Shewing a clear ultimate saving of $440, in favor of the iron structure.

The reason of the apparent difference between this result and that arrived at (Art. 34) from the general comparison of the cost, &c., of wood and iron, is, that the bridges here referred to, have been constructed with a very large amount of iron fastenings, and with large quantities of casing and painting for protection and appearance.—Were the comparison confined strictly to the expense of timber work in the sustaining parts of the trusses, the result would be found not to differ so essentially from that of the general comparison.

The above estimate of $700 for the first cost of a 72 ft. wooden bridge, though considerably below the average cost of canal bridges of that decription, is nevertheless believed to be greatly above the minimum for which bridges may be built, dispensing with parts which are not essential to strength. It is probable that bridges may be built for $500, as about the minimum, of equal strength and convenience, and nearly the same durability as those hitherto built upon the Erie Canal Enlargement at a cost from 800 to $1000. Upon this supposition, which may be regarded as an extreme case in favor of wood, the comparison will stand thus:

First cost of wooden structure,.....	$ 500
Capital invested at 5 per cent to produce $500 once in 9 years for renewal,....	909
Total for perpetual maintenance,.....	$1409
The same for iron structure, as above,....	1260
Balance in favor of the iron bridge,.....	$ 149

Finally since theoretical calculation and general comparison shew a *probable* advantage, for a long term of time, and experience, as far as it has gone, shows a *decided* advantage in favor of iron, it would seem very unwise to discard the latter, without, at least, a fair trial of its mer-