

cars & 200 box cars, the latter to be 35 ft. long & of 60,000 lbs. capacity. Four locomotives & 100 cars are being built at the shops of the line at Moncton. An order has recently been placed outside for 5 locomotives. A considerable amount of new machinery will be placed in the Moncton shops this year. About \$20,000 is to be expended in equipping freight cars with air brakes.

Grand Trunk Equipment.

Two new dining cars which have recently been put on between Suspension Bridge & Chicago are thoroughly up to date in every particular. They are 74 ft. over all & are equipped with standard wide vestibules, steel platforms & 6-wheel trucks with 33-in. steel tired wheels. Air signals are attached, an anti-telescoping device affixed, & all modern appliances added. The general exterior appearance is similar to the new standard day coaches which are run on the system. The windows are glazed with heavy plate glass, all double. The dining-room is large, being 31 ft. 8 in. long, & will seat 30 persons comfortably. The general style of the interior design is colonial, the wood work being of quartered oak. The chairs are of oak upholstered in leather. The windows are decorated with draperies & the openings into the dining-room are provided with ornamental portieres. The floors are carpeted with Wilton throughout the whole length of the car & the vestibuled floors are covered with rubber tiling. The kitchen & pantry are equipped with all modern conveniences, the tables, etc., being covered with polished brass. A handsome sideboard is placed at one end of the dining-room just in front of the pantry, & opposite to the sideboard a wine locker is provided. China & linen closets, wardrobes & white metal washstands are in evidence in accordance with modern practice. The cars are heated with hot water coils from the engine.

The building of 12 standard freight engines has been completed at the Co.'s Point St. Charles shops, & out of the order for 10 standard passenger engines 3 have been finished.

Ten Vaucrain compound consolidation locomotives are being built for the Co., at the Baldwin Locomotive Works. They will be used on freight trains in international service in hilly or mountainous districts where the grades are unusually heavy, such as the White Mountain district in New Hampshire, & westward along the line to within a short distance of Montreal.

The Co. is building at its Point St. Charles shops, Montreal, 20 1st-class passenger coaches of the 800 series, which will be of the most modern & approved construction.

High Speed Brakes.

The Westinghouse high speed brake has recently been placed on 3 C.P.R. trains, also on 3 Canada Atlantic trains, all of which are employed in the Montreal-Ottawa fast service. This brake has been designed to meet the exceptional requirements of regular trains which are scheduled to run at much higher average rates of speed than have heretofore prevailed in passenger train service. It will stop passenger trains in emergencies in about 30% less distance than is required with the best brakes heretofore used. The brake apparatus is the standard Westinghouse quick action with a pressure regulating attachment. The addition of pressure regulating devices to the existing quick action brake fixtures for both locomotives & cars is all that is required to convert them into high speed brakes. The superior stopping capacity is obtained by increasing the standard air pressure of 70 lbs. to about 110 lbs.

The apparatus of the high speed brake is very simple. It consists of the quick action air brake apparatus, as ordinarily applied to a passenger car, to which is added an automatic reducing valve, that is adapted to be secured quite readily to the car sills or to any point in the vicinity of the brake cylinder, to which it is connected by means of suitable piping. It is therefore only necessary to add this pressure reducing valve to the quick action brake apparatus, already in use upon any passenger car provided with standard brake gear, to convert the apparatus into the high speed brake. This automatic pressure reducing valve is so constructed that it remains inert in all service applications of the brake, unless, at any time, the brake cylinder pressure becomes greater than 60 lbs. per square inch (for which the pressure reducing valve is ordinarily adjusted), in which case the reducing valve operates to promptly discharge from the brake cylinder so much air as is necessary to restrict the cylinder pressure to 60 lbs. It will thus at once be apparent that the maximum brake cylinder pressure, in all service applications of the brakes, is restricted to 60 lbs., regardless of the air pressure normally carried in the train pipe & auxiliary reservoirs. In an emergency application of the brakes, the violent admission of a large volume of air to the brake cylinder (only made possible by the quick action feature of locally venting the train pipe) raises the pressure more rapidly than it can be discharged through the capacious service port of the reducing valve, & the port thereby becomes partially closed, restricting the discharge of air from the brake cylinder in such a manner that the pressure in the brake cylinder does not become reduced to 60 lbs. until the speed

of the train has been very materially decreased.

In order to cause this high speed brake apparatus to become practically effective for producing the increased stopping efficiency, the pressure of the air carried in the train pipe & auxiliary reservoirs is increased from 70 lbs. (the customary standard) to about 110 lbs. per square inch. With this pressure in the train pipe & auxiliary reservoirs, an emergency application of the brakes almost instantly fills the brake cylinders with air at nearly 85 lbs. pressure, thereby increasing the braking force from about 90% (the customary standard) to about 125% of the weight of the car. Or, in other words, the pressure of the brake shoes upon the wheels is about 40% greater, at this instant, than is realized by the mere use of the quick action brake. The air pressure immediately begins to escape from each brake cylinder, through the automatic reducing valve, & continues to do so until the brake cylinder pressure becomes 60 lbs., which is thereafter retained until the brakes are released by the engineer.

On account of the high pressure normally carried in the auxiliary reservoirs (110 lbs.), a full service application of the brakes (charging the brake cylinders with air at 60 lbs.) may be made, & still leave the pressure in the auxiliary reservoirs at nearly 100 lbs. If, after releasing the brakes, a second application of the brakes should be called for before there has been time to recharge the reservoirs, there is abundant air yet stored in the reservoirs to make a second, & even a third, full service application, & still leave sufficient air pressure to make an emergency stop equal to that of the ordinary quick action brake. These advantages, coupled with such a restricted brake cylinder pressure for all service applications of the brake, that wheel sliding is entirely avoided, require no comment to insure recognition of their importance upon trains of unusually high speed. By simple additions to the brake apparatus on the locomotive, the train pipe pressure is easily & quickly changed to 70 lbs., when the locomotive is used in other kinds of service, & vice versa.

One on C. R. Hosmer.

This is how the Daily Transcript, Moncton, N.B., announced Mr. Hosmer's recent election to the C.P.R. directorate:

"C.P.R. DISASTER.

"MONTREAL, Oct. 10.—Mr. C. R. Hosmer has been elected a director of the Canadian Pacific Railway."

Moncton is a "dry" town, so the Transcript proof reader will have to find some other excuse.

TO CALIFORNIA.

Via The Midland Route.

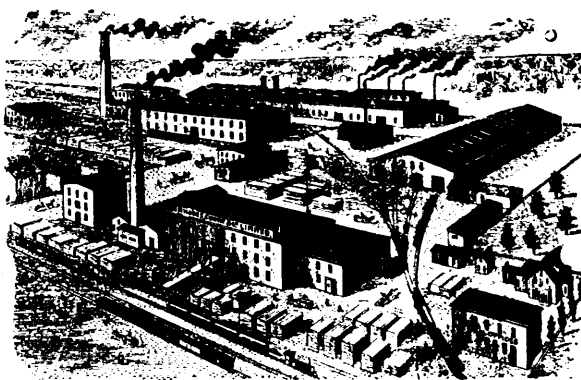
Every Friday night, at 10.35 p.m., a through Tourist Car for San Francisco, carrying first and second-class passengers, leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City (with stop-over privileges at Salt Lake City), for all points in Colorado, Utah, Nevada and California.

The Tourist Car berth rate from Chicago to San Francisco is only \$6.00, and the sleeping car berths should be reserved a few days in advance of departure of train.

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