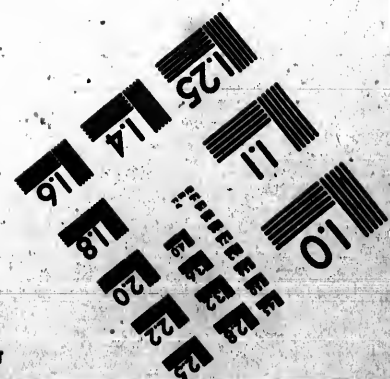
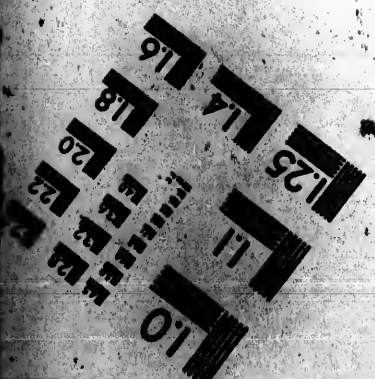
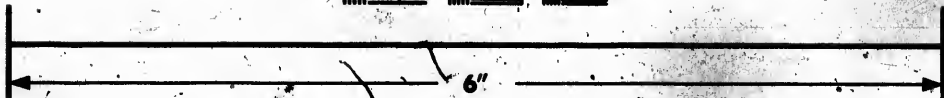
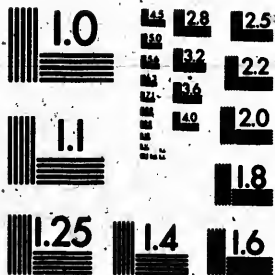


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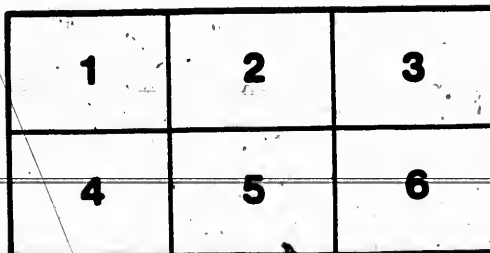
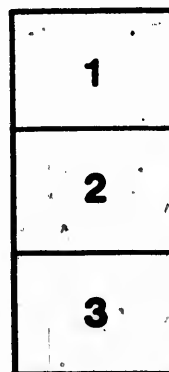
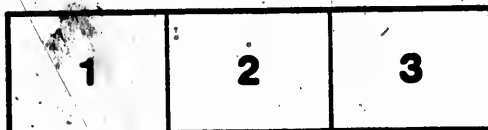
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**Great Western Railway.**

