The number and pitch of rivets should be determined by the amount of stress they have to carry from the web-plate to each part of the chord. This will usually necessitate a much smaller pitch near the ends than in the vicinity of the centre.

SPECIFICATIONS AND TESTS.

In cases where specifications are not furnished by the parties ordering of us, we use the General Specifications given elsewhere in this album. We may say here, however, briefly, that we design our structures for rapidly-passing loads, consisting of the heaviest consolidation locomotives, with a weight of 96,000 pounds on a wheel-base of 14 feet 9 inches, or 171,000 pounds on a wheel-base of 45 feet 3 inches. This corresponds to about the heaviest locomotive now in use.

All machine and other work is of that high degree of excellence which has ever characterized the bridge-work of this Company.

We have three testing-machines of large capacity at the works of the Phoenix Iron Company, which are always in readiness for testing full-sized pieces or prepared specimens.

GENERAL DIRECTIONS.

Invitations for tenders and estimates should be accompanied by exact information on the following points:

Length of span in the clear, or from centre to centre of piers, or to back of abutments.
Angle between centre line of bridge and centre line of piers.
Whether on tangent or curve, and, if on the latter, the radius of the same.
Clear width between trusses.
Dimensions of tops of piers and abutments.
Height from base of rail to top of masonry.
Height from base of rail to extreme high water.
Whether floor system is on upper or lower chord.
Soundings along centre line of bridge, with the character of the bottom.
Specifications covering character and amount of moving load and limiting stresses.
A general statement of the character of the structure.
The nearest point of delivery to site of bridge by rail or water, and distance of haul, if any.

Whether railway company will furnish staging for erection or not.