

freight locomotives, to be delivered 2 in June and 2 in July; 34 22 and 35 x 30 in. two-cylinder compound 10-wheeled freight locomotives, to be delivered, 24 in June and 10 in July; 10 20 x 26 in. 10-wheeled passenger engines, to be built during June; 2 15 and 28 x 26 in. tandem compound 10-wheeled passenger locomotives, to be built during June and July. All the locomotives will be built at the Schenectady Works.

The Galt, Preston & Hespeler Ry. has equipped its freight motor with a Westinghouse quick-action automatic air brake. The apparatus is identical with that used for equipping locomotives in steam railway service, except that the air compressor is operated by a small independent motor instead of steam. The capacity of the compressor will give sufficient air to operate successfully the brakes on 25 ordinary freight cars. Similarly equipped freight motors are in service on the Niagara, St. Catharines & Toronto Ry., and the Ottawa Electric Ry. The Oshawa Ry. is about to place an order.

The Sydney & Louisburg Ry. has ordered two simple consolidation locomotives from the American Locomotive Co. Weight about 178,000 lbs. Size of cylinder, 21 in. x 26 in.; driving wheels, 50 in. dia.; prairie type fire box. Engine to be supplied with 8 wheel tender. Water capacity, 4,000 galls.; coal capacity, 8 tons; pilot and headlight both back and front; two sand boxes. Dia. boiler, smoke box end, 72 in.; width of firebox, 70 in.; length of firebox, 76 in; working pressure, 200 lbs. per sq. in. Fire box crown, side, and back sheets, steel; 368 two-inch tubes 13 ft. 11 in. long. Westinghouse automatic air brakes; driving brakes applied at back side of wheel. Delivery is to be made in Sept.

Rhodes, Curry & Co., Amherst, N.S., received the following orders for equipment during 1902:—C.P.R.: 10 passenger coaches; 1,100 box cars, 80,000 lbs. capacity; 100 refrigerator cars, 80,000 lbs. capacity; 100 stock cars, 60,000 lbs. capacity; 500 flat cars, 60,000 lbs. capacity. Cumberland Ry. and Coal Co.:—6 side-dump cars, 80,000 lbs. capacity; 75 coal cars, 32,000 lbs. capacity. Dominion Atlantic Ry.:—2 passenger cars, 20 flat cars, 60,000 lbs. capacity. Intercolonial Ry.:—2 postal cars, 300 box cars, 80,000 lbs. capacity; 70 box cars, 60,000 lbs. capacity. Inverness and Richmond Ry.:—75 coal cars, 60,000 lbs. capacity. Midland Ry. of Nova Scotia:—4 box cars, 60,000 lbs. capacity. Quebec and Lake St. John Ry.:—100 box cars, 80,000 lbs. capacity. Shore Line Ry.:—5 flat cars, 40,000 lbs. capacity. Temiscouata Ry.:—10 flat cars, 60,000 lbs. capacity.

The C.P.R.'s 32 single 10-wheel passenger locomotives, which are being built in Scotland, have the following general dimensions:

Weight on drivers.....	126,000 lbs.
Total weight.....	165,000 lbs.
Diameter of cylinders.....	20 in.
Stroke of pistons.....	26 in.
Diameter of drivers.....	69 in.
Type of boiler—Radial stayed extended wagon top.	
Working steam pressure.....	210 lbs. per sq. in.
Heating surface—total.....	2,421 sq. ft.
Tubes—number.....	328
“ outside diameter.....	2 in.
“ length.....	13 ft. 2½ in.
Firebox—length.....	9 ft. 6 in.
“ width.....	3 ft. 5½ in.
“ material.....	Steel
Grate area.....	33.2 sq. ft.
Tank capacity—water.....	5,000 imp. gall.
Coal capacity.....	10 tons

The special equipment includes Krupp steel

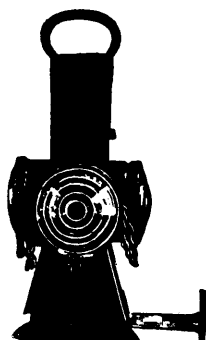
axles, crucible driving wheel tires, disc steel-tired truck wheels and tender wheels, Canada Switch and Spring Co.'s spring and wheel centres.

The C.P.R. has placed an order in Saxony for 20 compound freight locomotives, two cylinder Pittsburg system, to be delivered by Sept. 15. They are duplicates of the Co.'s 10-wheel passenger locomotives, except that the driving wheels are 63 ins. over tire instead of 69, and the tender truck wheels are 34 ins. over tire instead of 40. Following are the general dimensions:

Weight on drivers.....	128,000 lbs.
Total weight.....	169,000 lbs.
Diameter of cylinders.....	28 in. and 33 in.
Stroke of pistons.....	26 in.
Diameter of drivers.....	63 in.
Type of boiler—Radial stayed extended taper course.	
Working steam pressure.....	210 lbs.
Heating surface—total.....	2,421 sq. ft.
Tubes—number.....	328
“ material.....	Swedish steel
“ outside diameter.....	2 in.
“ length.....	13 ft. 2½ in.
Firebox—length.....	9 ft. 6 in. inside
“ width.....	3 ft. 5½ in.
“ material.....	Krupp steel
Grate area.....	33.2 sq. ft.
Tank capacity for water.....	5,000 imp. gall.
Coal capacity.....	10 tons
Tender frame.....	10 in. steel channels

The special equipment includes Krupp axles, driving, truck and tender wheels, steel crank pins, connecting rods and side rods, nickel steel piston rods and cast steel piston heads, and Simplex brake beams.

J. E. Muhlfeld, Assistant to the General Superintendent of Motive Power, Baltimore & Ohio Rd., formerly Supt. of Machinery and Rolling Stock of the Intercolonial Ry., has contributed to the Railway Age a paper on locomotive draft appliances, which is accompanied by an original design which he claims has several important improvements over present practice. The principal features are: First, the use of a stack extending down into the smoke box; second, the baffle plate is divided, the upper portion above the top of the exhaust nozzle and the lower portion hinged near the top of the nozzle and in front of it; third, a dead plate extending across the smoke box on a line with the bottom of the stack, thus reducing the volume of the smoke box occupied by gases. The netting is horizontal and on the center line of the boiler. Mr. Muhlfeld believes in a self-cleaning smoke box, and his design shows a successful one. The use of large boilers has resulted in a more general use of the stack extended into the smoke box, but this is probably the first design which has partitioned off the space between the bottom of the stack and top of the smoke box, thus reducing the volume of the smoke box to that extent. Mr. Muhlfeld states that if this space is left open, it results in eddies, above the natural line of induced currents, and an accumulation of non-circulating gases, which cannot escape as they do when a petticoat pipe is used. The fact that



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