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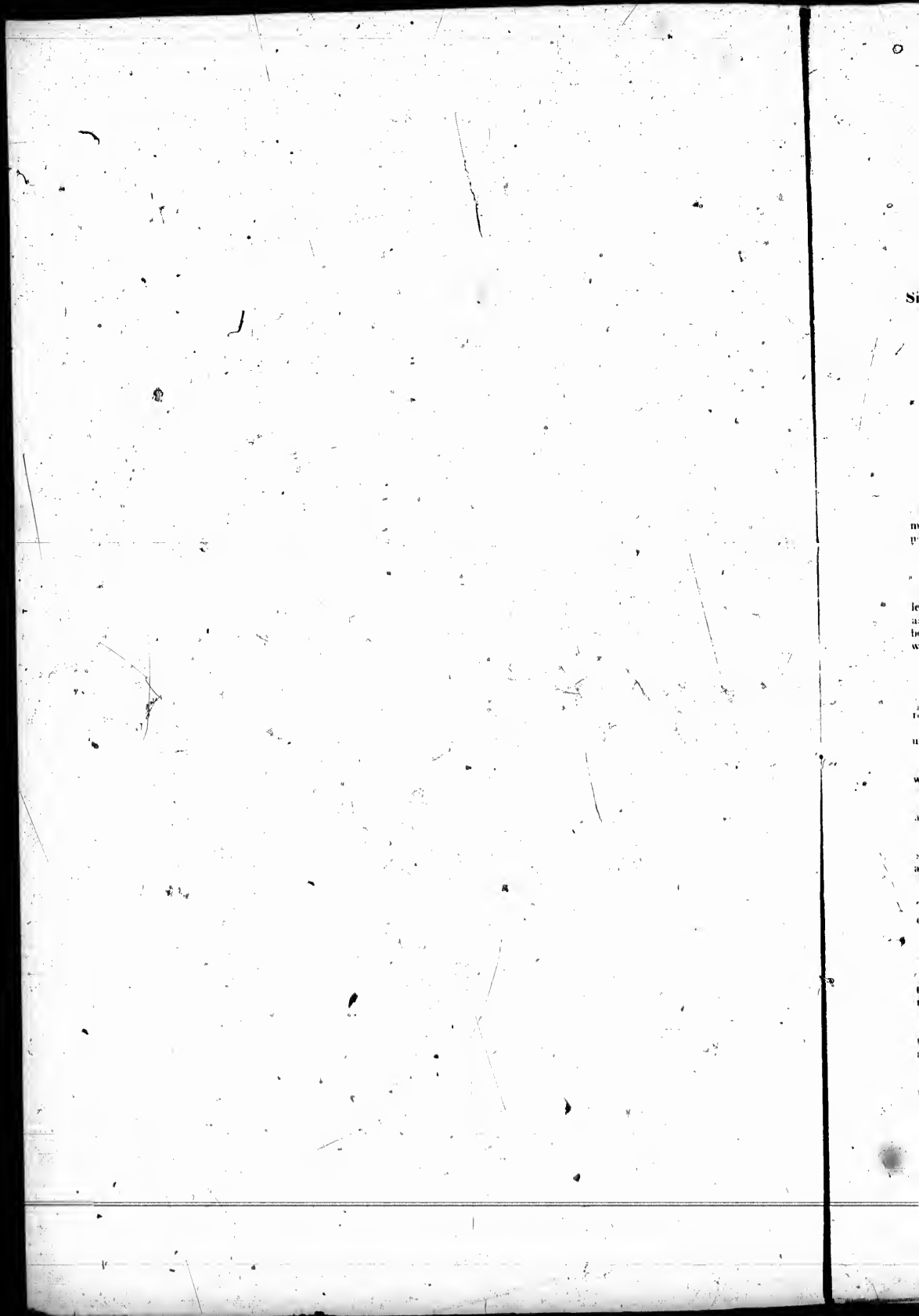
**SPECIFICATION**

OF A

**SIX-WHEELED**

**THIRD CLASS**

**CARRIAGE.**



# Great Western Railway.

## SPECIFICATION

OF A

### Six-wheeled Third Class Carriage,

WITH

Six compartments for fourteen Passengers each, and one compartment in the centre for a Guard's Box and capable of being used for Passengers.

### General Dimensions.

	Ft. In
Extreme length at base .....	27 0
Ditto width at do. ....	9 4
Height from floor to under side of top side frames .....	5 6
Height from floor to underside of roof boards in the centre .....	6 0

### Dimensions of Compartments.

Four of the passenger compartments to be 4-ft. 1-in. from centre to centre of the division fillets. The centre compartment, for the Guard's Box, or for passengers, to be 3-ft. from centre to centre of partitions. The end passenger compartments to be 4-ft. 2½-in. each from centre of partitions to outside of ends.

### Description and quality of Materials.

The bottom and top sides and bottom end frames, buffer planks and floor bearers, to be of Memel oak, each in one length. The four corner pillars to be of English oak. The door pillars, standing pillars, and other framing, to be of English ash. The roof, seats and partition boards to be of American yellow pine (the roof boards to be in one length.) The floor boards to be of red deal, 9-in. wide. The upper panels to be of papier maché, the lower panels to be of plate iron weighing 4-lbs. per superficial foot.

### Bottom Frame and Floor.

The bottom side frames to be 3-in. deep by 7-in. wide at the top, bevelled off to the sweep of the standing pillars, rebates formed in them for the doors to shut against, and for receiving the floor boards, as shown.

The bottom end frames to be 3-in. deep by 7-in. wide, rebated to receive the floor boards, and morticed for the upright end framing.

The bottom sides and ends to be framed together, as shown, and secured by strong wrought iron knees inside and a wrought iron angle plate, sunk flush outside.

The floor bearers to be 3-in. by 1½-in., morticed into the side frames with barefaced tenons, the shoulders cut bevel and let into the lips of the mortices, according to the detail drawing.

