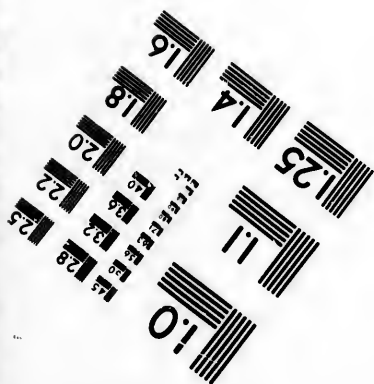
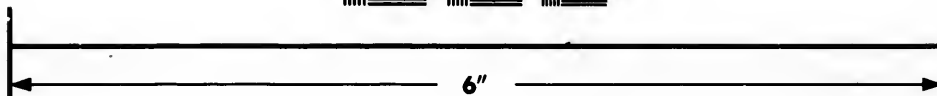
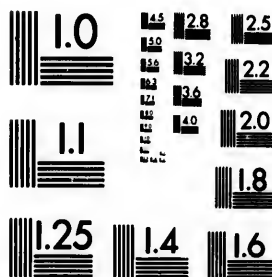


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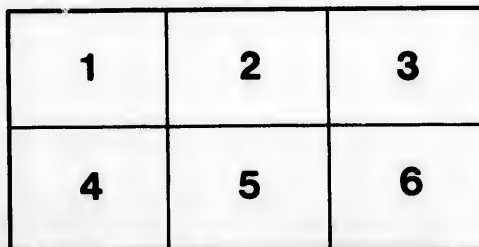
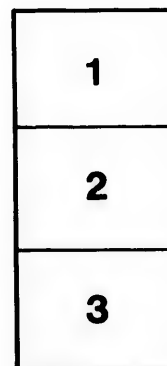
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5 Baggage Cars built by
G. F. Patton of Bath Me. Mar. 75.

Numbered 63. 64. 65. 66. and 67.

GRAND TRUNK RAILWAY.

—♦♦—
SPECIFICATION

FOR

Bodies of Baggage and Express Cars.

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GRAND TRUNK RAILWAY.

SPECIFICATION FOR BODIES OF BAGGAGE AND EXPRESS CARS.

GENERAL CONDITIONS.

These car bodies must be made to the dimensions given in the following specification. The timber used must be of first quality, dry, sound and well-seasoned, free from shakes, knots, sap or any other defect, and accurately fitted together. The wrought iron must be of best "Staffordshire," or of equal and approved quality.

The castings must be made from tough, gray pig iron, and must be sound, smooth and perfect in all respects. All the bolts and nuts used must be screwed to "Whitworth's" thread.

The car bodies must be fitted and finished in the most complete manner, to the entire satisfaction of the Company's *Mechanical Superintendent* or his Agent, who shall be allowed to inspect the work, with power to reject any part found to be defective in quality or workmanship, or not in accordance with specifications.

The iron work and springs to be warranted for twelve months after being set to work, any failure during that period, except such as results from accident, must be made good by the Contractor.

Trucks will be supplied by the G. T. R. at any point on their line in the United States, as desired; the Contractor will unload the trucks (in case they are not shipped on their own wheels,) and place the bodies upon them.

GENERAL DESCRIPTION.

The bodies are to be 50 ft. long \times 9 ft. 8 ins. wide over frames, having a plain curved roof. At each end they are to be fitted with "Miller's Patent" platform and coupler buffer, as manufactured by the G. T. R. Company, also with "Smith Patent" Vacuum Brake gear, cylinders, levers, guides, suspension links and necessary $\frac{3}{4}$ in rods to truck, and the brake wheel on platform, with pawl, ratchet and chain, all complete.

Each car is divided into two compartments, the Express division being 16 ft. 4 ins. \times 7 ft., having a passage 1 ft. 8 $\frac{1}{2}$ ins. wide at its side, and the Baggage division 32 ft. 8 ins. \times 9 ft. The Baggage division has also a sliding and swinging partition, by which one end can be used as a bonded compartment, its largest possible size being 9 ft. 8 ins. long \times 7 ft. wide.

