CXL. The Link Chord, composed of a set of links to each panel, connected by pins or connecting blocks (the latter affording also points of attachment for verticals, diagonals, &c.), both for Arch and Trapezoidal trusses, was originally adopted by the author, as the readiest means of putting the requisite amount of chord material in a manageable form, both as it regards manufacturing the parts, and erecting the structure. This form renders the whole section available for sustaining tension, avoiding any loss in rivet or bolt holes for forming connections.

The experience of more than a quarter of a century, during which time many hundreds of bridges with link chords have been constructed, and used in almost all conceivable conditions, (in many cases, undoubtedly, the links having been but imperfectly manufactured and fitted to the connecting blocks), with a degree of success and satisfaction seldom exceeded, may reasonably be regarded as fairly establishing the efficiency and safety of this mode of construction, when proper care is used in the performance of the work.

Continued and successful usage in a multitude of instances, is regarded as a better criterion as to the reliability of a plan of construction, than a small number of isolated tests, however severe; and such usage the link chord has been subjected to.

CXII. The theoretical questions to be considered in this case, would seem to be, as to the possible deterioration of the cohesive strength of the iron, produced in forming the bends at the ends of links — the indirect, or lateral strain in those parts, resulting from imperfection of the fitting to the connecting block or pin, and, the imperfection of the weldings, both as it re-