

neated steam, and considerable trouble has been experienced with packing that had proven satisfactory with saturated steam when this point had not been attended to. The melting point of the packing rings should be higher than the melting point of rings usually found on saturated-steam locomotives.

In conclusion, your committee feels that, in order to insure satisfactory results in the operation of superheater locomotives, it is of the utmost importance not only to use the best metals for parts subjected to the action of superheated steam, but it is also important to take all reasonable precautions to obtain proper lubrication.

When superheater locomotives were first placed in operation it was to be expected that certain difficulties would be experienced, but these difficulties have been overcome one by one and we believe that at the present time, with reasonable care in operation and with proper attention on the part of engine-house forces, superheater locomotives will be no more difficult to maintain than saturated-steam locomotives of the same classes.

### Report of Committee on Rules for Loading Materials.

The Master Car Builders' Committee, A. Kearney, Assistant Superintendent of Motive Power, Norfolk and Western Ry., Roanoke, Va., chairman, reported as follows:—

Your committee wishes to report the following recommendations for changes in the present code of rules for loading materials. The modifications, in the main, have reference to reductions in amount of material required to build up loads, having due regard for the safety of cars as well as lading in transit. We have during the past year collected a good deal of information from railways and shippers in connection with the several suggestions we are recommending, some of this information coming to us quite recently.

First, we would direct attention to rule 6, and with particular reference to its apparent conflict with American Railway Association rule 15, some allusion to which was made in our report of 1910. Your committee has had a great deal of correspondence during the past year concerning this particular subject, no doubt mainly brought about by the insertion of the second paragraph of rule 6, which was effected in 1911 on the strength of an interpretation given us by the American Railway Association.

In our 1910 report we stated that the question concerning the apparent conflict between M.C.B. rule for loading materials and American Railway Association rule 15 was first brought up by Mr. Delano, then president of the American Railway Association, who suggested some modification in the rule to make it harmonize with rule 15 of the American Railway Association. Mr. Delano suggested that rule 6 of the rules for loading materials be modified to conform to the principle of run, repair or transfer, in order to increase the movement of cars in interchange. The specific point in rule 6 was its apparent conflict with American Railway Association rule 15, paragraph D, showing the conditions for which the receiving road should pay cost of transfer, the paragraph reading as follows—"The receiving road shall pay cost of transfer or rearrangement: (d) When cars exceed load limit or cannot pass clearances or be moved through on account of any other disability of receiving line."

After the presentation of the 1911 report your committee recommended to the arbitration committee the acceptance of the last suggestion offered by the American Railway Association, which was to add the following paragraph to rule 6:—"Should it become necessary to

transfer or rearrange the lading in transit on account of excess width or height of lading, see American Railway Association Car Service rule 15, paragraph D."

This was done under the impression that the supplement would remove the apparent conflict, still leaving rule 6 in such shape as to allow the shippers to build up loads within reasonable limits, without infringing upon the principle involved in American Railway Association rule 15.

The application of the second paragraph or added portion of rule 6 soon demonstrated the wisdom of the rule as it originally stood prior to the change last year, which required that the load be built up with reference to the clearances of the roads over which the lading is routed. In the light of this development the General Managers' Association of New York, at their meeting held there, 1911, concluded to suggest to the American Railway Association certain modifications to American Railway Association rule 15, having further in mind that in the event of the American Railway Association adopting such changes the Master Car Builders should be requested to modify rule 6 for loading materials, erasing therefrom that portion of the rule which was added in 1911, which would leave the rule practically in its original shape. Your committee has no further reference to make relative to rule 6 until the matter is disposed of by the American Railway Association.

**RULE 10.**—Wooden cars of light capacity when used as idlers between cars of heavier capacity are liable to break down when placed in a train composed of heavier capacity cars, in case of sudden stops or emergency application of the brakes; a paragraph, therefore, should be added to rule 10 reading as follows:—"If the idler is a flat car of wooden construction, its capacity must be not less than that of the carrying cars."

**RULE 11.**—Change "for" to "from" following "inches" in the middle line of the last paragraph of this rule, which would make the last paragraph read as follows:—"For loads of greater height than 12 ft., subtract 2 ins. from given width (w) of load for every inch of width in excess of 12 ft."

