therefore wholly dependent on the extra width of the Bridge at the abutment, the number of the ribs to each Bridge will also of necessity be regulated by the same cause. Therefore, if the width of the arms of the Bridge at the abutment exceed from thirty to forty feet, then there must be three ribs to each arm; if more than sixty, then four; if more than eighty, then five ribs. But the extra width of the abutment, which is alone for the procuring a brace to the flying arm of the Bridge by an arc on each side, perpendicular to the horizon, will in no instance affect the width of the Bridge at the centre; as that will invariably remain the same, and need not on any occasion exceed twenty-eight feet. No Bridge on this plan will be materially stronger, on account of an extra number of ribs, as the strength will always be proportionate to the strain. Every rib built of timber is made up of two logs or thicknesses.

Ninth. A bill of scantling for the timber of a Bridge on this plan being first ascertained according to the rule laid down in this work, for all Bridges not requiring a greater altitude on the upper surface of the structure than four and a half degrees, (see schedule of bills of scantling for Bridges), the logs are hewn to their size in the forest where they are procured. If a Bridge is to be built with two ribs, then eight logs must be of one size. If three ribs, twelve; if four ribs, then sixteen, and so on in succession; being four logs of one size to each rib, throughout the Bridge beginning at the shortest length, which, for all Bridges on this plan, is six feet nea