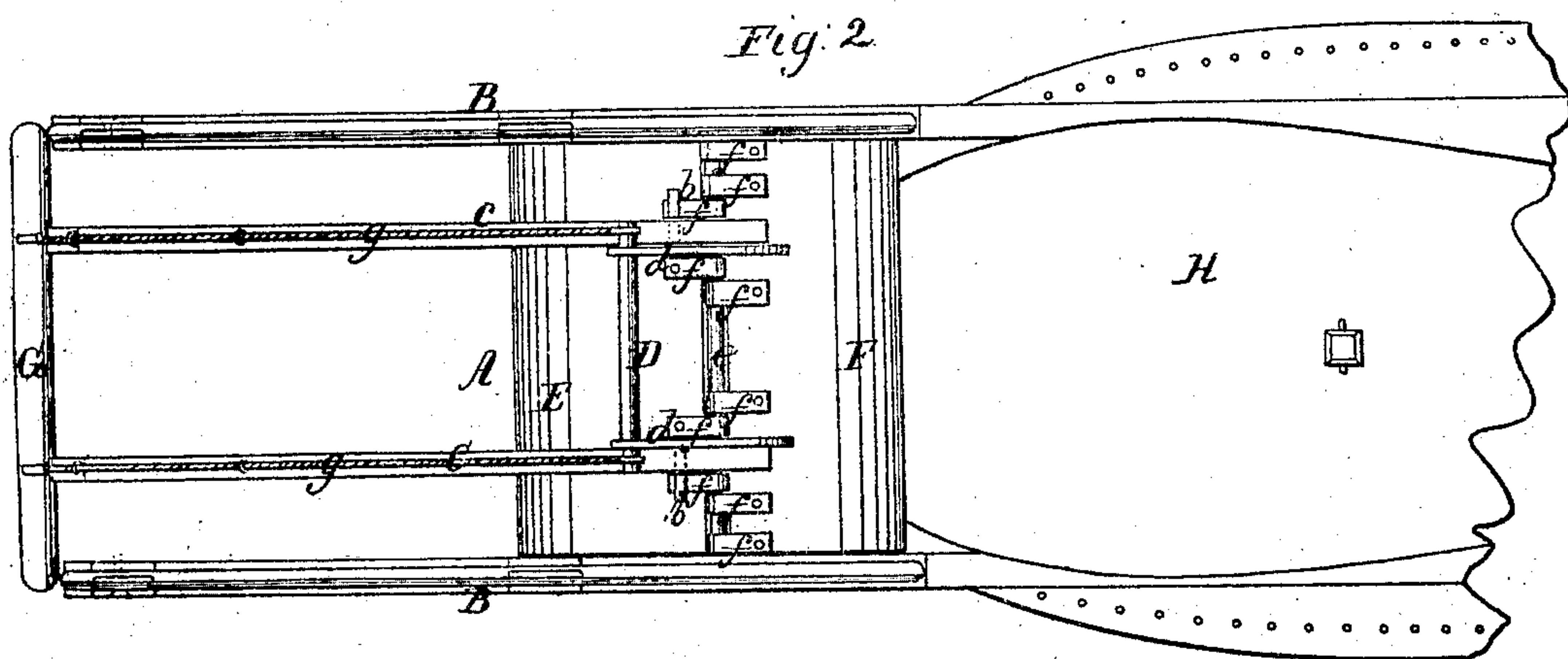
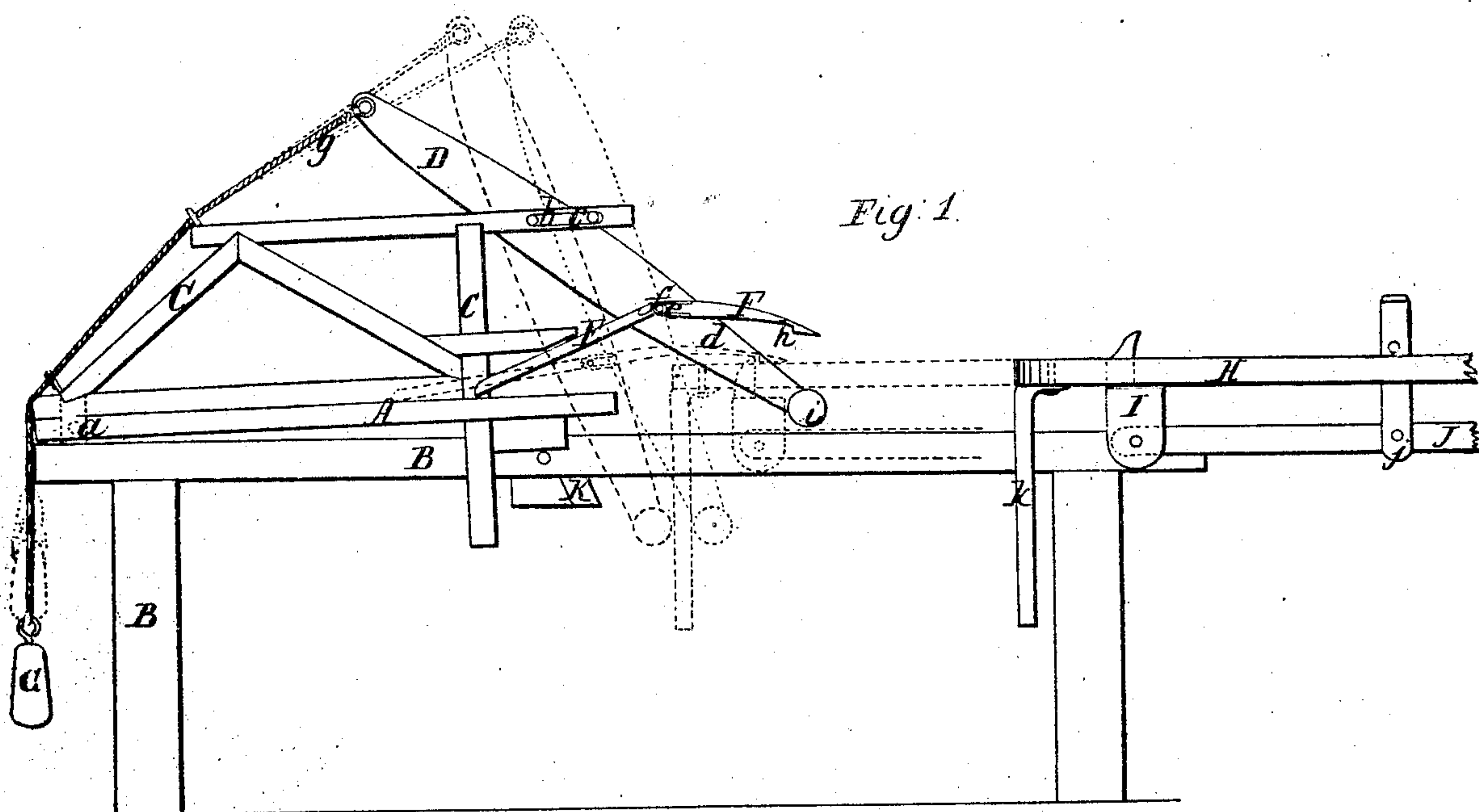


