(No Model.) 2 Sheets—Sheet 1.

C. R. HANSON.

GATE FOR BRIDGES.

No. 457,275. Patented Aug. 4, 1891.

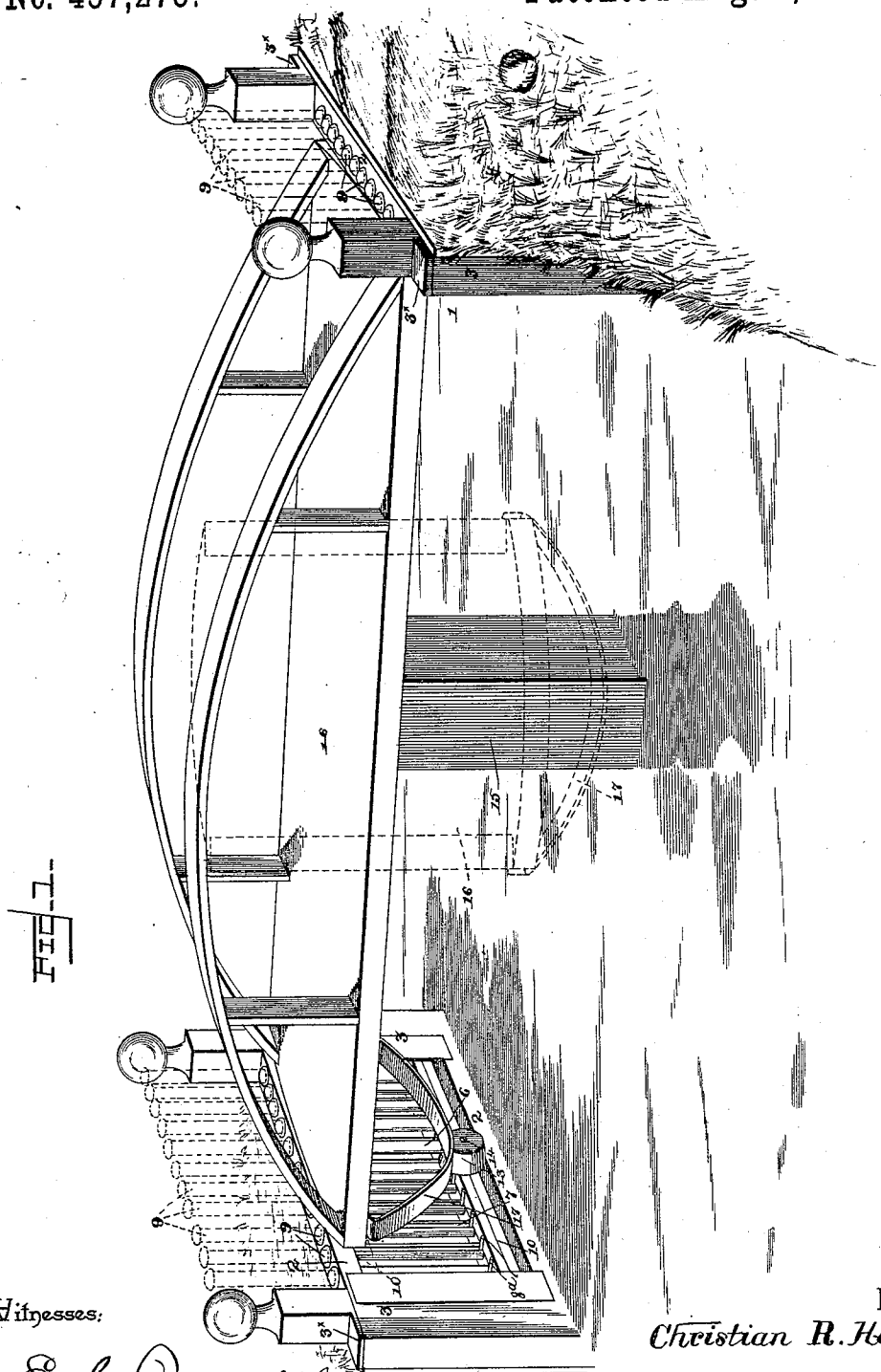


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

C. R. HANSON.

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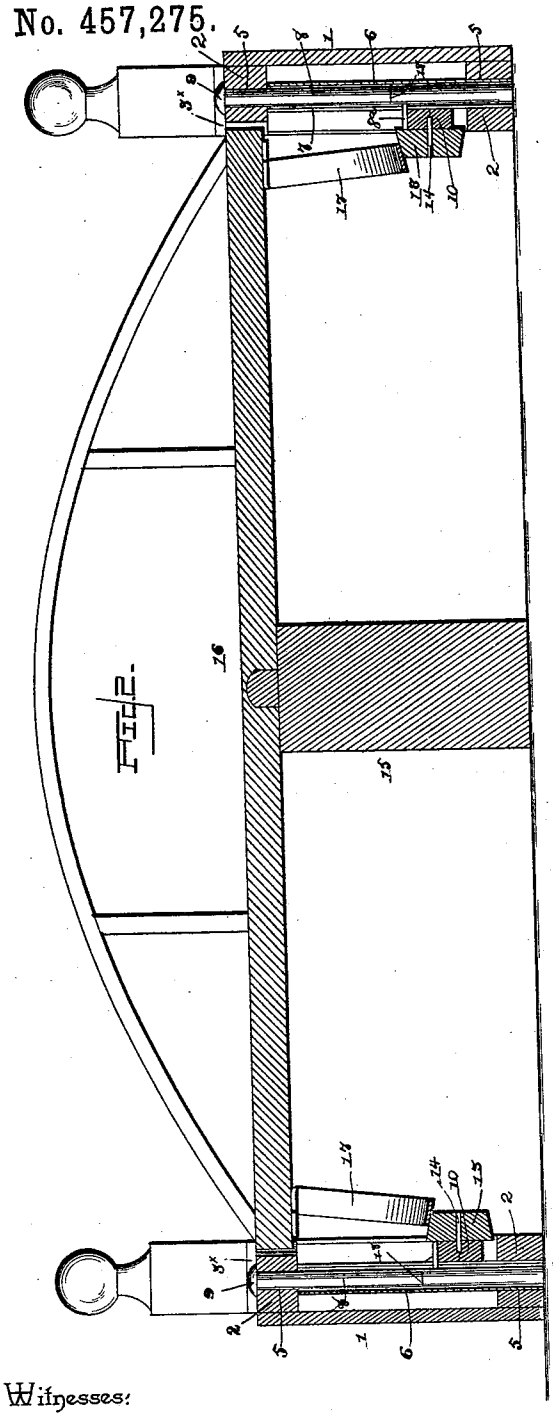


FIG. 2.

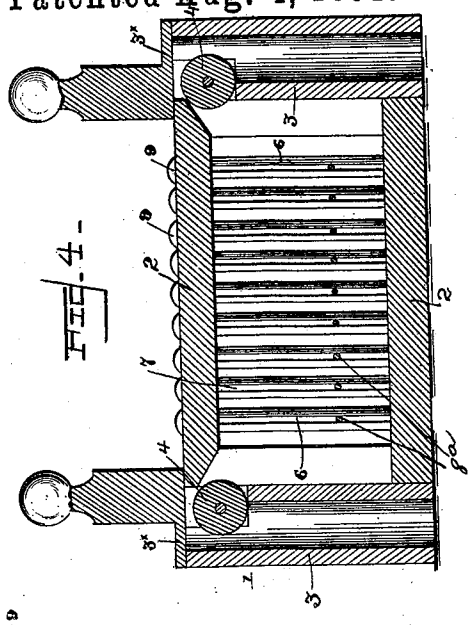


FIG. 4.

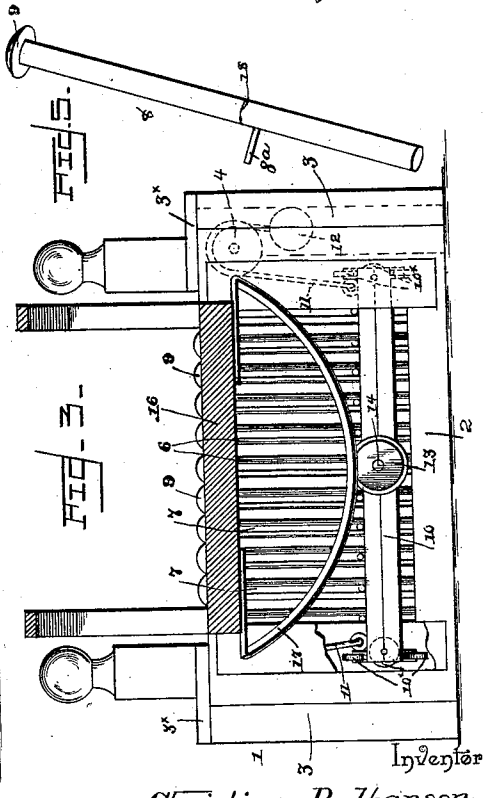


FIG. 5.

FIG. 3.

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UNITED STATES PATENT OFFICE.

CHRISTIAN R. HANSON, OF SAVANNA, ILLINOIS.

GATE FOR BRIDGES.

SPECIFICATION forming part of Letters Patent No. 457,275, dated August 4, 1891.

Application filed February 26, 1891. Serial No. 382,903. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN R. HANSON, a citizen of the United States, residing at Savanna, in the county of Carroll and State of Illinois, have invented a new and useful Gate for Bridges, &c., of which the following is a specification.