Trimming bearers, 3-in. by 1½-in., parallel with the side frames, to be forced between the others at each wheel, to support the floor where cut away for the wheel cases, and under each buffer plank bracket. The wheels to be 9-ft. 2-in. apart centres.

The flooring to be in two thicknesses of ¾-in. red deal, laid crossing each other at an angle of 45-deg. with the sides. The boards to be kept flush with the top of the side frames, and cut to fit closely round the wheel cases. The whole to be closely screwed together and to the floor bearers and rebates.

### Side Elevation.

The four corner pillars to be 4-in. square, bevelled to the sweep of the body, and cut under as shown for the lap of the panels, tenoned into the bottom frames and strengthened by a strong wrought iron knee firmly bolted on each side at top and bottom; the internal corners to be chamfered off from the lining boards.

The standing pillars and door pillars to be straight from the roof to the elbow rails, then swept under 2½-in. Rebates to be formed for the doors to shut against, as shown. The tenons to have screws through the shoulders to strengthen them, and wrought iron knees bolted to them and to the bottom and top sides and buffer planks.

The elbow rails and diagonal braces to be cut to the form shown, and morticed into the standing pillars and top side frames. All the joints to be strongly screwed and accurately fitted.

The top side frames to be cut to the sweep shown on the plan, with rebates for the tops of the doors, mortices for the door and middle standing pillars and diagonal braces, and notches for the elbow rails and roof sticks.

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The doors to have sliding lights, with louvre ventilators over them.

The glass to be of the best plate, free from stains and air bubbles, and not less than  $\frac{7}{8}$ -in. thick.

The doors to have brass plating of proper size, and to be made to fit accurately. The under rebates in the side frames to be faced with iron plates  $\frac{1}{2}$ -in. thick by the width of the rebates.

The upper panels for the sides to be of papier maché  $\frac{7}{8}$ -in. thick, in one piece from the roof to the elbows, the lower panels to be of wrought iron plate 4-lbs. per superficial foot, in one piece from the elbows to the under side of the bottom side frames, and between the doors, and between the doors and ends for both, lapping each other at the elbows, as shewn. Brass beading to be fixed along the elbows at the lap and at the centre of the partitions, as shewn.

The upper panels to be of even and sound surface, and regular thickness, hard baked and well oiled. Great care to be taken in driving the pins, not to damage the surface. The pins are not to be punched under the surface, but left flush and filed off smooth, so as to dispense with putty "stopping." The lower panels to be fixed with countersunk screws, the heads filed off smooth and even and well "stopped."

## End Elevation.

The bottom ends to be 3-in. deep by 7-in. wide, with rebate for the floors, mortices for the upright bars, framed into the bottom sides and strengthened as before described at the four corners with iron knees inside, and angle plates flush outside.

A buffer plank of Memel oak, 1-ft. 4-in. deep by  $5\frac{1}{2}$ -in. thick, to be fitted between the corner pillars at each end and bolted through to the bottom frame and under carriage frame, and strengthened with four strong wrought iron knees each, firmly bolted to the under frame and under carriage frame, as shewn.

The upright bars to be framed between the horizontal bars and end buffer planks. The upper panels to be of papier maché, the lower panels of wrought iron plate, as before described. Each end to be in four pieces, mitred at the corners with the side panels, with a brass bead over the joints, in the centre, and across the ends at the lap.

## Roof.

The roof sticks to be 2 $\frac{1}{2}$ -in. by 2-in., cut to the proper sweep and flat rounded underneath, notched in the manner shown into the top side frames and strongly screwed thereto.

The boarding to be of 2-in. board, ploughed, tongued and beated inside, in single lengths, to be covered with good glueing canvass, and two coats marine glue outside, before being covered with the roof cloths.

The roof cloths to be of an approved description, in one piece, well strained in laying, turned under the eaves and fastened by the eaves moulding with screws.

Each carriage to have one roof lamp let through the roof in the centre of the Guard's Box, with a strong wire guard protector inside, as shewn.

The roof sticks to be framed into trimming pieces where cut away for the lamp.

The roof lamp to be of the same size and description as the latest improved roof lamp at present in use on the Great Western Railway, to be provided with all necessary fittings, outside protectors, &c., accurately fitted in place. A moulding to be fixed round the lamp to the roof boards inside.

