complete enough to enable him to tabulate the thicknesses of the webs.

Any one intending to design bridges according to the method herein proposed should thoroughly acquaint himself with the numbers and uses of the different tables, so as to turn to the one required without delay. He should also become posted on the contents of Chapters VII.–XIII., so as not to have to refer to that part of the book, turning to Chapter II. to refresh his memory concerning intensities of working-stresses, limitations, etc., while designing each main member and detail. After a little practice, one will become acquainted with the method, when it will be necessary to refer to the tables only.

If a designer be in doubt about how to proportion any main member or detail, he can at once find out the method by looking in the Index, under the head "Proportioning," where he will see the numbers of the pages on which the proportioning of this member or detail is treated.

Any intelligent man who is not an engineer can make an approximate estimate of what a first-class iron highway-bridge ought to cost, by finding the required weight of iron from one of Tables I., II., or III., modifying it, if necessary, in the manner explained in Chapter IV.; and the required amount of lumber, from one of Tables XV., XVI., XVII., or XVIII., ascertaining the prices of iron per pound, and lumber per thousand feet, delivered at the nearest railway-station or seaport, and filling out the form for an estimate of cost given on p. 116. By referring to the Index, under the heading "Cost," he can ascertain where approximate data for all bridge-building expenses can be found.

No special treatment is here given for skew bridges; for none is needed, the methods for designing them being precisely the same as those for other bridges. On account of the obliquity, the working drawings for the lateral bracing and sway bracing are a little more complicated. Whenever it is convenient to do so, the panel lengths should be arranged so that the shoe of one truss comes opposite to the first panel point of the other truss, in order that the floor beams may be at right angles to the planes of the trusses, both for economical reasons, and to