use it will be found, as the timber becomes seasoned, the weight will be gradually thrown upon the arches, which will ultimately bear an undue portion of the load. To avoid this the camber must be restored and the posts moved up, so as again to divide the strain between the truss and the arches.

This adjustment must take place once or twice in each year, until the timber becomes perfectly seasoned, after which, in a well constructed bridge, but little attention will be required. Plates of iron should in all cases be introduced between the abutting surfaces of the top chords and arches, and all possible care taken to prevent two pieces of timber from coming in contact, by which decay is hastened; care should also be taken to obtain the curve of the parabola for the arches, as it is the curve of equilibrium and of greatest strength, as has been shown by experiment.*

Bridges constructed on this plan will be found to possess an unusual amount of strength, for the quantity of material contained in them, and if well built and protected, great durability.

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BRIDGE ACROSS THE SUSQUEHANNA, AT CLARK’S FERRY. (Plate 13.)

This bridge has been selected as a fair specimen of the ordinary Burr bridge, a mode of construction more common than any other in Pennsylvania, and which experience for many years has proved to be one of the best arrangements for ordinary purposes.

Probably no other plan has ever secured more general approbation or better sustained itself than the Burr bridge, and

* The parabola is the curve of equilibrium when no load is upon the bridge, and also when the load is uniform, but there can be no curve of equilibrium for a variable load of a passing train. Stiffness can be secured in this case, only by an efficient system of counter-braces.

The plan proposed fulfils every condition of a good bridge.—Author