

1cwt. 3qrs. 14lbs. Four axle guards of wrought iron, to be firmly fixed to the carriage sides by bolts and nuts in *exact* square with each other, at the distance of 6 feet from centre to centre. The steps (S), three to each door, 18 in all, having a tread of 12 inches by 9 inches, must be fitted in like manner to the carriage sides. There must be 8 steel plates 1 inch thick, and 5 inches by 3 inches, screwed upon the under part of the top carriage sides, for the extremities of the side or bearing springs to bear and work upon. All the iron to be of the best quality, well and neatly wrought, filed, and fitted; the framing to be firm and substantial, and to be in every respect, of quality, of workmanship, of materials, equal to the most approved and recently-built carriages on the London and Birmingham Railway. The carriages to be painted with five coats of paint of the colour corresponding with that of the bodies, to be neatly picked out, and finished with two coats of the best varnish.

The wheels, axles, axle-guards, and brasses, will be furnished complete by the Company, to be fixed to the carriage by the contractor.

#### BUFFERS AND DRAWING APPARATUS.

FIG. 2.

This apparatus, which is arranged to answer both purposes, consists of a triangular frame (FFF) at each end of the carriage, formed by a cross piece of wood and two rods (GG) 1 1/2 inch diameter, connected by a joint with the slings (HH), which act upon the main springs, and work through a strap or guide (L), in the centre, and with guide rods (KK). The dimensions of the slings, rod, &c., are shewn in the enlarged drawing.

The springs, which are 5 feet long, consist of 15 plates, of 1/2 inch steel, and 3 inches broad, with two strong straps, at 4 inches apart, and between which the slings work.

The springs are connected at their extremities, and work against two steel plates (PP), fixed to the ash floor before described.

The pair of springs complete to weigh 2cwt. 3qrs.

#### SIDE, OR BEARING SPRINGS.

The four bearing springs to be 4 feet 9 inches long; to consist each of 18 plates, of 1/2 inch steel, 3 inches wide; the four to weigh 3cwt. 2qrs. These springs bear upon the brasses by means of a rod, which passes through the lower carriage side. The springs to be forced into their place so as just to bear the weight of the empty carriage when the spring begins to leave the lower carriage side, proper allowance being made for the spring taking a set when first used.

The whole of the steel of the buffer, as well as of the bearing springs, to be of the very best quality and well tempered, and all the iron work to be of the best quality, neatly wrought or well turned or filed as the case may require, and well fitted and painted, and put together in the best style of workmanship.

Breaks will be furnished as an extra.