There are five sliding side doors, with an opening 5 ft. 9 ins. \times 3 ft. 9 ins., two end doors, one being 5 ft. 10 ins. \times 2 ft. 2 ins., and the other is only 1 ft. 8 $\frac{1}{2}$ ins. wide.

Each car has six fixed windows, four panes in each, glass 9 $\frac{1}{2}$ \times 11 ins., also each door is provided with windows.

UNDER FRAMING.—Frame is 50 ft. long \times 9 ft. 8 ins. wide, all longitudinals are of Southern or Georgia Pine. Sidesoles 50 ft. long \times 5 $\frac{1}{2}$ ins. \times 9 ins.

Intermediates and centrals are 4 ins. \times 9 ins. All have two 1 $\frac{1}{2}$ ins. tenons running into headstock, which is oak 7 ins. \times 9 ins. Sidesoles and headstocks are secured by wrought iron corner brackets $\frac{3}{4}$ in thick \times 8 ins. deep \times 8 ins. long, and are bolted to each timber by 4 bolts $\frac{3}{4}$ in. diameter. Centrals and intermediates are each bolted to headstock by one $\frac{3}{4}$ in. joint bolt 16 ins. long. Body bolsters are oak 39 ft. 4 ins. apart, 16 ins. \times 5 $\frac{1}{2}$ ins., checked into, and bolted to each through timber by 2 bolts $\frac{3}{4}$ in. diameter; each is also trussed by twy 1 in. rods,—nuts to bed on cast iron end plate that covers the end and clips the underside of bolster.

Bolster to be provided with rubbing pieces, centre casting and king pin to suit the trucks provided.

Running between the main through timbers, and spaced not more than 4 ft. 6 ins. apart, there are tenoned distance cross pieces $2\frac{1}{2}$ ins. \times 9 ins. At proper distances apart, and close to these cross pieces are 9 through tie bolts $\frac{3}{4}$ in. diameter \times 9 ft. 11 ins. long, screwed at both ends, with nuts and washers recessed flush with sidesole.

Transomes are oak 10 ft. apart, centres, section $10\frac{1}{2}$ ins. \times $4\frac{1}{2}$ ins. placed on flat, checked into and bolted to each main timber by 2 bolts $\frac{3}{4}$ in. diameter. Transomes are trussed by one wrought iron rod 1 in. diameter, screwed at both ends, and having a set bolt and nut at centre,—at ends to be faced with a cast iron plate screwed on, this also acts as a washer.

Transomes have bolted to them four light but strong cast iron brackets for truss rods. These four truss rods are each $1\frac{1}{8}$ ins. diameter, with $1\frac{3}{8}$ ins. screwed ends; they pass through the headstock, and are bent upwards so as to pass over packing and shoe on top of bolster quite close to floors, and then pass below the transome brackets, being provided at centre with $12\frac{1}{2}$ ins. double ended nuts screwed with $1\frac{3}{8}$ ins. right and left thread, having also check nuts $\frac{7}{8}$ ins. thick at each end. Stout metal shoes, well secured, and broad washer are required for truss rods. An intermediate transome, the same in every respect as truss transome, is required midway between it and the body bolster.

The "Miller" platform is to be only 2 ft. between headstock and buffer beam, and from rail level to centre of coupling to be 2 ft. 9 ins. Gallery step is of bent wrought iron, 2 ins. \times $\frac{1}{2}$ in., faced with 1 in. ash, and is stayed with $\frac{3}{4}$ in. rods similar to G. T. R. standard.

Floor is of 2 in. Georgia pine, stiffly nailed to top of main timbers and cross pieces, &c., being carefully fitted round the upright posts.

UPPER SIDE FRAME.—This at each side is formed by 39 upright ash posts, 6 ft. 3 ins. long, between shoulders $3\frac{1}{4}$ ins. \times $1\frac{1}{2}$ ins., and 3 short ones under windows of same section, they are stoutly tenoned into sidesole and also into wall-plate, which is of ash, 6 ins. \times $3\frac{1}{4}$ ins. in one piece, wall plate and

sidesole being held together by 22 tie bolts $\frac{5}{8}$ ins. diameter, screwed at both ends. Where not broken by openings for doors and windows, 3 rows of ash belting run all round the car, the centre one being 4 ins. \times 2 ins., and the upper and lower being 3 ins. \times $1\frac{1}{2}$ ins., all being checked flush into outside of upright post, and secured to each by a $2\frac{1}{2}$ ins. No. 18 screw.

