

the shore to the south-west corner of the caisson, and on this were laid two tracks of wooden railway. A floating derrick, the larger of the two used, was anchored on the south side of the caisson, just below the bridge ; two small cars pushed by hand brought the stones within the range of this derrick, by which they were placed at the desired spot within the caisson. The first stone was set on the 16th day of October ; a belt of masonry was first laid around the caisson wall ; this was then backed up and the masonry above built up in regular courses ; the space between the face of the stone and the planking of the caisson was filled with beton. As a precaution against the accidents which needless delay might involve, the work, during the first week, was driven both night and day. The leaks were soon found to be so slight that the use of the steam pump was unnecessary, and after the first few courses had been laid the water was kept down by two common log pumps worked by hand. The work upon this and subsequent piers (with the exception of No. 4) were directed by Mr. W. K. McComas, superintendent of foundations.

PIER No. 2.

With a view to avoiding any delays which might arise from unforeseen difficulties attending work in the main channel, where the dangers of accident were thought to be greatest, as well as to secure the greatest possible time for raising the draw, the preparations for the building of this pier were among the first taken in hand. The principal difficulties lay in securing staging to work from at the pier site ; piles could not have been used, as the rock was frequently swept almost bare of sand ; anchored posts, such as had been used at Pier No. 1, might have been destroyed at any moment by an accidental blow from a descending steamboat ; while long and wide cribs, such as have been used on the Mississippi, would have been unmanageable, and have taken up too much water-way in the narrow channel of the Missouri. Small detached cribs and caissons were finally used, it being hoped that the current would remove most of the sand from beneath them, if they were held floating in position while a scour took place below ; much difficulty was experienced even in handling these small bodies, and the scour took place so irregularly that some of the intermediate