similar manner to a fire-engine. It has been found
that by the use of these presses, worked by eight men,
the bridge can be raised some inches clear of the rollers
in less than ten minutes, and, this being done, all the
details are capable of being easily renewed or repaired.

The total weight of iron employed in the construction
of the bridge was about 860 tons, and in addition to this
the two counterweights weigh 334.8 tons. There was also
a quantity of wood employed on the roadway, so that
altogether there is about 600 tons resting on each of
the turntables. The total cost of the bridge was £4,751 l.,
of which £7,949 l. was expended on the masonry of the
piers and abutments, 47,211 l. on the girders, 4788 l. on
the centres and erecting, 2177 l. on works which were
accessory to the bridge, and 2624 l. on sundries. The
manner in which the bridge was erected is shown by

Figs. 4 and 5, Plate L., the former showing a side
elevation of the scaffolding, and the latter a transverse
section. This scaffolding was erected on each shore, the
girders being each built in a position parallel with the
channel, and then turned round into their places. So
well and carefully was this work carried out that when
the two parts were brought together the levels of their
extremities were found to differ by a few centimetres
only.

The bridge was designed by MM. Cadiot and Oudry,
and was wholly carried out by Messrs. Schneider and
Co., of Creusot, who constructed not only the ironwork,
but the masonry also, their engineer, M. Mathieu, being
in charge of the work. The undertaking has been a
decidedly successful one, and the bridge is probably one
of the finest specimens of its class in existence.

BRIDGE AT THE POINT DU JOUR, PARIS.

PLATE LII.

W E give in Plate LII. views of the remarkable
bridge which carries the Chemin de Fer du Ceinture
across the Seine at the Point du Jour. Of
these views, Fig. 1 is an elevation of the river portion
of the bridge; Fig. 2 is an elevation of the approaches
on the right bank; Fig. 3 a section of the same; and
Fig. 4 a part longitudinal section of the river portion
of the bridge; while Figs. 5 and 6, on the following
page, are sections of one of the river piers, the former
being taken transversely, and the latter in the direction
of the line of the bridge.

The bridge at the Point du Jour, which was con-
structed from the designs of M. Bassompierre, engineer
of the Ponts et Chaussées, and the engineer to the
C chemin de Fer du Ceinture, crosses the Seine below
Paris, and, as will be seen by the engraving, it is built
in two stories, the lower one consisting of five elliptical,
and the upper one of thirty-one semicircular, arches.
The five arches of the lower story have each a span of
30.25 metres, or 99.2 ft. and a rise of 9.5 metres, or
31.16 ft., the shape of the arches being elliptical, and the
thickness of each at the crown being 16 metres, or
5.25 ft. The sections, Figs. 5 and 6, on the next page,
show the manner in which the filling of the spandrels
of the arches is lightened as much as possible by the
construction of a series of longitudinal and transverse
arches between the haunches of each pair of main
arches. Fig. 5 also shows the peculiar form of the
bridge in cross section, the upper story carrying the
C chemin de Fer du Ceinture being 9 metres, or 29.5 ft.,
and the lower story being 31 metres, or 101.7 ft. wide,
over parapet wall. On each side of the piers of the
upper story there is a carriage way of 7.5 metres, or
24 ft. 6 in. wide, and a footway. Each river pier is
4.72 metres, or 15.5 ft. thick at the springing of the
arches, and the mass of béton on which each is founded
spreads to an area of 50 metres by 11 metres, or
164.04 ft. by 36.09 ft. at the base.

The thirty-one semicircular arches of the upper story
of the river portion of the bridge are each of 4.8 metres,
or 15.75 ft. span; and their piers are 1.025 metres, or
3.36 ft. thick, at the springing, with the exception of
the pair of piers above each pier of the main arches,
which are 1.035 metres, or 3.4 ft. thick at the springing
of the upper arches. The level of the railway carried
by the upper story is 9.4 metres, or 30.84 ft., above the
level of the roadways on the lower story, and the latter
are on the same level as the roadways on the banks of