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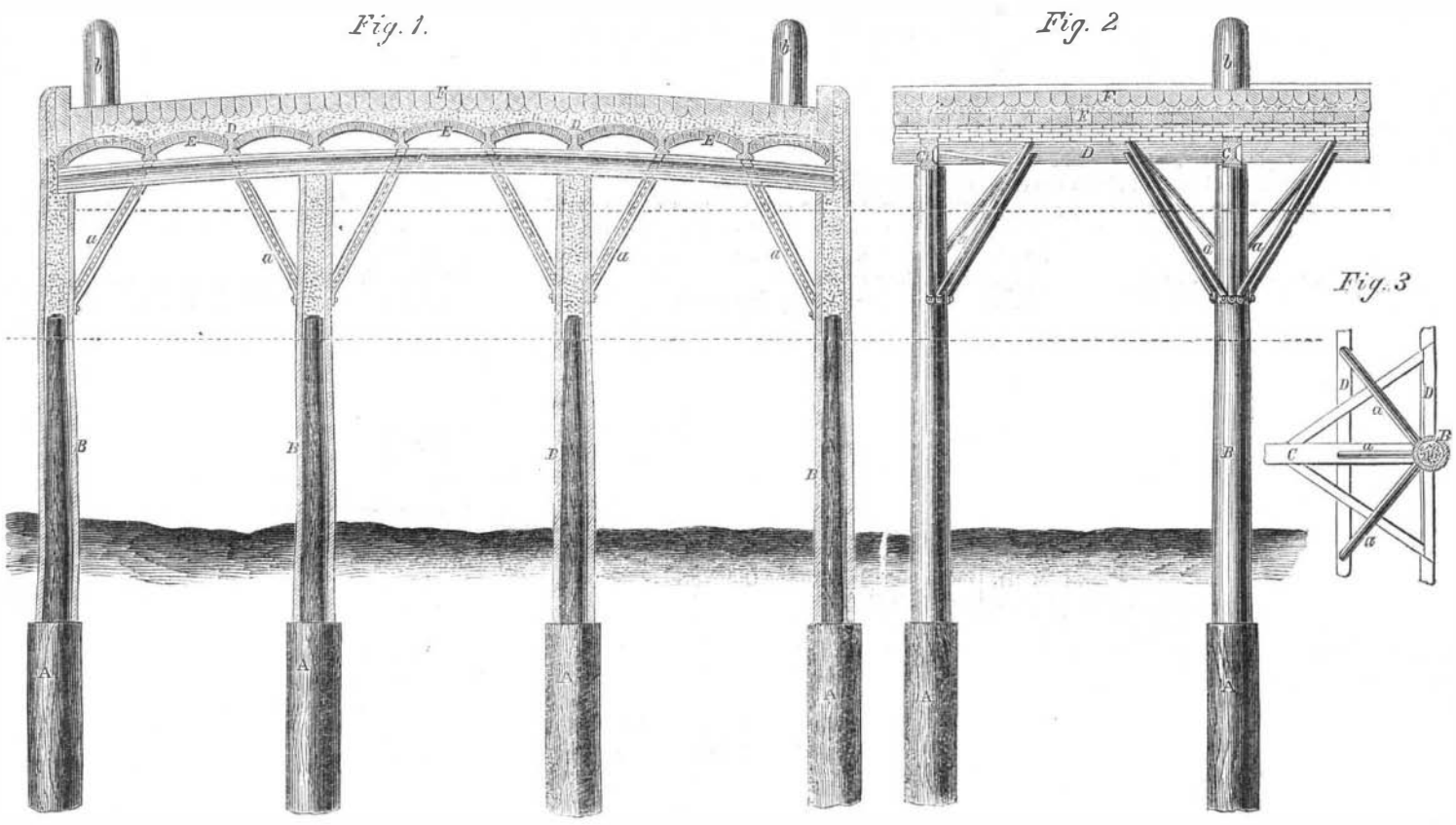
Improved Patent Bridge.

The construction of durable piers and bridges is a matter of great importance, and involves much study on the part of engineers, in order that the best results may be arrived at. Iron bridges have been erected over various rivers and streams in the country, but the footways are generally laid with planks or joists, so that an incendiary or other malicious person finds it an easy matter to destroy them. The annexed engraving is a representation of a road-way which can be erected over streams or other places where it is required, without necessarily employing any wood or combustible substance in its construction where it can be destroyed. The wooden piles, A, are driven down into the bed of the stream and have shoulders on which the cast-iron columns, B, rest; these columns when placed in position, are filled with concrete cement, which soon sets and becomes as durable as stone. The girders, C, are slightly arched and rest upon the columns at either end and in the center; they are crossed at right angles by another series of girders laid over them. The masonry, E, is built in between the upper girders and is also arched to resist pressure; upon the top of the masonry a filling of gravel or sand, D, is thrown, and the stone pavement, F, is then laid in the usual manner. The longitudinal girders are stayed to the upright columns by the braces, *a*, and the transverse-girders are also provided with similar appendages, shown in Fig. 3.

ig. 2, represents an end view of this invention, in which the arrangement of the several parts is clearly shown. The dotted lines across the face of the engraving indicate the high and low water-marks, and the dark horizontal lines below show a profile of the river bed. The cast-iron posts, *b*, are anchored in the bridge for the convenience of mooring vessels. This bridge if properly constructed, would seem to be a very good one; when protected from extremes of temperature, it affords a good and permanent roadway which cannot be torn up without a great deal of trouble; and cannot be burnt down at all, as there are no timbers, except the submerged piles, used in the structure. For spanning streams on lines of railway, bridges made on this plan are highly desirable; and the principle involved in their construction can be readily applied to piers and wharves. This method of making bridges is the invention of Mr. W. H. Wood, of Hudson City, N. J., and was patented on Oct. 22, 1862; further information can be had by addressing him as above.



WOOD'S PATENT BRIDGE.

Window Glass.

American window glass is now very generally used in place of German and other imported glass, and owing to the present high rate of exchange, as well as the increased duty upon foreign glass, our domestic brands are sure to be in still greater request. We are not sorry to note this tendency, and congratulate our manufacturers (whose business has been of late years far from profitable) upon their brightening prospects. Between the best makes of American glass and the imported article there is really but little choice. The former, indeed, although not deficient in strength, is perhaps scarcely equal in this regard to foreign, but it is certainly not inferior in crystalline clearness and brilliancy of surface, and this is a merit which cannot be too highly estimated.

In many quarters, and especially in New England, there has existed an inveterate prejudice in favor of imported window glass. This prejudice had its origin, we presume, in the circumstance that our markets have always been well stocked with inferior glass from third-rate home factories. It is owing to this fact, undoubtedly, that all domestic glass has fallen, more or less, into disrepute. A party, for instance, actuated perhaps by a patriotic desire to encourage home industry, and finding, it may be that he can also save money by yielding to the patriotic impulse, buys a lot of American glass. Under the impression that all American glass is equally good, he is quite likely to get, unawares, these "wild-cat" makes. He is disappointed, of course, and still believing his lot to be a fair sample of all American glass, he will scarely venture a second trial, unless swayed by thrift rather than by patriotism.—*Exchange.*

NEW MATERIAL FOR PAPER.—Mr. James R. McElfatrick, of Fort Wayne, Ind., has forwarded to us some of the fibrous material obtained from the bolls of the sycamore tree, which he thinks will answer well for making paper. It is a short staple of cotton of a buff color, and undoubtedly paper can be made from it as well as from any other vegetable fiber. He states that unlimited quantities of it can be obtained in the Western States. Some of the Western paper-makers should make experiments with it.