Door posts and corner posts are 7 ins. \times $3\frac{1}{2}$ ins. of hard close-grained wood; they are stoutly tenoned into sidesole, and secured to it by a $\frac{5}{8}$ in. joint bolt 16 ins. long. The post of each large door is protected at side by a half-round wrought iron rod $\frac{3}{4}$ in. \times $\frac{1}{2}$ in., stoutly screwed so as to effectually resist hard usage.

END UPPER FRAME.—This is formed in the same way as sides, only an arch rail of ash takes the place of the wall plate, section 12 in. \times $3\frac{1}{2}$ in.

There are 3 through $\frac{5}{8}$ in. tie bolts at one end and 4 at the other, and door posts are tenoned into headstock and secured by one joint bolt $\frac{5}{8}$ ins. diameter \times 16 long.

WINDOWS.—The 6 immovable side windows are of hard wood 2 ft. 5 ins. \times 1 ft. 11 ins. each having 4 panes of glass $9\frac{1}{2}$ ins. \times 11 ins. Each window is protected inside by 6 wrought iron rods $\frac{1}{2}$ in. diameter stoutly screwed at each end to upright post. There are 3 windows at the top of each sliding door, glass 12 ins. \times 16 ins. and 2 small windows in each end door. All glass to be best 26 oz.

DOORS.—The 5 sliding door frames are of ash; side rails are $4\frac{1}{2}$ ins. \times $1\frac{3}{4}$ ins. \times 5 ft. 10 ins; top rail is $4\frac{1}{2}$ ins. \times $1\frac{3}{4}$ ins. \times 4 ft.; second rail is 7 ins. \times $1\frac{3}{4}$ ins. \times 4 ft.; third rail $5\frac{1}{2}$ ins. \times 1 in. \times 4 ft., and bottom rail is 8 ins. \times $1\frac{3}{4}$ ins. \times 4 ft., the sheeting being $\frac{3}{4}$ in. white pine, tongued and grooved, laid vertically and well nailed to rabbeted seat provided on inner edge of rails. Rails are tenoned together.

The doors run on two wrought iron rails, top one is flat, $1\frac{1}{2}$ ins. \times $\frac{1}{2}$ in. and bottom one is half round $\frac{3}{4}$ in. \times $\frac{1}{2}$ in. The necessary wood packing pieces, double friction rollers, guides, handles, catches, locks, and stops of wrought iron

are to be provided. A $\frac{3}{4}$ in. rod 3 ft. long is to be well secured to 3 roof ribs over each sliding door. A packing piece 2 ins. thick of ash is required on floor at each door, and this is faced with a corrugated or figured cast iron plate closely fitted and very carefully screwed down. A light ash frame protects door when it is drawn back, there being 5 bars $3\frac{1}{2}$ ins. \times $1\frac{1}{2}$ ins. screwed to the packing piece at bottom, and to distance piece between roof ribs at top. Door stops are of ash, one 5 ins. \times 2 ins. and the other 4 ins. \times 2 ins. secured to each belt by $\frac{1}{2}$ in. bolts, &c.

End door frames are of ash, and plain pannelled. (See drawing for sizes.) They must have locks and keys.

PARTITIONS.—Partitions are made by vertical ash posts $1\frac{3}{4}$ ins. \times $3\frac{1}{2}$ ins. tenoned into ash base piece $1\frac{3}{4}$ ins. \times $2\frac{1}{2}$ ins. which is stoutly screwed to the 2 in. flooring, and to ash distance pieces of the same size secured to roof ribs. The door posts are ash 4 ins. \times $3\frac{1}{2}$ ins. rounded on outer edge, and rabbeted both sides for sheeting.

DOOR BONDED COMPARTMENT.—Bonded compartment has a sliding swing door of ash slats, (as shown on drawing) the whole being supported by 4 cast iron wheels running on a wrought iron rail $2\frac{1}{2}$ ins. \times $\frac{1}{2}$ in.; there are long distance pieces above these wheels to keep them from rising off rail. Locking apparatus and lock plate $2\frac{1}{2}$ ins. \times $1\frac{3}{8}$ ins. to be exactly to detail drawing supplied. Each swing door to have one G. T. R. standard lock and one U. S. customs lock.

