structure. An attempt was made to restore it to its original position, by driving the keys referred to; but as many of the latter had yielded, and the fibres of the timber had become completely interlocked, this was found to be impossible.

The next step taken, was to raise the whole structure upon false works, when many of the keys were found to be so crushed, as to render new ones necessary.

Very soon the lower chord gave evidence of failure, caused by the great thrust of the arch and braces; this again produced deflection, and as many of the pieces composing the lower chord had pulled apart, the case became somewhat critical. The system of counter bracing being very imperfect, the deflection changed with the position of the load; many of the keys became loosened, and in some cases, the vertical vibration was such, as to shake them out altogether.

These facts were duly reported to the management, examinations were made, various means were resorted to, to strengthen the bridges; where practicable, spur braces were introduced, from the masonry to the lower chord; castings were inserted vertically through the latter, to prevent the pieces of which it was composed, from sliding on each other, and other expedients were tried, which it is not necessary to state here. Sufficient to say, that after a large amount of money had been expended in endeavoring to make these bridges serviceable, it seemed to be clearly evident that nothing could be done to prevent their failure.

These remarks apply more especially, to spans of con-