THE NEW IRON BRIDGE.

The new bridge was designed, and the plans drawn, by Mr. James Laurie, Civil Engineer, of Hartford, Conn., in 1862.

The attempt was made at first to procure the iron work for the bridge in this country. The plans were submitted to several large firms in New York and Pennsylvania, and proposals were received from them for the construction of the bridge. Owing, however, to their being extensively occupied with work for the United States government, and the high prices of iron and labor, the bridge could not be completed within the desired time, nor at a reasonable expense compared with what could be obtained abroad.

In the early part of 1864, it having been determined to procure the iron work for the bridge in England, Mr. Laurie went there and contracted with the celebrated bridge builders, William Fairbairn & Co. of Manchester, for most of the work. As they were unable to complete the whole within the specified time, the two westerly spans were given to the London Engineering and Iron Ship Building Company.

The several spans were constructed from the plans by the above firms, put together with bolts and every part fitted and adjusted before being shipped. The rivet holes were all drilled or punched, and such parts as could be permanently put together without being too cumbersome, were riveted by machinery.

The several parts were all carefully marked and numbered to correspond with marks on the plans, so that they could be readily replaced in their proper positions.

The iron used was carefully tested and experimented upon by Mr. Laurie, to ascertain if its strength and quality were such as were called for by the contract.

THE MASONRY.

In arranging the spans of the new bridge all the old piers and abutments were made use of, with the necessary alterations and additions to bring them up to the proper height for the new girders.

In the middle of each of the 177 feet spans across the river, with the exception of the middle or channel span, a new pier was built, like the old ones, so as to divide the seven river spans of