My invention relates to improvements in automatic gates for draw-bridges spanning streams, elevator-shafts, and other spaces; and the objects in view are to provide a gate located at each end or entrance of a bridge which will rise automatically when the bridge is not closed or in position for use, and which will be depressed by the bridge when the same is in position for use.

Various other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a bridge and gates constructed in accordance with my invention, located at the ends of the same. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a transverse section. Fig. 4 is a similar view through one of the abutments. Fig. 5 is a detail of one of the pickets.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the opposite abutments of the bridge, or it may be the opposite walls of an elevator-well; and the same consists of a rectangular frame composed of upper and lower horizontal beams 2, connected at their ends by vertical hollow boxes or posts 3, having removable caps $3^{\times}$, the inner walls of the box being provided with pulleys 4, mounted in openings formed in the walls. The beams are provided with vertically-opposite perforations 5, which are connected in vertical pairs by a series of vertical tubes 6, each of which is provided upon its front face with a longitudinal slot 7, extending throughout its length, and in each of the tubes there is mounted a vertically-sliding picket 8, having a pin 8^{a} extending laterally from the front face thereof and riding in the slot of that tube in which the picket is mounted, said pickets being provided upon their upper ends with heads 9. A longitudinal bar 10 is located between the beams 2 2 and is provided at its ends and upon its upper and lower sides with loose rollers $10^{\times}$, by which it may be raised and lowered between the beams, the inner wall of each box serving as a track, at the upper ends of which are located the heretofore-mentioned pulleys. Ropes 11 are connected to the ends of the bars 10, the outer ends of the ropes being passed over the pulleys and having secured thereto within the boxes weights 12, movable in said boxes. The bar 10 is also provided at its center with a loose pulley or roller 13, mounted upon a pivot 14.

15 designates the bridge-support, upon which is pivoted the bridge 16. The bridge 16 may be easily constructed and may be varied in this relation to any extent desired, and is provided at each end and upon its under side with a depending curved cam-track 17, designed to operate upon the loose central pulley of the bars 10.

In operation the weights serve to elevate the bars 10, said bars taking under the pins of the sliding pickets and elevating said sliding pickets from the cylindrical tubes, said sliding pickets serving to form gates at the ends of the bridge and preventing accidents by walking off the abutments when the bridge is not in position connecting the same. When, however, the bridge is in position for use, its depending cams will have taken upon the loose central rollers of the two bars 10 and depress said bars, the end rollers of which will ride down the vertical tracks heretofore mentioned, which depression of the bars causes a rising of the weights within their boxes, and the sliding pins, being liberated, drop by gravity, thus opening up communication between the abutments and bridge and permitting travel.

From the above construction it will be seen that a safe gate is thrown up at each abutment automatically by the partial rotation of the bridge, and that such obstruction is positively and immediately removed by a replacement of the bridge in its position.

The pickets of the gates are preferably formed in two sections connected by a joint 18, so that in case of accident the pickets may be removed. If desired, the gate may be of the usual sliding style or may be varied without altering the mechanism for operating the same.

Having described my invention, what I claim is—

1. The combination, with the upper and lower bars of the opposite abutments provided with perforations, the opposite boxes located at the ends of the abutments and provided with pulleys located in their inner walls and with tracks upon their inner sides, cylindrical slotted tubes mounted in the perforations of the beams, pickets loosely mounted in the tubes and provided at their upper ends with heads and near their lower ends with laterally-disposed pins, a bar located in front of each of the series of sliding pickets and resting under the laterally-disposed pins, loose rollers mounted in the ends of the bars and running on the track, each of said bars being provided at their centers with a loose pulley or roller, weights located in the boxes, and ropes passed over the pulleys of said boxes connected at their outer ends to the weights and at their inner ends to the bars, of a bridge pivoted between the abutments and provided with depending curved cams for acting upon and depressing the loose central rollers of the bars, substantially as specified.

2. The gate-frames provided with a series of perforations, the series of cylindrical slotted tubes mounted in the perforations, the pickets loosely mounted in the tubes and provided at their upper ends with heads and near their lower ends with laterally-disposed pins, a transverse bar located in front of each of the sliding pins and resting under the laterally-disposed pins, the rollers on the bar, and the draw provided with the depending cams acting upon the rollers, substantially as described.

3. The gate-frames provided with a series of perforations, the pickets loosely mounted and provided at their upper ends with heads and near their lower ends with laterally-disposed pins, a transverse bar located in front of each of the sliding pickets and resting under the laterally-disposed pins, the rollers on the bar, the weights connected by ropes to the transverse bar, and the draw provided with the depending cams acting upon the rollers, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHRISTIAN R. HANSON.

Witnesses:
JOHN MCCRACKAN,
A. F. WINGERT.