive faculties, its powers of adaptation and construction to the movement of materials for useful purposes, with the least amount of manual labor and waste—in a word, which extended the cheapened transport by land and by water—was in the van of all real work, substantial progress, wealth, and civilization." (Cheers.) We might plume ourselves, he continued, upon the vast strides which science, art, and engineering had made in our own time; but posterity would assuredly lay its finger upon the great blot of waste, and might stigmatize our age as the "black age," which had spoiled by careless, unnecessary, and selfish emissions of smoke and noxious gases many a noble town, and many a lovely spot on earth. The smoke nuisance was altogether inexcusable, and could not be too

severely dealt with. Science and art had practically overcome it, and experience enabled many to assert that money could be profitably laid out and yield good interest in the abatement of this unpardonable nuisance. (Applause.) No really good and useful invention was ever wasted or completely thrown aside, even though it might be superseded permanently or for a time by some other invention. Candles, for example, had not interfered with the use and progress of the oil lamp; gas had not snuffed out candles, or stopped the flow of oil for lighting purposes, and he did not agree with those who believed that electricity would totally eclipse gas. (Hear, hear.) The same held good with regard to old cattle tracks, macadamized roads and railways, the roads forming the side arteries for railways, which were the main arteries of the traffic. He did not see any reason why ocean-going steamers might not, without loss of time, on arriving in port be lifted out of the water by hydraulic power and then scuttled of their contents right and left into warehouses, at a rate and with a saving of labor which would far exceed anything hitherto attempted.

CUSTOMS AND EXCISE RETURNS.

PORT.	Aug. '82	Aug. '81.	Inc. or Dec
Montreal customs	\$865,914	\$823,824	\$42,090 I.
do excise	136,591	117,885	18,706 I.
Toronto customs	556,234	521,038	35,196 I.
do excise	82,844	40,111	42,733 I.
Hamilton customs	95,479	76,348	19,131 I.
do excise	28,504	29,440	936 D.
Halifax customs	127,982	131,217	3,235 D.
do excise	18,379	14,359	4,020 I.
St. John customs	88,796	80,355	8,441 I.
do excise	29,748	26,031	3,717 I.
London customs	93,503	70,090	23,413 I.
do excise	17,920	11,636	6,284 I.
Brantford customs	9,466	.....	.....
do excise	.....	.....	.....
Kingston customs	22,544	22,253	291 I.
do excise	.....	.....	.....
Belleville customs	3,561	3,848	287 D.
do excise	8,139	6,424	1,715 I.
St. Catharines cus.	10,253	.....	.....
do excise	2,715	.....	.....
Winnipeg customs	.....	.....	.....
Victoria customs	89,500	41,500	48,000 I.
Guelph customs	6,734	4,975	1,759 I.
do excise	9,076	9,199	123 D.
Ottawa customs	31,066	23,094	7,972 I.
do excise	15,230	15,244	14 I.

Meetings.

THE BRITISH CANADIAN LOAN AND INVESTMENT COMPANY.
(LIMITED)

The fifth annual meeting of the shareholders of this company was held on Wednesday, the 6th inst., at the company's offices, Toronto, the President, A. H. Campbell Esq., in the chair. The following report was read:—

Report.

The Directors beg to submit the fifth annual report of the affairs of the company.

During the past year \$124,527.39 has been received in repayment of loans on mortgage, and \$287,329.88 has been paid out for new investments, making the balance of loans on mortgage as on 30 June last \$923,318.89.

The amount of stg. debentures sold and renewed during the past twelve months was £11,775, and the total amount outstanding on 30th of June, £112,821. The reduction in amount sold on that of the previous year, caused by the lessening of the rate of interest allowed, induced the Directors to make currency debentures payable in Canada, and to issue a circular inviting attention to these as a most desirable investment. On 30 June last there was outstanding of this issue, \$129,700.

The continued prosperity and abundant crops promised for this year, tend to keep down the rate of interest upon mortgage securities, and although the rate has slightly stiffened during the past few months, the Directors do not anticipate any further rise for some time to come. The business which has been done in the province of Manitoba, where the rates of interest rule higher, has, however, enabled the Directors to maintain their dividend at 6 per cent., and add largely to the amount at the

credit of profit and loss account, from which they have transferred to a reserve fund, the sum of \$15,000.

Since last report, there have been received applications for loans amounting to \$467,054, on real estate valued at \$1,099,943, whereof were declined \$172,625, valued at \$332,257, and accepted \$294,429, valued at \$767,686.

In scrutinizing the applications, the Directors continue to exercise great caution, and personal inspection of the properties offered as security is made in cases of large loans by the manager prior to their being passed, whilst frequent visits to parts of the country where money is invested, are made for the purpose of satisfying the Board that the securities are not decreasing in value.

The distance of the Province of Manitoba from the Head office has induced more than ordinary care in making loans there, and the Directors believe that the business which they have done is not only remunerative but perfectly safe.

The profit and loss account shows a considerable reduction on the expense of management the past year, the amount chargeable under the head being \$6,710.81 against \$9,186.34 charged the year previous.

The net revenue earned after payment of expenses has been.....\$ 25,211 19
(equal to 9.44 per cent on the paid-up capital.)

To which has been added balance from last year 7,329 19
Total.....\$32,540 38

This has been disposed of as follows:

Dividend No. 8, 1st February, 1882.....\$ 8,012 00
Dividend No. 9, 1st August, 1882.....8,012 00
Carried to a reserve fund 15,000 00
81,024 00

Leaving a balance of credit of profit and loss, of.. \$1,516, 38

The balance sheet and profit and loss account, duly audited, are herewith submitted.

A. H. CAMPBELL, President.

Toronto, 24th August, 1882.

STATEMENT OF AFFAIRS FOR YEAR ENDING 30TH
JUNE, 1882.

Balance Sheet.

LIABILITIES.

Capital stock, 13,500 shares at \$100 each, \$1,350,000, on 8,000 of which the sum of \$20 each has been paid, \$160,000 00
On 5,500 of which the sum of £4 stg. each has been paid..... 107,066 66

\$267,066 66
Sterling debentures £112,821.....\$549,062 11
Currency debentures..... 129,700 00
Provincial Loan and Savings Company (amount due by them to their depositors)..... 11,147 99
Balance of loans and sundries not yet drawn 9,885 84
Due to agents in Britain 403 59
" Canada 974 50
1,378,09
Due to banks in Britain.. 4,732 50
" Canada... 5,196 41
9,919 91
Interest on debentures accrued to date..... 5,133 39
Dividend No. 9, at 6 per cent per annum, payable 1st August, 1882..... 8,012 00
Dividends unpaid..... 9 73
Carried to a reserve fund 15,000 00
Balance at credit of profit and loss account..... 1,516 38
\$1,007,832 10

ASSETS.

Loans on Mortgage on real estate.....\$923,318 89
Cash on hand..... 337 31
Loans on company's stock 17,557 00
" other stocks.... 25,500 00
Debentures held..... 3,654 52
47,048 88
Sundry debtors (chiefly disbursements repayable by borrowers)..... 1,075 92
Interest on loans accrued to date..... 30,204 80
Office furniture..... 384 20
Balance of commissions on loans, and of com-