

The quantities under the head 'Posts', require, probably, twice as high a value for  $M$ , as in the other classes of thrust pieces, for the two last named trusses, while the two first, are not represented in that column at all, although the parts referred to in that column, are as indispensable, and require nearly as much material, for the latter as the former. It will be remembered, moreover, that  $2W$  was deducted from the actual estimate of the Finck truss, to place it on a fair footing with the Bollman. It must be obvious, therefore, that the necessary material for the Post and Whipple Trusses, is more fully represented in the above synopsis, than that for the Finck and Bollman plans.

Now, assigning a proper value to  $M$ , the material above indicated for the P. & W. trusses, rightly distributed, and the parts adhering to one-another as firmly as the different portions of each cohere among themselves, a complete truss would be formed in either case, (of dimensions as above assumed,) sufficient to be used in a bridge required to bear a gross load equal to 4 times the weight of Superstructure. In such case, the results already obtained, would shew the relative cost of the two trusses, with almost absolute exactness.

But, as the parts of a truss can not be so connected and welded into a single piece, without enlargement at the joinings, by any skill or process now in use, we have to include as an item of cost, in all plans, a considerable amount of material, a-