No plan of bridge construction has met with more general favor amongst engineers and builders than the lattice. Its great simplicity, the ease with which it can be framed, and chiefly its economy, have secured its introduction for viaducts of almost every class. Of late years, however, the frequent failures of these bridges in consequence of heavy transportation, have produced a revolution of sentiment hostile to the plan, and instead of examining into the causes of failure and providing a remedy for the defects which occasioned it, other modes of construction have been adopted at an expense sometimes double that of an efficient lattice structure.

On ordinary roads, and on railways not subjected to very heavy transportation, this plan of superstructure, when well constructed, has been found to possess almost every desideratum. Nevertheless, experience has fully proved that unless strengthened by arch-braces or arches, the capacity of the structure is limited to light loads, and spans of small extent. The public works of Pennsylvania furnish abundant proof of the truth of this assertion; and several railways might be enumerated, on which the lattice bridges have from necessity been strengthened by props from the ground, by arches, or arch-braces added when the insufficiency of the structure was found to require it.