**RULE 23.**—The first sentence of this rule should be changed to read as follows, so as to also cover the placing of sliding as well as bearing pieces:—"Bearing and sliding pieces must never be placed between bolster and end of car, unless special provision is made therefor in detail instructions."

**RULE 43.**—This should be changed to read as follows:—"The lading overhanging the idler, figs. 6 and 7, must be governed by restrictions contained in general rule 11, so that overhang will not exceed clearances in curving."

**RULE 45.**—The last portion of this rule should be changed to read as follows:—"Where the pile of lumber on the idler exceeds 20 ft. in length, four stakes on each side must be used, three on each side being sufficient for shorter piles to conform to rule 34." This would make the new rule read as follows:—"The five stakes on each side of the carrying car should be placed as near the bolsters as possible, and no stakes whatever should be used on the idler to confine the overhanging part. The only stakes permitted on the idler will be such as may be required for the short lumber loaded on the idler. Where the pile of lumber on the idler exceeds 20 ft. in length, four stakes on each side must be used, three on each side being sufficient for shorter piles to conform to rule 34. All stakes should be fastened as shown in figs. 6 and 7, and as provided for in rules 12, 13, 34, 35 and 36."

**RULE 55.**—We find that some of the Canadian roads have flat cars equipped with permanent chains and short stakes,

which are used for the handling of logs, and having ascertained that logs loaded on these cars with this method of binding the lading are safe, we would recommend the addition of the following note immediately after rule 55 so as to allow the use of this equipment for handling the material in question. It would be proper to mention that this subject came up last year, too late to be presented in our report. The subject was put before the executive committee, but was laid on the table. "Logs loaded in accordance with fig. 14, secured by means of permanent short stakes and chains in lieu of the specified staking and wiring will be acceptable."

**RULES 56 AND 57.**—These two rules should refer to flat as well as low-sided gondola cars, and, therefore, should be changed to read as follows:—

**"RULE 56.**—When material of this kind is loaded on flat or gondola cars with sides less than 30 ins. high, and lading does not exceed 4 ft. in height measured from floor, and the lading is not loaded in pyramidal form, the stakes must be as high as the lading and must be tied together at the top with not less than eight strands equal to four wrappings of good ½ in. diameter wire, and must be tight. Stakes must be sound hardwood, free from knots and of the dimensions specified in general rule 12."

**"RULE 57.**—If the material is loaded on flat cars or gondola cars with sides less than 30 ins. high, to a height more than 4 ft. measured from floor, opposite stakes must be bound together with wire at about one-third of the height above car floor after one-third of the load has been placed on the car, and in such a manner that when the remaining load is placed on the car the wire will have a tendency to draw the tops of the stakes toward each other. The middle as well as the top wrappings of wire must consist of not less than 10 strands equal to five wrappings of good ½ in. diameter wire and must be tight. Bearing pieces may be placed between the lower and upper sections of load to facilitate application of wire after all the lading has been placed on the car. See

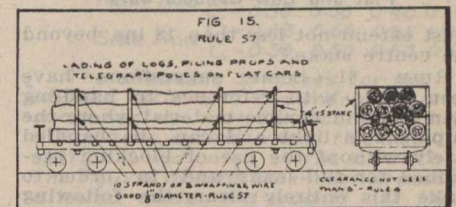


Fig. 15.—Loading of Logs, Piling, Props and Telegraph Poles on Flat Cars.

fig. 15. Stakes must be sound hardwood free from knots and of the dimensions specified in general rule 12. Stakes must incline toward centre of car a total of about 12 ins. before load is placed on car, and in no case will they be allowed to incline away from centre of car after the car is loaded. The inspector must assure himself that all wiring is tight before load is moved."

**RULE 58.**—Insert the figures "4½" just preceding the word "live" toward end of fourth line, which will then show size of saplings, making the first sentence read as follows:—"When lading is placed inside of a single gondola car with sides 30 ins. high or over and load projects above car sides, not less than three pairs 4 by 4 hardwood stakes or three pairs of 4½ in. live saplings should be well secured to either side of lading on inside of car for piling or props 20 ft. or less in length."

Also add the following paragraph to this rule:—"When lading is in two piles not over 20 ft. in length and ends of piles are interlaced at centre of car as per figs. 15-A and 15-C, there must be not less than five pairs of stakes for total length of load. If the length exceeds 20 ft. as per figs. 15-B and 15-D, there must