that this B.M. of beams at columns or walls has a lever motion tending to produce horizontal shear in the columns, principally at the corners or walls of a building with large window lights.

The more elementary formulae and information, both for concrete and other substances, are given, including the safe stress for wood. This is accompanied by sketches of typical wood framing. On the whole the architect and engineer will find that all straight line work is well covered, no attempt being made to give computations for the arch or other such obstruse questions.—A.C.O.

Standard Specifications.—Carnegie Steel Co., 1910. 65 pp. 4½ x 6½.

This pamphlet gives the standard specifications for steel products as set by the Association of American Steel Manufacturers, the Carnegie Steel Co., and the American Society for Testing Materials.

A comparison with the specifications as given in the most recent whole issue of the Carnegie handbook (1903) may be found interesting. No changes have been made in the specifications of standard structural steel, the manufacturers' specifications of 1903 being merely reprinted. The same is true for special open hearth plate and rivet steel. But a notable addition are the specifications for concrete reinforcement bars, these being given both for structural steel grade and also for the high carbon grade, which is as high as that for nickel steel, namely, an ultimate stress of 80,000 pounds per inch.

The next division has not previously been included in their handbook. It consists of the Carnegie Steel Co.'s own standards for steel car wheels, car and tender axles. The car wheel specifications demand open hearth manganese steel and must conform narrowly to certain chemical standards, but apparently no strength tests are required. This is somewhat curious as a failure to properly anneal the finished wheels might result in low tensile strength and brittle flanges with their resultant danger of derailment.

Some pages are next devoted to the new structural nickel steel and a comparison of its requirements with that of the old railway bridge steel will be found interesting.

	Railway Bridge Structural Steel.	Structural Nickel Steel.
Phosphorous, max. %	.08	.04
Sulphur, max. %		.05
Nickel, %	0	3.00—A.00
Tensile strength, pounds per sq. in.	55,000—65,000	80,000 min.
Yield point, pounds per per sq. in.	28,000—33,000	50,000 min.
Elongation, min. % in 8 inches	1,400,000 ult. tens. str.	1,600,000 ult. tens.str.
Elongation, min. % in 2 inches		22
Cold bends without fracture	180° D=t.	180° D=2 th.

The American Society for Testing Materials, Standard Specifications are next given, but conform closely to the manufacturers' standards, but for bridges and shipbuilding purposes open hearth steel only is allowed.

Specifications for steel forgings are also included and it is interesting to note that the oil tempered nickel steel calls for an ultimate stress of no less than 95,000 pounds per sq. in.—A.C.O.

PUBLICATIONS RECEIVED.

Practical Road Engineering.—By several authors; published by St. Bride's Press, Ltd., 24 Bride Lane, Fleet St., E.C. Size 8¾ x 11¼; pp. 140; price $1.50.

Clarification of Sewage.—By Dr. Ing Rudolfe Schmeitzner. Published by The Engineering News Publishing Co., 220 Broadway, N.Y. Size 5 x 7; pp. 115; price $1.50.

Steam Turbines.—By Rankin Kennedy. Published by Whittaker & Co., 2 White Hart St., Paternoster Square, London, E.C. Size 6 x 9; pp. 104; price 4s. 6d. ($1.35.)

Electric Wiring.—Joseph G. Branch; The Branch Publishing Co., Chicago, Ill. Size 5 x 8; pp. 288; price $3.50.

Conservations on Electricity.—Joseph G. Branch; The Branch Publishing Co., Chicago, Ill. Size 8 x 6; pp. 290; price $3.50.

CATALOGUES RECEIVED.

Water Softeners.—The Dodge Manufacturing Co., Mishawaka, Ind., are distributing two very interesting catalogues which tell of the waste in heat caused by scaled boiler tubes and make known the merits of their system of water softening. They give several results from plants installed.

Recording Gauges.—The Bristol Co., Waterbury, Conn., in bulletin No. 140 displays several different designs of pressure gauges with special attention to their recording pressure gauges. These gauges are designed to show the results of both pressure and vacuum measurements during the twenty-four hours.

Rotary Engine.—The Herrick Balance Rotary Engine is fully described in a pamphlet distributed by the Herrick Engine Co., 74 Broadway. This type of engine has been much experimented with and the results will be interesting to users of steam.

Concrete Mixers.—The T. L. Smith Co., Majestic Building, Milwaukee, Wis., in a recent catalogue described the advantages of their batch mixer. This is a hand mixer and is said to be very economic in its operating.

Water Meters.—The Neptune Meter Co. in a recent catalogue described the Trident Water Meter giving dimensions and full description of this simple disk meter.

Buckets.—The Hayward Co., of New York, in catalogue No. 38 give examples of the uses of their orange peel clam shell excavators, dredges, coal handling machinery, travelling derricks, and derrick fixtures. I would be very pleased to send it to those interested.

Panels and Cabinets.—The Crouse-Hinds Co., Syracuse, N.Y., has issued what is certainly the handsomest and most complete "letter of introduction" ever addressed to the electrical trade—one that may well serve as an inspiration to agents and others who handle its wares. This "letter" is in the form of a 9 x 12 catalogue devoted to Panel Boards and Cabinets. The book is profusely illustrated in two colors and printed on heavy coated white paper, the 80 pages of catalogue being inclosed in an artistically embossed cover with cloth back.

Steam Shovels.—The Canada Foundry Co., Toronto, in Bulletin "37" describe their different designs of Ducyrus shovels. These shovels vary in weight from 95 to 45 tons, and are especially designed for difficult work.

Pulverizing Machinery.—Raymond Bros., 520 Laflan Street, Chicago, Ill., in their catalogue No. "10" describe their special machinery for grinding, pulverizing and separating materials that are required in different forms.