

Book Notices.

THE CAR-BUILDERS' DICTIONARY: an Illustrated Vocabulary of Terms which designate American Railroad Cars, their Parts and Attachments. Compiled for the Master Car-Builders' Association, by Matthias N. Forney, Mech. Eng., assisted by Leander Garey, Superintendent of the Car Department, N. Y. C. and H. R. RR., and Calvin A. Smith, Secretary Master Car-Builders' Association (3d thousand). New York: Published by the Railroad Gazette, No. 73 Broadway, 1881.

This publication is a very valuable contribution to information of practical men, and is of a class much needed; its scope of usefulness is really much greater than its title would imply; the illustrations are far more complete and exact than are usually to be found in technical lexicons, proportions and dimensions of parts being indicated in most of its illustrations as fully as in most large cyclopedias and with a degree of exactness indicating much conscientious painstaking, the devices are those in actual practice and use rather than the contrivances which expand the records of the Patent Office. In the present state of railway practice and the necessity for cheapening charges for transportation, everything that contributes to the facility of making cars interchangeably useful on all railways is of great importance, and to facilitate this result, the effort of this book is to secure exact and uniform understanding of terms employed throughout the country. This is not only in the proper direction, but is as well carried out as the nature of its subject-matter will permit. The modest apology for the appearance of advertisements in the work was hardly necessary, they are so well indexed that they really contribute valuable information to those in the craft, and whilst not perhaps just to the taste of many library readers, their presence in the work will, if we mistake not, be considered desirable and important by those practically engaged in railway operations and the manufacture of railway supplies.

Books of this scope and character are undoubtedly a great need of these times, and this appears to be both happily conceived and well executed.

Few books afford as much exactly stated information in so concise and easily accessible form, and the endorsement of the Master Car-Builders' Association makes it an authority for the craft.

S. L. W.

CORRESPONDENCE.

EARLY COMPOUND ENGINES, AN ITEM OF HISTORY.

Committee on Publication of the Journal of the Franklin Institute:

GENTLEMEN:—In an article on the trial of the Steamer "City of Fall River," in the July number of the JOURNAL, allusion is made to early compound engines in this country, by note, as follows: "The first compound engines are, however, said to have been built by an engineer of a still earlier generation, Mr. I. P. Allaire." As early as 1830 or 1832 there were on the Hudson River two steamboats with compound engines, the

Swiftsure and *Commerce*. Their engines were of the upright square form, or cross-head pattern (very few of that form now in use and none built). The high-pressure cylinder being forward and the low-pressure being abaft the paddle-wheel shaft, and both connected to it by cog-wheel gearing. About the same time the *Post Boy*, with similar machinery, built by Mr. Allaire, was sent to New Orleans. In the machinery of the above steamers the exhaust steam of the high-pressure cylinder passed directly to the low-pressure cylinder without the intervention of valves or receiver between the two cylinders. The *Swiftsure* and *Commerce* were in use for several years, and the machinery of the former subsequently taken out and replaced by the ordinary beam engine. The compound engine, built by the late Erastus Smith was of the ordinary beam pattern, except that it had two steam cylinders, the high-pressure being *within* the low-pressure one. Their diameters were thirty-seven and eighty inches, and stroke of piston eleven feet. This form has not been duplicated. The present compound engine has practically but little resemblance to those that preceded it, and is very much more economical.

B. H. B.

PHILADELPHIA, October, 1884.

Franklin Institute.

[*Proceedings of the Stated Meeting, held Wednesday, November 19, 1884.*]

HALL OF THE INSTITUTE, November 19, 1884.

The President, Mr. William P. Tatham, in the Chair.

Present, 115 members, and 20 visitors.

The Actuary presented the following resolution, passed at the stated meeting of the Board of Managers, held Wednesday, November 12th, viz.:

Resolved, That the Board of Managers recommend to the Institute the necessity ; in view of the rapidly increasing value and extent of its library, the absence of proper accommodations for the same, and for other branches of the Institute's work, that active efforts be at once commenced to obtain subscriptions for the erection of a more commodious and fire-proof building.

Seventy-four (74) persons were elected to membership in the Institute since the last meeting.

The Secretary, by direction of the Committee on Science and the Arts, reported that the Committee had recommended the award of the "John Scott Legacy Premium and Medal" to G. Morgan Eldridge, of Philadelphia, for his "Improvement in Electro-Magnetic Protectors for Electrical Instruments," that the recommendation had been advertised for three months, as prescribed in the regulations, and that no objection thereto had been received.

On motion of Mr. H. R. Heyl, seconded by Mr. Hector Orr, it was

Resolved, That the recommendation of the Committee on Science and