SHEETING.—All surfaces of upper frame, except underside of roof ribs, are covered with $\frac{3}{4}$ in. white pine sheeting, tongued and grooved, well and carefully nailed to post, belting, &c., making good joints at corners, floor, &c.

ROOF.—This is formed by single arched ash ribs $1\frac{3}{4}$ ins. wide \times $2\frac{3}{4}$ ins. deep, having 6 ins. rise, and spanning from wall plate to wall plate, into which they are stoutly tenoned, and to which they are secured by joint bolts 8 ins. long \times $\frac{1}{2}$ in. diam. These ribs must not be spaced more than 18 ins. apart centres. To them is well nailed $\frac{3}{4}$ in. pine sheeting

tongued and grooved, this afterwards being covered with XXX tin plate, well soldered and secured to sheeting, both inner surfaces being well painted before the tin is fastened down. Wall plate is carried out 2 feet beyond corner posts, and supports the roof over end platform.

FURNISHINGS.—Each compartment is to have one iron stove, at least 30 ins. long x 14 ins. wide x 20 ins. deep, with necessary pipes, and water-tight chimney through roof. Stove to be protected by an open wrought iron guard and the sheeting close to stove is faced with $\frac{1}{2}$ in. iron plate, screwed on to a distance piece $\frac{1}{2}$ in. thick, x 2 ins. wide, thus leaving an air space between plate and body sheeting; the floor below stove is also to be well protected by zinc plate carefully nailed down.

A plain open letter box 2 ft. x 2 ft. 8 ins. with 18 small compartments, one of which is to be secured by a padlock, is fastened to sheeting of baggage room about 4 ft. 6 ins. from floor.

One oil lamp with bracket and water-tight chimney through roof, is required in each compartment.

One strong shelf of pine 16 ins. x $1\frac{1}{2}$ ins. runs across express compartment, to which it is well secured at the angle shown.

One corner of baggage compartment has a strong shelf, and from it to floor run strong ash slats that separate this corner for a tool store, &c., (see drawing.)

Three water-tight circular ventilators 8 ins. diam. of zinc, are required through roof.

Hand and gallery rails of wrought iron, are required at each end. One end of gallery is blank, having no stop, but the rail is carried right round and secured to corner post.

One signal lamp bracket G. T. R. standard size is required at each end of car, secured to outside of corner post.

Six metal bell cord guides are to be screwed into roof ribs.

MISCELLANEOUS.

Every joint in the whole frame and floor is to be carefully made and well covered with stiff white lead before being permanently fixed.

All through timbers in frame or roof must be in one piece from end to end.

All bolts and nuts must have broad heads and washers bolts must be a tight driving fit in all the holes of the timber through which they pass.

Should any work be described in this specification which is not shown on the drawings, or any work represented or reasonably implied in the drawings which is not mentioned in this specification the several works are, in either case, to be performed without any extra charge, and nothing is to be omitted which is required to render every portion of these bodies completely finished and fit for the purpose for which they are designed, the Contractor having to supply all materials, labour, works, machinery and tools requisite for the full completion of the same.

PAINTING

Outside body is to have 3 coats of white lead, 2 of chrome yellow and lead, and 3 of varnish. Inside sheeting to have 3 coats of drab, and roof 2 coats of brown, floor also is to have 2 coats all to quality and colour of sample supplied.

FORM OF TENDER

FOR

BODIES OF BAGGAGE AND EXPRESS CARS.

_____ do hereby agree to supply the
 Grand Trunk Railway Company with _____
 Bodies of Baggage and Express Cars, and place them on
 Trucks, in accordance with the specifications, Drawings, &c.,
 free of all claims for Patent Right, Royalties, &c., for the
 sum of _____

_____ for each Car.

Signature of Contractor.

Witness.

To be delivered at _____, free
 of transit charges, on or before the _____
 day of _____ 187—

Tenders to be endorsed "Tenders for Baggage and
 Express Car Bodies."

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