CHAPTER XIX.

ORDER BILLS AND SHIPPING BILLS.

When there is necessity for haste in building a bridge, as there generally is in America, time can be saved by sending a partial order bill to the manufacturers before starting to make the working-drawings, or after they are partially pencilled.

Such preliminary order bills should include only those portions which are termed in this treatise "Main Members," and those details of the sizes of which the designer is certain; for instance, stay plates, pins, brackets, and the plates and angles for built beams.

The length of the main members in the bill should be three-quarters of an inch greater than will actually be required, in order to allow for the dressing of rough ends; and, should there be any doubt in the designer's mind concerning the exact length of any piece, he should make the ordered length great enough to cover any variation which there may be in the design.

Of course, where there are bevelled ends on a piece, the extreme length plus the allowance for waste must be given.

Where a number of small pieces are to be cut from one large piece, an extra allowance of length must be made to provide for the waste in cutting, say from an eighth to a quarter of an inch for each short length. After finishing the pencilling for a working-drawing, the remainder of the preliminary order bill may be made out and sent. It should be divided into the following groups, containing the measurements indicated:

<table>
<thead>
<tr>
<th>Channels</th>
<th>No.</th>
<th>Depth</th>
<th>Weight per foot</th>
<th>Length</th>
<th>Finished length</th>
</tr>
</thead>
</table>