This plan well illustrates how certain types of bridges, well adapted to certain lengths of span, become uneconomical when applied to greater spans and other circumstances of location, and how little any type may be said to be absolutely the best.

Thus, for an opening under 20 feet we employ a simple stick of timber or an iron beam. For spans of about 40 feet, plate girders form an approved construction; while for stretches from 100 to 400 feet, various styles of trusses, varying somewhat in design and arrangement with the span, have been found best adapted to the requirements of each case.

As we reach spans of 600 and 700 feet, departures from existing practice recommend themselves, and the types adapted to spans even as great as 400 and 500 feet are no longer the most economical. In partial recognition of this fact, various proposals have from time to time been made by designers for the introduction of new types of bridges. Many of them have proved worthless, and inasmuch as the opportunities for building great spans are very rare, such of them as possess merit have not developed the advantages and economy which they would show for long spans, in the short spans to which they have been applied.

It will be seen that Mr. Lucius, on the other hand, by adhering too closely to existing types, has produced a design which, whatever its other merits, cannot be said to be cheap.

The cost is estimated at $2,523,072 for a single track bridge, without the tunnel, while there are at least four designs which will cost less than $2,000,000 for the same elements.

There is, moreover, a difficulty and danger involved in the method planned for placing these spans in position. He proposes to erect them upon the land, one end, however, projecting over the water; to place that end on a float (the greater span complete weighs 4,418,000 pounds) and to haul it across the channel, rolling it out over the abutment, until it reaches its final position. He estimates that this operation would obstruct the navigation no more than one day for each span.

This seems to us a hazardous undertaking, and in view of possible interference from passing vessels, from wind and tide, and unexpected delays and difficulties, one upon which the entire destruction of so costly a structure should not be jeopardized.