

the test pressure to 20 lbs. Yard tests made of an old condemned tank showed that a tank which would stand 20 lbs. water pressure without leaking would withstand the shock acquired in transportation when filled with a liquid of the same viscosity as water. Notwithstanding this, your committee feels that it is unwise to permit the unrestricted transfer of old tanks to steel underframes, especially where they are to carry inflammables, such as the gasolines. Tanks are running which are known to be more than 35 years old, and as the tank car specification has been in existence 10 years, it would seem that any tank on wooden underframe has already given a reasonable life.

It is felt that there should be a distinction between cars carrying inflammables and those carrying other products not involving the safety question; that the interval between the hydraulic tests should be shorter

as the age of the tank increases; and that definite provision should be made in the specification for the retirement from transportation service of tanks which cannot meet the test requirements.

In many cases, the pressure tests have not been made by filling the tanks with cold water as prescribed, in some cases air pressure having been used, or hot water, or even steam. It is felt that such tests do not meet the spirit of the specification, and do not insure the detection of the leaks as the cold water pressure does.

It is felt that frangible lead discs, used in connection with the safety vents, as an alternative to the safety valves on cars carrying non-inflammable products may be safely excepted from the requirements of periodical test, as the test could only develop the bursting pressure of the particular disc tested, which would then be replaced by a new disc, not tested.

Report of Committee on Overhead Inspection of Box Cars.

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

Following the procedure indicated last June, your committee, when it was called upon by the American Railway Association sub-committee, explained to them in detail the code of rules for the overhead inspection of box cars, formulated at their suggestion. The proposed code was gone over with the American Railway Association committee, studied at length, and several changes were made, without, however, disturbing its general plan or principle. The code, as finally accepted by the American Railway Association committee, was submitted to the executive committee of that Association, and was later laid before the American Railway Association at its semi-annual conference, in Chicago, in Nov., 1913. Your committee has advice that the report and code of rules alluded to, were accepted by the American Railway Association, and were proposed as a recommended practice. It is the understanding of your committee that the railways will, through the American Railway Association, be asked to give the project a thorough trial. Your committee wishes to ask that should the proposition be given a thorough trial by any railways desiring to take hold of the work along the lines indicated in the committee's report, and objections are found (as doubtless there will be), the circumstances shall be fully explained to the committee, so that the card or code may be improved in detail, rather than set them to one side as a whole, should they not perhaps meet certain local conditions. They believe such a course will be more effective and will enable them, if possible, to more quickly determine desirable practices. Your committee, in making this explanation of the status of the work, also wishes to advise it is their understanding that their work is now at an end made pointing out needed alterations in the card or code.

It has occurred to your committee that through some cars not completely reaching the requirements of the code, an opportunity will be offered for a careful check of same, which will readily indicate the additional repairs necessary and at the same time enable railways to compute the cost that will be entailed to reach the physical condition indicated by the card or afford an opportunity to ascertain wherein the requirements are too severe. No railway can do very much alone; on the contrary, the general condition sought by the use of the card can only be effectively reached through

each road doing its share.

The card and code of instructions, as finally accepted by the American Railway Association as a recommended practice, are as follows:—

INSPECTION AND CERTIFICATION OF BOX CARS BEFORE LOADING WITH FREIGHT SUBJECT TO DAMAGE.

(Recommended Practice subject to such changes as may be required to meet local or special conditions.)

Note.—This inspection does not cover cars for explosives or other dangerous articles provided for by the Regulations of the Bureau of Explosives.

Freight as described below must be loaded in certified cars which have received a special inspection in accordance with the following instructions. If cars pass the special inspection, this will be indicated by an inspection certificate which will be tacked on each side of the car below the car number.

Classification of Equipment Suitable for the Following Freight.

Classification A.—Package freight liable to loss or damage by water, protruding nails, material carrying odors, oil, grease, or moisture on interior of car, especially the floor.

Classification B.—Bulk freight liable to damage by water, or to loss through small openings.

