The concave arcs, suited to the under part of each abutment of the different Bridges, will vary according to the defects evident in the foundation. Some will be most suitable, if in the shape of a concave segment of a circle, as at E, on Plate 4, fig 11. Others will be preferable in an elliptical form, with more concave arcs than one to each abutment, as at N N N. on Plate 4, fig 12. Others again will accomplish an equal security, by the under part of the abutment being in the form of a concave groined arc, suited to a stone pyramid, see Plate 5, fig 1. And for an abutment in a spherical form, no shape more appropriate to the grand object than a hollow cone. The side belts of these arcs, where they are used as at P P, P P, P P, Plate 4, fig 11; and 12, are for the express purpose of detaining and compressing so much of the yielding strata as may be inclosed immediately under the abutment, but which upon the old plan of level foundations was sure to escape in a horizontal direction, and be dislodged from time to time not only by the gravity which the building afforded, but also by the ground scour which the various currents in rivers often produce; and which also must inevitably make way for the constant sinking of any structure thus situated. But by the plan now proposed, the infirm strata is sure to be so compacted together as to be capable of resisting the pressure of any proportional weight that may be laid thereon.