

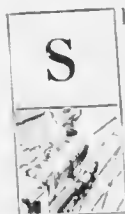


160-FOOT SINGLE-LEAF DOUBLE-TRACK SCHERZER ROLLING LIFT BRIDGE ACROSS THE CUYAHOGA RIVER AT CLEVELAND, OHIO, U.S.A. IN CLOSED POSITION.

This view shows the manner of mounting and operating it on a steel tower 70 feet high. This bridge has been duplicated by the Soudan Government for a crossing over the Nile.

The Rolling Lift Bridge

A FORM OF BASCULE BRIDGE, THE CHARACTERISTICS OF WHICH ARE SIMPLICITY OF WORKING AND INEXPENSIVENESS OF CONSTRUCTION



SPANNING a river is always a problem of considerable moment to the railway engineer; there are so many factors to be borne in mind. Not only is he forced to keep the essential and rigid requirements of the steel highway to the forefront, but he is compelled to fulfil the demands of other interests. The issue is aggravated in its complexity when the crossing is over a busy waterway, in a congested city or town, and when the banks are somewhat low-lying. The claims of navigation have to be regarded, often to the disadvantage of other methods of transportation.

In meeting such different conditions,

the engineer has displayed considerable ingenuity. Three methods of meeting the situation are available—tunnelling beneath the waterway, installing a train ferry, and bridging. The first is impracticable, except in rare circumstances, from motives of cost and the difficulty of flattening the approaches to the subterranean highway sufficiently to secure easy, economical movement. The second generally is not feasible, as it entails serious delays. Bridging, therefore, remains as the solitary expedient, and this is the solution invariably adopted.

Here again, however, difficulties arise. What is the type of bridge most suited to the prevailing conditions and able to meet to the best advantage the claims of both