Classification C.—Freight liable to loss or damage by water or protruding nails, but which cannot be lost through small openings.

The face of inspection certificate should be printed as follows:

INSPECTION CERTIFICATE.
NORTH & SOUTH RAILROAD.
Car Initial..... No.....
O. K. for shipment of commodities

Under	Classification
Inspected by.....	Station.....
Date.....	19.....

On back of card, inspection instructions should be printed as follows:

INSPECT FOR		
and see that car is free from following defects:		
Classification "A."	Classification "B."	Classification "C."
Leaky roof.	Leaky roof.	Leaky roof.
Loose siding.	Loose siding.	Loose siding.
Loose roof boards.	Loose roof boards.	Loose roof boards.
Shifted roof sheets.	Shifted roof sheets.	Shifted roof sheets.
Broken door stops.	Broken door stops.	Broken door stops.
Leaky doors, tops and sides.	Leaky doors, tops and sides.	Leaky doors, tops and sides.
Broken end posts.	Broken end posts.	Broken end posts.
Broken or loose door posts.	Broken or loose door posts.	Broken or loose door posts.
Protruding nails in floor and lining.	Holes in floor and around center plates and draft bolts.	Protruding nails in floor and lining.
Floors or sides soiled by oil, grease or any material carrying odors likely to damage lading.		

When there are inspectors located at points of loading the inspection will be made and certificates attached at that point. Where

inspectors are located at a point from which empty cars are distributed to stations the inspection will be made and certificates attached at that point. This inspection will be confirmed by agent at loading point. In all other cases the agent at loading point should inspect the car and file certificates as shown.

Aside from the Master Car Builders' inspection of car, including roof, running boards, air brakes, safety appliances and running gear, as well as the external inspection of sides, ends, doors, ventilators and windows, before inspection certificate is issued, an internal inspection must be made. Search for loose, damaged and broken boards, loose knots, knot holes, bad joints, etc. Search for all nails, spikes, screws and bolts extending above surface of floor and lining and nails protruding through roofing. Search for water stains indicating cracks and air spaces. Examine for metal sheets out of position along edge of sub-carline or down from edge of ridge pole. Doors must open and close properly. Inspect closely for defects in framing which might, by reason of their weakness, allow the sheathing to readily be broken or damaged. Close doors, ventilators and windows and search for light indicating openings and cracks which might produce leaks. Search for cracks sufficient to admit storm water beating through opening; also for openings and bad joints around windows and doors.

When a car is loaded by a shipper the inspection certificates must be detached from the car and delivered to agent before bill of lading is issued. All certificates finally must be filed by the agent at point of loading for future reference.

Report of Committee on Specification and Tests of Materials.

The Master Car Builders' Committee, C. D. Young, Engineer of Tests, Pennsylvania Rd., chairman, and of which E. P. Tilt, Engineer of Tests, C. P. R., Montreal, is a member, reported as follows:

Your committee was instructed to revise certain specifications of the Association and prepare new ones covering certain other classes of material covered in the recommendations of last year's committee on form. Specifications covering 16 different classes of material were sent out for criticism by the members and, as a result of these criticisms and subsequent meetings, it was agreed that the following named materials only could be handled this year: Airbrake hose, heat treated knuckle pivot pins, steel axles, refined wrought iron bars, welded pipe, helical springs, chain, and journal box brasses; and that the specifications covering the following materials could be further investigated and specifications offered at the next annual meeting: Refrigerator car heat insulation materials, mild steel bars for miscellaneous parts, steel castings, rivet steel and rivets, structural steel and steel plates, galvanized sheets, malleable iron castings, and elliptic springs.

Your committee has been in correspondence with the Association of Rubber Goods Manufacturers during this year and is co-operating with it in order to establish standard methods of making tests and standard test apparatus, as there are no standards covering the testing work for this class of material in existence today.

The specifications covering air brake and signal hose for passenger and freight equipment cars have been revised, changing the form of the specifications and explaining the methods of test, but the committee has endeavored not to make any changes in the requirements of the specifications other than