G. Sickles.
Ferry Guard.

Nº 9,772.

Patented Jun. 7, 1863.



UNITED STATES PATENT OFFICE.

GERARD SICKELS, OF BROOKLYN, NEW YORK.

SELF-ADJUSTING PLATFORM FOR FERRY-BRIDGES.

Specification of Letters Patent No. 9,772, dated June 7, 1853.

To all whom it may concern:

Be it known that I, GERARD SICKELS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful improvement to be applied in the construction of ferry-bridges, and which improvement I term a "self-adjusting platform;" and I do hereby declare that the following is a full, clear, and exact description of the construction of the same and the manner in which it operates, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the platform applied to a bridge and also a side elevation of a platform of a boat. Fig. 2 is a top or plan view of ditto.

Similar letters of reference indicate corresponding figures in each of the two figures.

The nature of my invention consists in applying or attaching to a ferry bridge a platform so arranged as to be operated upon by the boat as it approaches the bridge, the boat causing said platform to operate in such a manner, which will be hereafter described, as to entirely cover the space between the boat and the bridge before persons can pass upon the boat, thus preventing accidents of too frequent occurrence, viz. of persons falling into the slip in attempting to get on to the boat before it has been secured to the bridge.

To enable others skilled in the art to make and use my invention, I will proceed to describe fully its construction and operation.

A, represents the ferry bridge, the front part of which rises and falls with the tide, the same as ordinary ferry bridges. In the drawings the bridge for the purpose of illustration is represented in a frame B, the back end of the bridge being connected to the frame by pivots (a) (a).

