CHAPTER IV.

LIVE AND DEAD LOADS.—WIND PRESSURE.

As stated in Chapter II., highway-bridges are divided into three classes, A, B, and C, which are respectively for locations where the loads are heavy and of frequent occurrence, locations where the loads are occasionally heavy, and locations where the loads are light.

After deciding upon the length of span, width of roadway, and class of bridge for any location, the live load per square foot of floor is to be taken from the table on p. 5. The reason why long spans may be proportioned for lighter loads than short ones is the very small probability of a long span ever being covered by the maximum load, while there is a chance of such an event taking place in case of a short span.

It can easily be seen, then, that, in all bridges of any length of span, each panel should be proportioned to sustain the maximum load; for it is possible to load one panel heavily without loading any of the others.

This panel excess will affect only the sizes of the joists, floor beams, beam hangers, and hip verticals. Sometimes the panel excess is supposed to exist when the bridge is partially or wholly covered by the moving load, thus affecting all the main members of the trusses; but this is too much refinement for highway-bridge designing.

The dead load per lineal foot is to be taken from one of Tables I., II., and III., if there be no special loading such as that due to snow, if the style of hand railing, guard rail, etc., for the bridge to be designed, correspond with that adopted in this work, if the width of roadway correspond with one of those in the table, and if the length of the span be exactly divisible