DESCRIPTION OF

Fig 4, on Plate 5, represents one of the ladders, or enclosed stairs, which are placed on each side of each rib while building, for the workmen to ascend and descend upon, to secure the logs as they are lowered down on each rib; and which is the only scaffolding needed in the erection of the arms of a Bridge on this plan. Its construction is like unto a loose flight of stairs, secured to the sides of the rib, by iron lever spanners, which are shifted forward alternately as the logs are lowered down, till the whole of the arms are completed. The treads and risers are let into the sides or string-pieces of the ladder, and an iron hand-rail is fixed from the top to the bottom, to which is fastened a rope-netting on the outside of each ladder, with an extensive netting also at the bottom, lined with canvas, to receive either men or tools, that may by accident fall from the work.

PROPS.

Fig. 5, on Plate 5. Is a diagram on the same principle as a parallel ruler, belonging to a case of drawing instruments, and which is sufficient to prove the important fact, that the gravity of the angular levers, by their position in the arms of a Bridge, does of necessity furnish (while building) a retrograde pressure towards the abutment.

PRELIMINARIES.

1st. Gravity is that force wherewith a body has a tendency to fall downwards, and, in empty space, is called absolute gravity.