I am at a loss for the reason of this plan of planking on bridges, not having been more extensively used.

Roofing and Siding.

LXXIII. As to the propriety of roofing and siding bridges, it may be remarked, that it no doubt adds considerably to the durability of the structure; but it also increases the weight, and consequently the requisite strength of the trusses; thereby enhancing the first cost to a considerable degree. They are much more liable to injury by the action of the wind, when roofed and sided, which is another somewhat important consideration.

If a bridge costing $1000 without covering, will last nine years, an additional investment of $1818 at 5 per cent., compound interest, will produce the means of renewal as often as necessary, so that $2818, will provide for a perpetual maintenance.

Again, supposing that the same bridge protected by roofing and siding, will last thirty years and cost $1500, including repairs in keeping on boards, &c., it will require an investment of only about $500 to provide for renewal, or $2000 for perpetual maintenance.

This shews decidedly in favor of roofing and siding, and I am inclined to think not too favorably, though the estimate of cost has been rather roughly made. For short stretches, the comparison would shew a different result up to a certain limit. The cost of roofing and siding, particularly the former, is about the same per foot run, for long or short stretches; while the cost of the supporting trusses, per foot, is nearly proportional to the length of stretches.

A 30 ft. bridge for instance, would cost about double, with roof and siding, that it would without; and allowing the former to cost $200 and the latter $100, the comparison would be about $280 for the perpetual maintenance of the uncovered bridge, against about $266 for the covered one. Hence, this must be near the dividing point; and it may be put down as highly probable, if not a decided