C, is a frame erected on the bridge A. This frame may be constructed in any proper manner. It supports a lever frame D, the pivots or bearings (b) (b) of which work in oblong slots (c) cut through the front parts of the top plates of the frame, see Fig. 1. To this lever frame there is attached a platform which is formed of two leaves E, F, connected by metal straps (f) to a rod or shaft (e) which passes through the side pieces (d) (d) of the lever frame.

The lower end of the leaf E of the platform rests upon the bridge, and the lower end of the leaf F, rests upon the boat when it is in the slip. When the boat is out of the slip, the leaf F, projects over the water and beyond the bridge, as seen in black lines, Fig. 1. Each leaf is movable, the straps (f) being loose around the rod or shaft (e). The leaf F is maintained in its position over the water and prevented from dropping downward by means of the joint or straps (f), which form in effect an ordinary butt hinge.

To the upper parts of the lever frame D, there are attached two cords or chains (g) (g) which pass through eyes or over suitable pulleys to the back end of the bridge, and a weight or counterpoise G, is attached to the ends of the cords. Consequently when the platform and lever frame are free to act the weight G, will keep the lower end of the lever frame D, out from the bridge and the leaf F of the platform will project over the water, as before stated, and at an elevation of about four feet above the level of the deck of the boat. At the front edge of the leaf F, and on the under side there is a notch or recess (h), see Fig. 1, which runs the whole length of the leaf. The object of the notch or recess will presently be shown. At the lower end of the lever frame there is a cross-bar (i) which connects the two side pieces (d) (d).

H, is intended to represent a ferry boat approaching the bridge A.

I, is a vertical pin secured by a pivot to a horizontal lever J, having its fulcrum at (j). The upper end of the pin, when elevated, projects a short distance above the deck of the boat, as seen in black, Fig. 1.

The boat H, approaches the bridge A, and the cut water (k) of the boat strikes the cross bar (i) of the lever frame D, and forces the lower end of the lever frame inward and downward and raises the weight G. The leaf E, is then of course moved farther upon the bridge A, and the leaf F, gradually falls upon the front part of the deck of the boat, and as the boat moves inward and toward the bridge the pin I, is depressed by coming in contact with the edge of the leaf F, and the edge of the leaf F, passes over the pin, and when it has passed it the pin I, is forced upward by the weight of the lever and catches into the notch or recess (h) and the boat is thus secured to

the platform. See the red lines in Fig. 1, which show the position of the several parts when the boat is secured to the platform.

To prevent any sudden jar or great concussion in case the boat has too much speed, an elastic material K, may be attached either to the bridge or some part of the work surrounding it, against which elastic material the lower part of the side pieces (d) (d) may strike, and in case of the boat recoiling the platform will yield or give to a certain extent because the boat can draw the platform outward a certain distance corresponding to the length of the slots (c), the bearings (b) (b) of the lever frames passing from the back to the front ends of the slots (e). The green line in Fig. 1, shows the position of the lever frame when the platform is drawn forward by the recoil of the boat.

The platform will adjust itself to the different levels of the boat by means of the joint between the leaves, thereby saving much time and trouble to those having care of the bridge.

The boat is detached from the platform by depressing the pin I, and freeing it from the notch or recess (h). The boat may then pass out of the slip and the weight G, will force out the lower end of the lever frame and the platform will be moved back to its original position.

The pin I, may be operated from any part of the boat from the pilot house, engineer's room, et cetera, by a proper connection of levers or chains suitably arranged.

Boats are at present secured to the bridges by means of chains which pass around cylinders or shafts on the bridges, the chains

being hooked to the boat and then wound around the cylinders or shafts. Great delay, however, often occurs in bringing the boat closely to the bridge, in consequence of the boat entering the slip in an angular manner. This is the time when accidents mostly occur, for the boat is generally filled with passengers and in their eagerness to get on board fall into the slip between the boat and the bridge. This evil is avoided by my improvement, for in whatever manner the boat enters the slip the cut water comes in contact with the cross bar (i) at the lower end of the lever frame.

I do not confine myself to any precise arrangement of the platform nor to any precise mode of construction, for there are a multiplicity of ways in which the within described motion of the platform may be obtained and be essentially the same.

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

Applying or attaching to a ferry bridge or other boat landing, a movable platform so arranged with any suitable mechanism as to be operated upon by the boat as it approaches the bridge in such a manner that the boat causes the platform to move inward and downward when the boat is coming into the slip and the mechanism or weights herein described, or their equivalents, cause the platform to follow the boat outward and upward when the boat is leaving the slip.

GERARD SICKELS.

Witnesses:

O. D. MUNN,
THOS. MAHAN.