

having to accommodate travel in opposite directions, a width of six feet in the clear will be found sufficient.

When bridges are of such span as to necessitate a height of truss requiring overhead sway-bracing between the trusses, a clear height of from thirteen to fourteen feet above the flooring will be found to answer all but extreme requirements.

WEIGHTS OF MATERIAL, ETC.

In designing a bridge, the weight of the flooring must be first computed, and it is a fixed quantity, independent of the span, for the same width of roadways, sidewalks, and panel-lengths. It forms the principal part of the dead load in spans up to about 100 feet, and in addition to the weight of material of which it is composed, some consideration must be paid in northern climates to snow-loads, which add to the dead weight ten to fifteen pounds per square foot.

It is impossible to give a reliable rule for the dead weight of the iron and other materials entering into the construction of a bridge, depending as they do upon peculiarities of form and construction; but the following data, as far as it goes, will assist any one in determining this important preliminary in proportioning the parts of a given design. A *yard* of wrought-iron, having *one* square-inch section, weighs *ten* pounds. So that, knowing the area in inches of a given piece of iron, all that is necessary is to multiply it by ten and divide by three, to