

(No Model.)

H. BROOKE.

BRIDGE BROW FOR FERRY BOATS, &c.

No. 369,429.

Patented Sept. 6, 1887.

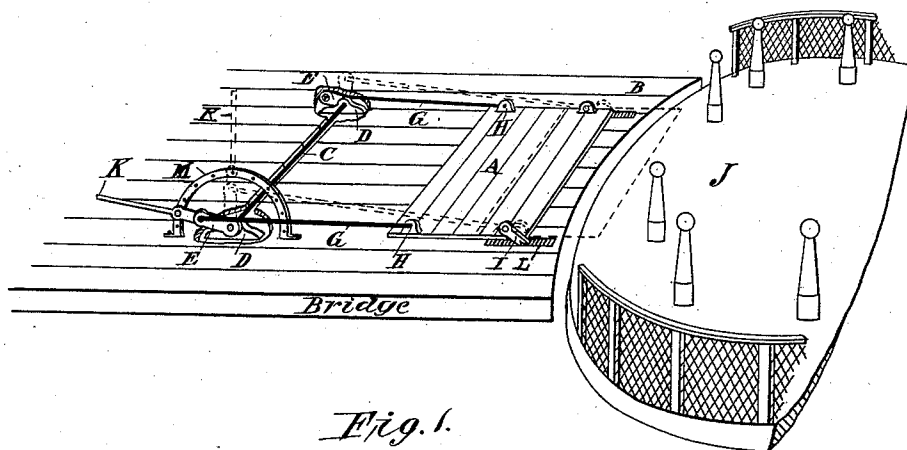


Fig. 1.

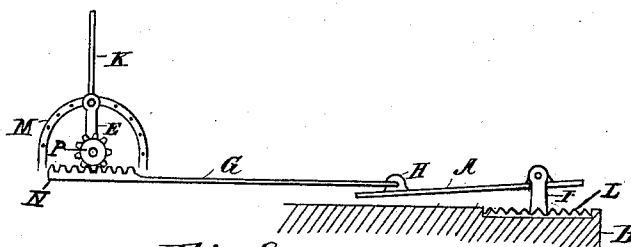


Fig. 2.

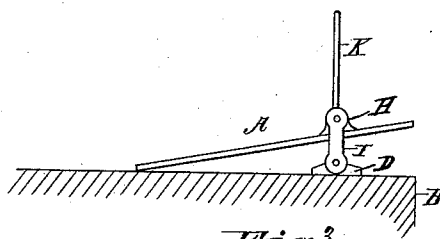


Fig. 3.

WITNESSES:

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HOMER BROOKE, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF ONE HALF
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BRIDGE-BROW FOR FERRY-BOATS, &c.

SPECIFICATION forming part of Letters Patent No. 369,429, dated September 6, 1887.

Application filed February 19, 1887. Serial No. 228,273. (No model.)

To all whom it may concern:

Be it known that I, HOMER BROOKE, a citizen of the United States, residing in Jersey City, county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Bridge-Brows for Ferry-Boats, &c., of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

10 The object of my invention is to move the bridge-brows or gang-planks used to connect ferry or other boats with their bridges by means of machinery to and from the boat. By my invention the brow or gang-plank is moved
15 much more readily and in a true and accurate manner and with less labor and physical exertion than heretofore.

My invention consists in the combination, with the brow, of oscillatory or rocking props having at their upper ends pivotal connection with said brow and fulcrumed at their lower ends upon the bridge or pier.

My invention consists, further, in the combination, with the brow, of a lever or levers for moving it forward and backward, and still further in certain other features of novelty, all of which are hereinafter particularly pointed out in the claims, being first fully described with reference to the accompanying drawings,
30 in which—

Figure 1 is a perspective view showing one end of a ferry-boat, the pier or bridge, and the brow with my invention applied thereto; Fig. 2, a modification of the same, showing rack and pinion devices. Fig. 3 is a further modification of my improvement.