## Partitions and Seats.

The partitions between the passenger compartments and Guard's Box to be 2-ft. 3 $\frac{1}{2}$ -in. high above the seats by one inch thick—grooved and screwed into a top rail 3-in. deep by 2-in. thick, and secured to the seats by fillets and wrought iron angle brackets, as shewn. The seats to be of inch board, 14 inches wide clear of the fillets, cross boarded, on bearers supported on framed feet; the bearers to be secured to the door standing pillars by wrought iron angle brackets, as shewn.

Division fillets, 2 $\frac{1}{2}$ -in. deep by 1 $\frac{1}{2}$ -in. thick, to be screwed to the seats between the separate compartments, as shewn.

A hollow pillar to be framed in the Guard's Box for the break screw and handle. An opening to be cut in the floor for the break rods passing through, as shewn.

## Trimming.

Strong white leather stop straps, to be screwed to all the doors, and pass through a mortice in the seat-prop inside the standing pillars with approved fastening, to prevent the doors from opening too far.

Strong white leather glass strings, with cut ends, to be attached by brass plates and knobs to all the windows of the second class and luggage compartments.

## Mountings.

Brass plating to be put on all the doors, and brass beading along the laps of the upper panels of the sides and ends and over the joints of the end panels, as shewn.

Brass commode and door handles, with shield nut inside. Private locks, with brass escutcheons to the key holes, and side lamp irons. Roof lamp and lamp protectors.

Staples to be fixed to the sides of the carriage, as shewn for attaching "station" label boards.

Brass glass string fasteners.

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### Painting and Varnishing.

The whole of the wood work outside to be painted 2 coats tinted zinc color before the panels are put on. The exterior, except the roof, to have four coats zinc white and lamp black, each coat rubbed down with dry pumice stone, four coats filling up, each coat rubbed down with dry pumice stone, then the whole rubbed down with pumice stone and water, two coats zinc white and lamp black, each coat faced with pumice stone and water; three coats of brown to sample, the first two coats rubbed down with glass paper.

The whole to be picked out and fine lined according to instructions, then the whole to have three coats of best copal body varnish, (from an approved maker) the first two coats of varnish to be each staved; the ventilators to be painted brown, picked out and shaded as louvres.

The interior of all the compartments to be painted and grained wainscot. The outside of the roof to have two coats of stone color, the edges, back, and rafter seats to be painted two coats brown or stone color, as may be directed. "Third Class" to be written in gold on the middle door-panel of the centre compartment, in 2-in. upright Roman capitals. "G. W. R." to be written in gold in 3-in. upright Roman capitals, in the centre of the three middle quarters, one letter on each, as may be directed.

### Generally.

All the framing materials to be of the best description of their respective kinds, dry and well seasoned and free from sap and other defects; all mortises and tenons to be dovetailed for the pins; all the joints of the wood-work to be put together with white lead and the framing painted before the panels are put on.

The whole of the work to be done in a substantial and workmanlike manner, to the satisfaction of the engineer, who shall have full power to reject all or any such carriages or parts that are not in full accordance with the spirit and intention of this specification. The contract shall include all work necessary to, or implied in, the full carrying out and completing of the carriage, fitting and fixing the body to the under frame, including the work generally, except in cases of damage by accident, in good condition and proper repair for 12 months after the date of completion and delivery.

The carriages to be completed according to Specification, and fitted and bolted to the under carriage frame and delivered to the company on the rails at any of their stations, in equal numbers

and if not so delivered and fixed to the frames within the above periods respectively, the contractor shall forfeit to the company as damages twenty shillings per week per carriage for each week he shall exceed the time specified for delivery.

No advantage to be taken of any omission of details in the drawings or in this specification, as full explanation in detail will be given should any part not be sufficiently shown or understood.

The terms and conditions of payment to be specified in the Tender.

### FORM OF TENDER.

of \_\_\_\_\_ do hereby engage to construct and deliver

\_\_\_\_\_ Third Class Carriages according to the foregoing Specification, and the Drawings therein referred to, for the sum of \_\_\_\_\_

\_\_\_\_\_ for each Carriage; to be delivered by \_\_\_\_\_

\_\_\_\_\_

Payments to be made as follows:

Name \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

NOTE.—The Form of Tender must NOT be detached from the Specification.

