

LITERARY NOTES.

For those wishing to have in concise form an exposition of furnace work in all its branches, we commend the *Furnace Work Manual*, compiled from the pages of the *American Artisan*, by Sidney P. Johnson, the object of which is not so much to propound new theories as to the combinations of gases or the phenomena of heat, as to treat of the practical problems arising in every-day furnace work. The author endeavors, so far as is possible, to give the entire *modus operandi* necessary for the manufacture, location, and most feasible plan of putting up the different types of cast iron, steel, or wrought plate furnaces. All the patterns required in such work are given, as are also tables and general data for the calculations which are sure to come up for settlement in daily practice. These calculations are stated in plain figures, so as to be readily understood by every one, and the author's efforts are aided by the many well executed plans and diagrams appearing in the book, which will be found extremely useful to those interested. The *Manual* is published by the American Artisan Press, 69 Dearborn street, Chicago.

The special number of the *Indian Engineer*, containing the history of the great Manchester ship canal, is to hand, and its publishers are certainly to be congratulated on their enterprise. No less than twenty-seven pages of extra large size, and nearly every one of them containing one or more well executed illustrations connected with the construction and opening of this great work, are to be found in this number, the balance of which is given over to advertisers.

The Gas, Water and Electric Lighting Companies' Directory, the 18th issue of which has just reached us, is, to engineers, one of the most useful directories which we have so far seen. It contains carefully compiled lists of associations of engineers and managers of gas, water, and electric lighting undertakings in all parts of the world, together with a summary of the leading events of the year ending with June, 1894, in the gas, water, and electric lighting industries. In the latter department of the book there will be found full descriptions of the various processes which have been brought forward for the enrichment of gas, a subject which will prove of great interest to all those interested in the manufacture of this useful adjunct to civilization. The summaries in the water and electric departments will be found equally interesting. The directory is published by Hazell, Watson & Viney (Ltd), Creed Lane, London E. C. England.

We are indebted to Joseph R. Oldham, N. A. and C. E., of Cleveland, O., for a copy of his "*Great Lakes Register of Shipping: also, Rules and Tables of Scantlings for the Construction of Steel Ships*." The committee represented by Mr. Oldham find that by paying careful attention to the cleaning and painting of the surface and by repairing damages in the best manner, a well-constructed steel ship for lake navigation will last a much longer time than is the usual life of salt water vessels, and it is their purpose to class ships already built on their general merits, having special reference to the quality of the materials, the character of workmanship, the disposition and size of the parts where the several stresses are concentrated, and to the equipment of the vessel. In this book are given rules and regulations for the construction and repair of lake steamers and sailing vessels intended for such classification, as well as a quantity of other information connected with the same subject.

We have briefly referred on another occasion to the proposition to hold an international exposition in Montreal next year. We have now received from Joseph H. Stiles, Commissioner for Great Britain and member of the Committee on Awards at the recent California International Exposition, a pamphlet treating of the project—which, we understand, was first mooted by this gentleman—in greater detail, and containing pictures of the proposed buildings. Certainly, if the idea presented by these pictures really foreshadows what the finished buildings will look like, the exposition will not be a failure from an architectural point of view. The proposed exposition, whether it proves financially successful or otherwise, is sure to be of great value to the interests of Canada, and we recommend a perusal of this little pamphlet by all those interested in the country's advancement. It may be obtained from Mr. Stiles, St. Lawrence Hall, Montreal.

One of the best Christmas numbers in connection with weekly newspapers that we have met with is that published by the *Petrolia Advertiser*. We must compliment our contemporary upon the very creditable manner in which this number is gotten up, both the letterpress and the illustrations being first class.

The W. J. Johnston Co. (Ltd.), 233 Broadway, New York, send us a catalogue of electrical books published by them. The

high class and useful character of the books brought out by this enterprising firm of publishers, who are also the publishers of that widely-circulating journal, the *Electrical World*, is well known, and this little catalogue, which is admirably annotated, will be found of interest by many of our readers.

We have received from the Sperry Electric Railway Co., of Cleveland, O., a handsomely printed and illustrated catalogue of apparatus manufactured by them. A special feature is their single motor equipment, in which the driving wheels are all coupled and revolve in unison, greater efficiency being thus obtained than where each axle has a separate motor coupled to it.

The Palmer Car Ventilator Co., of Boston, have sent us a pamphlet describing their system for the ventilation of cars. In this system there are, in each car, two air chambers, one over each platform, having connection by inlets with channels on either side of the top of the car, and extending the entire length of it, with a partition in the centre of the channels.

The Engineer and Superintendent's report for 1893 on the sewage and water supply of St. John, N. B., is to hand, a sad feature in connection with its publication being the death of its writer, Gilbert Murdoch, C. E., shortly after its completion. The report is a very exhaustive one on the quality and quantity of the water supplied, the extent of the sewerage system, etc. Another portion is devoted to the fire protection service, a good deal of attention being given to the location of fire plugs. Other subjects treated of are meters, house-to-house inspection, first appearance and action of frost, etc. This report has evidently been compiled with the greatest care, and altogether it is a model of what such books should be.

The *Pacific Lumberman, Contractor and Electrician* has now been turned into an exclusively electrical journal, and is the only paper of the kind on the Pacific coast. It is now called the *Pacific Electrician*. It is neatly turned out.

With the December number *Power* enters on its tenth year. *Power* is one of the most instructive and wide-awake papers that comes to our desk, and on this occasion its numerous friends will join us in saying, "More power to its elbow."

To the Cleveland Twist Drill Co., of Cleveland, Ohio, we are indebted for a neatly gotten-up calendar combined with a diary and memorandum book. As stated by the well-known manufacturers who are sending this little memento out, only those who have used such a diary can realize its benefits and comforts, and we would recommend our readers to write for a copy.

R. H. Buchanan & Co., pumping machinery, etc., Montreal, send us a neatly executed calendar for 1895, with the figures all in large, easily legible type. It is one of the most useful-looking almanacs for the current year which we have so far seen.

THE GEORGIAN BAY AQUEDUCT AGREEMENT IN TORONTO.

The city engineer and city solicitor of Toronto have submitted a joint report on the agreement between Toronto and the Georgian Bay Aqueduct Co., in which they suggest the following points and precautions.—

1. The city streets should only be broken up by the city engineer at the cost of the company. The agreement does not contain this clause.
2. The company should deposit \$10,000 with the city treasurer for any possible contingencies. This idea is not contained in the agreement.
3. The city cannot legally enter into an agreement to purchase the company's works at the expiration of 24 years or at periods of five years thereafter. If the council determines to enter into this agreement it might be well to obtain legislation validating the whole agreement.
4. The agreement as at present drafted does not clearly define whether it is the intention of the council to purchase only the works of the company within the city of Toronto, or, in addition, the aqueduct which may be supplying these works in the city with power from Lake Simcoe or the Georgian Bay.
5. While the rate to be charged for electric energy is fixed by clause 3 at 1 cent per horse power, it is not clear what will be the price charged by the company for electric light or heat, if the company should go into the business of supplying these to the consumers. Some arrangement as to the prices to be charged for light and heat should be made in the agreement.
6. No time is indicated within which the company is to complete its electric system, and its right in this respect is practically a perpetual one.