Air Brake Hose Specifications.

THE Committee having charge of this subject presented a complete set of specifications for air brake hose, constituting a revision of the recommended practice adopted in 1901, advanced to standard in 1903 and revised in 1905. The new specifications are to be referred to members for letter ballot.

Revision of Form of Present Specifications.

THE Committee on Revision of Form of Present Specifications reviewed during the past year the existing specifications with a view of harmonizing the form and bringing about any changes in substance which might be necessary. The committee followed the outline of instructions prepared for this work, corresponding closely with the existing standard of the Committee on Style of the American Society for Testing Materials. The specifications, after they had been re-drawn, were submitted to the various chairmen interested in the subject, for their approval, which was obtained. The committee recommended that the instructions covering the form of specifications be adopted by the Association for future use in preparing specifications; that the specification for iron axles be discontinued from the standards of the Association; that certain items in the rejection limits need correction, and that a special committee should be appointed for this purpose, and that specifications should be prepared covering about forty items of material for which no specifications now exist. The various changes in specifications recommended cover a wide range and are set forth at length in the report of the committee.

Damage to Freight Car Equipment by Unloading Machines.

THE Committee appointed to investigate this subject took advantage of the investigations already made by the Pennsylvania, the Lake Shore, the Baltimore & Ohio and other systems. After a careful investigation, the committee reported that the principal features to be considered in providing protection of cars from damage by unloading machines are:

"First: Provide as much bearing as possible on cradle side for car and at the same time insure ample clearance for safety appliances and other attachments projecting beyond side stakes of car.

"Second: Allow for sufficient variation for spotting cars in cradle, so that time will not be lost in placing cars, with a resulting decrease in the capacity of car dumper. The protection should be so placed that when a car is stopped anywhere within two feet said blocking will be ample to support car on its side. A greater allowance than two feet is to be preferred when it can be provided without making a supporting area so small that car will be damaged.

"Third: Provide blocking so that the bearing face can be quickly renewed, so that it may be maintained in proper condition at all times by applying same when machine is idle, to avoid necessity of shutting down dumper to apply blocking.

"Fourth: Provide guide plate at in-bound end of cradle for entering cars with spread sides, as per Plate 4, Figs. 1 and 2.

"Fifth: Machine to be provided with not less than four vertical clamps, and each of these to be equipped with extension clamp.

"Sixth: Grade of yard track leading into cradle to be of 100 feet radius, to prevent damage to carry irons when cars are moved into machines coupled.

"Seventh: Timber lining to be cut at angle at lower ends to permit contents spilled into cradle to get out on next turn of cradle.

"Features to be considered in addition to the above, but only on solid floor type machines, are:

"Eighth: No side pressure to be used which will force car against lining in cradle with a pressure greater than the combined weight of car and contents.

"Ninth: Vertical clamps to be operated by gravity so that pressure on top of car will not exceed that now used in movable-platen type machines.

"Tenth: Top of I-beam in floor system and just outside rail to be made same height as rail."

Electrical

Electrification at Chicago.

THE ordinance introduced in the Chicago City Council requiring the railroads entering that city to electrify their lines, has emerged from committee, having been amended therein so as to extend the date after which no steam locomotive can be operated in the city until July 1, 1915. The ordinance passed first reading on June 3rd, with one dissenting vote. Mr. Harry A. Wheeler, of the Chicago Association of Commerce, and Mr. Robert Redfield, representatives of the Pennsylvania group of railroads, urged the committee not to take action until the commission now investigating this subject makes its report. It is the general impression that the railroads will vigorously oppose the ordinance when it comes up for final action, and that in the event of its passage, a long legal battle will ensue. It is held to be unfair to force the railroads into this tremendous expenditure while the terminal question is yet undecided and while no definite plan has been worked out as regards the best method of electrifying, both from the standpoint of the city and of the railroad companies.

Progress of Electrification in the United States.

