

The Russell Snow Plows and Flangers, 1898.—The Russell Snow Plow Co., Mr. J. W. Russell, Manager, Tremont Building, Boston, Mass., has issued a new catalogue illustrating and describing their plows. The pamphlet gives 28 pages of information concerning the construction of the plows for different classes of work, and also giving the weight, dimensions and other information necessary for intelligent ordering of this equipment. The Russell snow plow has been developed by long experience which has led to successful use at speeds as high as 35 miles per hour into side hill drifts and diagonal banks of snow, which in some places attained a depth of 14 ft. in curved cuts, and even 50 miles per hour under other conditions. A longitudinal section of one of the large plows shows its construction to be such that the frame transmits the force from the engine to the front of the plow, so as to keep it upon the track, and those who are investigating the subject of snow plows should examine the construction of this type. The trucks under the front ends are exceedingly heavy and strong. They are of the diamond frame type, with four frames and eight journal bearings for each truck, the axles having bearings both inside and outside of the wheels. The plows are of different sizes and forms and are adapted for fast trains on single track, for right or left hand running on double track and for combined shoveling and flanging. The wing elevator plow is designed to leave a clear road over 16 feet in width, which is accomplished by the use of wings pivoted to each side of the car and one of these may be omitted from the plow if desired. The elevators on the wings are inclined planes which cut under the snow, and lift and throw it from 30 to 60 feet away, according to the speed of the train. On railroads with two or more parallel tracks these wings lift and throw the snow clear of the right of way and clean it out from between the tracks. A specialty is made of flanges, which are so constructed as to be strong and durable and at the same time easily operated by hand or compressed air. The pamphlet contains a record of snow plows from this company during the winter of 1896 and 1897 on the Northern Pacific Railway in North and South Dakota, that winter being an exceedingly severe one as regards snow blockade. A plow was used in hard, frozen snow from 9 to 12 ft. in depth over both rails, and in temperatures as low as 18 degrees below zero. The statement says: "On March 5 was the most severe storm, a blizzard, continuing for over 24 hours. The plow was run from 25 to 45 miles per hour, with 2, 3 and one 4 mogul engines with 18 by 24 inch cylinders behind it. The miles run were as follows: On main line 1,042, on branch line 531, a total of 1,573 miles. In spite of the fact that unusually hard work was done, part of which was upon branch lines with a poor road bed, the plow never left the rails, nor was it broken or disabled; neither was there any accident to the snow plow or its train. An equally satisfactory record is shown for work on the New York Central & Hudson River Railroad.

"Pop" Safety Valves.—The Consolidated Safety Valve Company, 111 Liberty street, New York, have just issued a new catalogue containing illustrated descriptions of the various styles of "Consolidated Pop Safety Valves," manufactured by them, including several new styles not previously illustrated. The importance of using only the best safety valves is first pointed out and several styles of nickel-seated valves are illustrated, after which three pages are filled with testimonial letters from such concerns as the Babcock & Wilcox Company, the Stirling Company, the Abendroth & Root Manufacturing Company, the Heine Safety Boiler Company and the National Water Tube Boiler Company, all of whom are using these valves on their water tube boilers. In a letter from the concern first mentioned it is stated that: "Out of 3,737 safety valves of your make which we have put out there has not yet been a single unsatisfactory valve." Over 200,000 pop safety valves have been sold by this firm, and the catalogue states that none of them, to their knowledge, have ever failed to work with satisfaction. Five pages are devoted to valves for marine work, and letters are printed from Wm. Cramp & Sons, the Newport News Shipbuilding & Dry Dock Company and the Union Iron Works, the three largest ship-building firms in the country, stating their satisfactory experience with these valves. Among the remaining illustrations are a number from locomotive work, both pop and relief valves, the company having been manufacturing these valves since 1866. Among the valves for locomotive use is the Blackall relief valve for attachment to locomotive dry pipes,

anywhere between the throttle and the steam chest, for the relief of pressure due to reversing the engine while moving forward. On page 44 is a list of about 130 railroads using these goods. The pamphlet is standard size; it is well printed and illustrated and serves its purpose well. Copies will be mailed to those who apply to the above address.

"Pressed Steel in Car Construction."—One of the handsomest catalogues that ever came into this office has just been received from the Schoen Pressed Steel Company of Pittsburgh, Pa. It is 9 by 12 inches in size and is beautifully illustrated with half-tone engravings from photographs and drawings made specially for the purpose. The frontispiece is a page engraving of the works of the company at Pittsburgh, which is followed by an interior view of one of the car erecting shops and one of the exhibit of the company at the World's Fair in Chicago. The other engravings show in succession the truck and body bolsters, the pedestal truck complete, the diamond-frame truck, underframing for flat cars, flat car complete, gondola car, a self-clearing hopper car of 100,000 pounds capacity, a steel car of 80,000 pounds capacity for the P. & L. E. R. R., a twin hopper coal car of 110,000 pounds capacity for the P. R. R., a self-clearing 100,000-pound ore car for the L. S. & I. Ry. and two views of a self-clearing coke car for the Frick Coke Company, all of which are in pressed steel. The last engraving in the book is from an instantaneous photograph showing a train of 35 Schoen pressed steel cars in motion, each car containing a load of 108,000 pounds of ore. The text accompanying the engravings presents in concise language the advantages of pressed steel in car construction. The book is sure to be read and prized by those for whose use it was intended, and it forces the conclusion stated at the beginning of the work that "An all-steel car is not a theory, but an accomplished fact."

"Electricity for Machine Driving." Westinghouse Electric & Manufacturing Company, Pittsburg, Pa.

This is a 24-page pamphlet which points out in a brief, concise manner a few of the advantages to be secured by the substitution of electric distribution of power for the common method, involving long lines of shafting and connecting belts. The methods described lead to great reductions of operating expenses, and the pamphlet is recommended to manufacturers and others who have charge of power transmission plants. It is especially commended to those who are operating plants which, starting from one that is small and well arranged, have grown with the increase in business until they are scattered over large areas, making it necessary to divide the power into a large number of uneconomical units. This applies to many railroad shop plants as well as to manufacturing establishments. The pamphlet is illustrated with handsome half-tone engravings upon the left hand-pages, and opposite them the advantages of electric transmission are presented in concise paragraphs. Its attractiveness will draw attention at once, and the pamphlet will be likely to find a place in files for future reference, if not for immediate use. The style of the author is flowery, but the work is well done.

"Baldwin Locomotive Works. Record of Recent Construction." Pamphlet Nos. 6 and 7, July, 1898.

These pamphlets in the series now regularly published by the Baldwin Locomotive Works illustrate a variety of locomotives of standard and narrow gauges, for domestic and foreign roads, and with steam and electricity for motive powers. The dimensions and characteristics of each design are shown, which makes the record a valuable one for reference and for study of the tendencies in locomotive construction from these works. No. 7 is devoted entirely to narrow-gauge engines, the narrowest being 1 ft. 11½ in.

The Chicago Pneumatic Tool Company has found the demand for information concerning its pneumatic tools so great as to necessitate what are termed "special editions" in the form of additions to its catalogues. The latest of these are devoted to riveters, hammers and drills, and to wood boring machines, breast drills and painting machines. They are well printed and well illustrated, and show the machines while actually at work.

"Snow Sweepers, Snow Plows, Track Scrapers." The J. G. Brill Co., Philadelphia, have distributed a 16-page illustrated pamphlet dated Aug. 1, 1898, describing their designs of snow