

AMERICAN STANDARD SPECIFICATIONS FOR STEEL. BY ALBERT LADD COLBY. Sold by the writer, South Bethlehem, Pa. Price, \$1.10.

This small book, of 103 pages, contains the revised text of the standard specifications adopted in August, 1901, by the American Section of the International Association for Testing Materials, accompanied by a critical review giving the reasons which governed the committee of the above association in forming its decisions. Since Mr. Colby was himself a member of this committee, the accuracy of the review adds greatly to the value of the work.

The requirements specified are grouped under seven general headings; *viz*: (1) Process of Manufacture; (2) Chemical Properties; (3) Physical Properties; (4) Test Pieces and Methods of Testing; (5) Finish and Variation in Weight; (6) Branding; (7) Inspection. Regarding (1), while the process is specified, the committee omitted restrictions as to the details of the processes, excepting in the case of steel rails. Regarding (2), carbon is omitted where tensile strength is specified, no limit in copper is specified, manganese and silicon are specified in special cases, sulphur in almost all cases, and phosphorus invariably.

Specifications are given for (1) steel castings; (2) axles; (3) forgings; (4) tires; (5) structural steel for buildings; (6) open-hearth boiler plate and rivet steel; (7) rails; (8) splice bars. These serve for the majority of uses to which steel is applied, and modifications may easily be made to suit particular cases.

Regarding chemical analysis, the specifications designate, in the case of each kind of steel, the location from which turnings or drillings are to be taken, but omit all suggestions as to the methods of analysis to be employed.

The book has a business-like appearance, and its contents are the result of so much deliberation by men of the highest qualifications, as to be practically above criticism. The specifications embody the acme of the most recent and most approved practice; their publication and consequent general acceptance as the American standards will save both manufacturers and consumers much misunderstanding, and this little book has hence an important mission to fulfil. The writer is to be congratulated on the satisfactory presentation of the matter which he has made.

J. W. RICHARDS.