other half may be so connected in the structure, as to be available to their full strength, acting by tension. Hence, it will take some 30 feet to equal one of iron; for which it will cost, say $12; showing a difference of a little less than three to one; making the average for both kinds of iron, reckoning equal quantities of each, about 2.6 to 1.

To offset against this, we have the superior durability of the iron, which, as before observed, may be regarded as imperishable; whereas, wood requires frequent renewals, at a cost each time, equal to the first outlay. Now, the first cost of the iron is sufficient to provide for the first cost of the wood, and nearly two renewals. Besides this, money, though an inanimate substance, is, nevertheless, in these usurious times, made to be exceedingly prolific; insomuch, that with good management, it is found to double itself once in ten or twelve years, according to the hardness of face in the lender, or of fortune in the borrower.

Assuming 5 per cent per annum as the net income of money invested, the term of time in which the \( \frac{1}{100} \) dollars saved in the wooden structure, will require to produce one dollar for renewal, will show the time that wood ought to last, to be equal with iron in economy.

One dollar and sixty cents at compound interest will yield, at 5 per cent, one dollar in a little less than ten years. Therefore, if an imperishable iron structure cost 2.6 times as much as one of wood, and the latter last but ten years, and money will net 5 per cent, compound interest, the two materials are nearly upon a par as to economy.

Experience has shown that wooden bridges, unprotected by roofing and siding, seldom last with safety over eight years, or thereabouts; and, the more there