IT is interesting at times to take account of the extent to which any large movement, such as the electrification of steam railroads in the United States, has progressed. Such an inventory, or analysis, brings out many interesting facts which cannot be properly appreciated in the day to day examination of current events, and shows how rapidly or how slowly a great movement is progressing. Such a comparison

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has been made by the "Electric Railway Journal" which, in its issue of June 7th, reviews fully but briefly the work of electrification thus far completed or announced by the various large railroad systems of the country. The article is illustrated by a number of excellent maps showing the sections of the country in which important electrification has been undertaken. According to the "Electric Railway Journal" the electrified steam railroads of the United States in operation or under construction are as follows:

Railway.	Miles of Single Track.	Electrification System of	Mileage Total
Baltimore and Ohio	7.4	Low voltage d.c.	....
N. Y., N. H. and H. and B. and M.	104.4	Low voltage d.c.	....
New York Central Lines	371.6	Low voltage d.c.	....
Pennsylvania System	435.5	Low voltage d.c.	....
Total of low voltage direct current			918.9
Butte, Anaconda and Pacific	90.0	High voltage d.c.	....
Southern Pacific	96.0	High voltage d.c.	....
Total of high voltage direct current			186.0
Grand Trunk	4.0	Single-phase	....
Erie	40.0	Single-phase	....
N. Y., N. H. and H.	490.4	Single-phase	....
Total of single-phase			534.4
Great Northern	6.0	Three-phase	....
Total of three-phase			6.0
Grand total			1645.3
Lines Approved for Electrification.			
Pennsylvania	90*	Not decided	....
Norfolk and Western	75	Not decided	....
Denver, Rio Grande and Western	114	Not decided	....
Chicago, Milwaukee and Puget Sound	440	Not decided	....
Great Northern	530	Not decided	....
Grand total			1249

*Paoli electrification, mileage approximate.

An analysis of the sections of the country electrified by the various systems included in the above total shows that to a large extent the work of electrification has been confined to mountain divisions where there are very heavy grades and severe operating conditions, with cheap water power or low grade fuels. In addition, a large amount of electrification has been undertaken in connection with vast terminal projects or the handling of heavy suburban business. Thus beginning from the two extremes, where the most severe operating conditions are encountered, the work of electrification is gradually expanding so that a larger and larger proportion of the entire system is coming under its sway. The day is far distant, however, when even a single system will be entirely operated with electricity. Many important questions, such as that of a system of power distribution, have yet to be worked out. In the above table it will be seen that there is a wide divergence in the practices of the different systems, and it will require some time to work out the economic limitations of each system in connection with heavy transportation work.

The same issue of the "Electric Railway Journal" contains an interesting article on the maintenance of the electrified section of the Erie Railroad—a part of the Rochester Division, including the line between Rochester and Mount Morris. This line is in many ways similar to the modern interurban road, it being operated with an overhead catenary construction, with a trolley voltage of 11,000, using single phase current. In large part, the cars are run as single units, and in general the system partakes more of the nature of a trolley road than of an ordinary steam road electrified.

Additional Details Concerning Norfolk & Western Plans.

THE main outlines of the plan of electrification now under preparation for the Norfolk and Western Railway were outlined in the June issue of the "Railway World." Additional details concerning these plans are now available. It is reported that the electrification was designed for the handling of coal trains, passenger trains being handled through the electric zone by steam locomotives. The heavy coal business originates west of the summit of the Alleghenies and is in large part hauled eastward over grades of from 1.5 per cent to two per cent. The coal trains originating on the division are at present filled out generally to a weight of 3250 tons from the various workings along the line and hauled over the grades at a speed of about 7½ m. p. h. by three Mallet engines, one at the head of the train and two pushing. The Mallet engine equipment is used locally on this division, and under electric operations these engines will be displaced by electric locomotives, allowing the Mallets to be used on the other regular divisions of the road.

It is not the intention at present to conduct the through merchandise freight or passenger service by electricity, the electric service being confined to traffic designated as "tonnage trains" originating on the electrified section. These tonnage trains of 3250 tons will be electrically operated by head engines and pushers at a speed of about thirteen miles per hour up the heaviest grades. The number of trains handled up the grade will be about twenty per day, comprising a daily tonnage of 65,000, but the design of electrical equipment will be such that this tonnage can be progressively increased in the future as the occasion requires.

Electric power will be generated in a steam power house to be erected by the company at Bluestone, which is on the line of the railway, about one-third the way from Bluefield to Vivian. This power house will have an installed capacity at present of 24,000 kw. All work is to be completed for service in the summer of 1914.

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