



New 70-Ton Hopper Cars

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The 500 new hopper cars of all-steel construction, now being delivered, add a type of car new to the Boston and Maine's equipment for hauling coal, or for special use in handling ballast.

With sloping bottoms terminating in four hoppers underneath the car body and having discharge doors extending the entire width of the car, a quick discharge of the entire load is provided. These cars are most substantially built and are up to date in every respect as to design and appliances for efficiency and economical maintenance.

The hopper doors have a simple, rugged and positive locking mechanism. By the use of an auxiliary chain, passing through eyes provided for the purpose, the amount of door opening can be regulated by adjusting the chain, when ballast is to be distributed, permitting a slow or rapid discharge, as desired.

The car body is constructed of one-fourth inch plates of copper-bearing steel which resists corrosion. The high sides and ends, the tops of which are 10 feet, 8 inches above the rails, are strongly braced on the inside by three web, or gusset, plates on each side extending from the center sills of the underframing to within 14 inches of the top. These center sills constitute the "backbone" of the car and act as a column and tension-member for transmitting the heavy buffing and draft strains in train service. These strains are cushioned by draft gears of combined spring and friction type at each end and between the two center sills.

Heavy type "D" cast steel couplers are of the swivel-butt type to facilitate alignment on curves. A gravity type centering device supports the coupler and aids its alignment on curves. A gravity type centering device supports the coupler and aids its alignment on straight track.

The trucks have heavy cast steel bolsters and side frames. The journal boxes

are cast integral with the frames, dispensing with bolts and separate parts tending to work loose in service, hence reducing the maintenance attention and costs.

The air-brake equipment includes a Westinghouse type 10x12 brake cylinder. The hand brake is operated easily by a large hand wheel multiplying the power through a special mechanism of proved efficiency.

These cars are numbered in the 8,000 series. Twenty-five cars are stenciled MTC (Mystic Terminal Company).

Special features of the equipment of these cars, which will be of interest to the maintenance forces, are: Draft gears are of two kinds, Waugh and National; Symington swivel butt couplers made by the Gould Coupler Co.; Farlow two-key draft attachment; coupler centering device by the Union Metal Products Co.; Davis cast steel wheels are applied to 350 cars and Griffin cast iron to the remainder; 100 cars are equipped with the Frost friction type springs; hopper door fixtures are made by the Wine Railway Appliance Co.; Schaefer brake levers, brake beam loop hangers and brake lever clevises are used; ajax hand brake, Creco No. 2 compensating dust guards, and truck side frames and bolsters made by Symington Company.

The construction of these cars conforms to the standards of the American Railway Association, with additional reinforcement of the center sills at the bolsters and draft gears. The cars are being built by the Standard Steel Car Company at their Butler, Pa., works.



The biggest discovery the boss can make about the employee, or the employee can make about the boss, or both about the customer, is that each is primarily a human being.—*Vision.*