In the drawings, Fig. 1, B represents the bridge, and J the end of a ferry-boat, with which the bridge is to be connected by the brow. A represents the brow. In the floor of the bridge and running across it below the surface of the bridge, so as not to interfere with the passage of persons or vehicles, is a cross-shaft, C, mounted in suitable supports, D, attached to the bridge. To the ends of the shaft C are attached the cranks E E. One or both of these cranks are provided with the handle K, thus together forming a lever for moving the brow. The ends of the brow nearest the shaft are provided with eyes or bearings H. Connecting the upper end of the cranks E with the eyes or

bearings H are the connecting-rods G G, the ends of which move freely in the eyes H and in the sockets of the cranks E. The forward ends of the brow are pivotally connected to the upper ends of oscillatory or rocking props I, whose lower extremities mesh into or engage racks L, properly secured to the flooring of the bridge below its surface, said props being of sufficient length to properly lift the ends of the brow as it moves forward. Above the bearings D may be placed a semicircular frame, M, provided with holes, along the side of which the lever K E is adapted to move, said lever being provided with a hole through it, so arranged that a pin or bolt may be inserted through said hole and any desired hole in the frame M, so as to secure the brow in any desired position.

It will be readily seen from the inspection of Fig. 1, in connection with the above description, that when the lever K E is moved from its position, as shown in full lines, the shaft C is revolved, carrying the crank E into an upright position, thus forcing the brow to move forward by the action of the rods G into the position shown by the dotted lines onto the boat, and that during such forward motion of the brow the props I, having engaged in the racks L, have lifted the forward end of the brow to the proper elevation. The reverse action of the lever will of course return the brow to its proper position on the bridge.

In the modification shown in Fig. 2 a rack, N, and pinion P are substituted for the crank device, the rods G being directly connected with rack N.

In Fig. 3 is shown another modification, in which the connecting-rods G and racks L are dispensed with and the props I made to perform the functions of the cranks E (shown in Figs. 1 and 2) in addition to their proper functions. As a consequence of these modifications, the device is further modified by connecting the lower extremities of the props I by the crank-shaft C, in connection with which said "props" perform the function of the "cranks" and cause both sides of the brow to move simultaneously either forward or backward when power is applied to the hand-lever K on either side. In this form of the device the hand-levers are formed in continuation of the

props I and the lower extremities of the props held from moving at random by the blocks D, in which the shaft C has its bearings.

I do not intend to confine myself to the specific devices described for moving the bridge-brows or gang-planks backward and forward to and from the boats and automatically lifting the brows, but equivalents may be used or the devices modified or varied without departing from the spirit of my invention, which is essentially the movement of the bridge-brow back and forth into the proper and desired positions by means of levers, actuating-cranks, or other equivalent devices.

15 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the bridge-brow or gang-plank, of the props pivotally connected at their upper ends with said brow or plank and fulcrumed upon the bridge, whereby the brow will be automatically elevated as it is moved along on the bridge, substantially as set forth.

25 2. The combination, with the bridge-brow, of a crank-shaft, cranks secured thereto, an operating-lever for turning said crank-shaft, and connections between the cranks and the brow, whereby a movement of the operating-lever will cause said brow to slide along the bridge, substantially as set forth.

30 3. The combination, with the bridge-brow,

of a crank-shaft, C, having cranks E secured thereto, rods G, connecting said cranks with the brow, and an operating-lever, K, formed in continuation of the crank E, substantially as and for the purpose set forth. 35

4. The combination, with the bridge-brow A, of the shaft C, cranks E, secured thereto, rods G, connecting the cranks with the brow A, the operating-lever K, formed in continuation of the crank E, the bracket M, and means for locking the operating-lever thereto, substantially as set forth. 40

5. The combination, with the bridge-brow, of the props pivotally connected at their upper ends thereto and fulcrumed at their lower ends upon the bridge, an operating-lever, and rod connecting the operating-lever with the brow, substantially as set forth. 45 50

6. The combination, with the bridge-brow A and the props I, pivotally connected at their upper ends thereto, of the racks L, secured to the bridge with which the lower ends of the props I engage, the operating-levers E K, and the rod G, connecting the operating-rod with the brow, substantially as and for the purposes set forth. 55

In witness whereof I have hereunto set my hand this 18th day of February, 1887.

HOMER BROOKE.

In presence of—

CHARLES G. COE,

R. HERN. BOSKERCK.