The plan, Fig. 74, requires the middle portion of the supporting pier to be depressed 1½ to 2 feet, as shown at p, where a vertical section of the upper part of the pier is represented; and, under the bed plate i, should be a large and firmly bedded stone capable of sustaining the whole weight of superstructure.

This plan appears to answer all the requisites of a draw-bridge turn-table by the most direct and economical means.

**LIFT DRAW BRIDGES.**

CLXXXI. Under this designation may be included all movable bridges which are withdrawn from position by being raised, instead of moved horizontally out of place.

Lift bridges, though not much in use at the present day, have been constructed to be raised bodily, being counterpoised by weights acting over pulleys or sheaves; a plan scarcely feasible upon waters navigated by mast vessels, or steamers with high smoke stacks; as must be obvious on a moment’s reflection.

The more common device for lift draws, is, to raise the platform from a horizontal to a vertical position, by lifting one end, while the other turns upon a hinge joint; the operation being like the raising of a trap-door.

This plan is feasible over narrow channels, where vessels may be slowly warped through. But the process requires so much time as to seriously impede the land traffic. A bridge may be so balanced as to turn upon a horizontal axis about as easily as a swing bridge turns upon a vertical one. But the means available