Twelfth. The carriage-drive over a Bridge on this plan may be either on the top of the structure, or between the ribs. In the latter position, if it be covered with a roof, the deck towards the centre will hang below the archivolt, or soffit of the arc, suspended by stirrups. This deck or floor will be partly of thick plank and partly of whole timber. But the deck which is level with the top edge of the ribs must be cogged down on each beam throughout the arm, by which a strength is added to the longitudinal tie; far exceeding all that could be needed, were each arm of the Bridge wholly dependent thereon.

Having designated certain circumstances necessary to be accurately ascertained, previous to the commencement of the particular and final modelling of each part of the Bridge, prior to its erection, we shall now commence our operations in the field, on the site where the Bridge is proposed to be built.

The materials suitable and sufficient for the structure being collected on the spot, the first thing of importance to be considered is a suitable foundation.*

* This is a subject very little explored at the present day by builders in general, and consequently as little understood; it being considered by the unskilful part of that profession, as an idle nicety, not worth their attention: therefore it follows that they are perfectly unacquainted with any remedy whereby to prevent the sinking of a heavy structure through the unfavourable dispersion of the infirm strata on which the fabric rests, or the direful effects of inclined planes when called to build under water.