

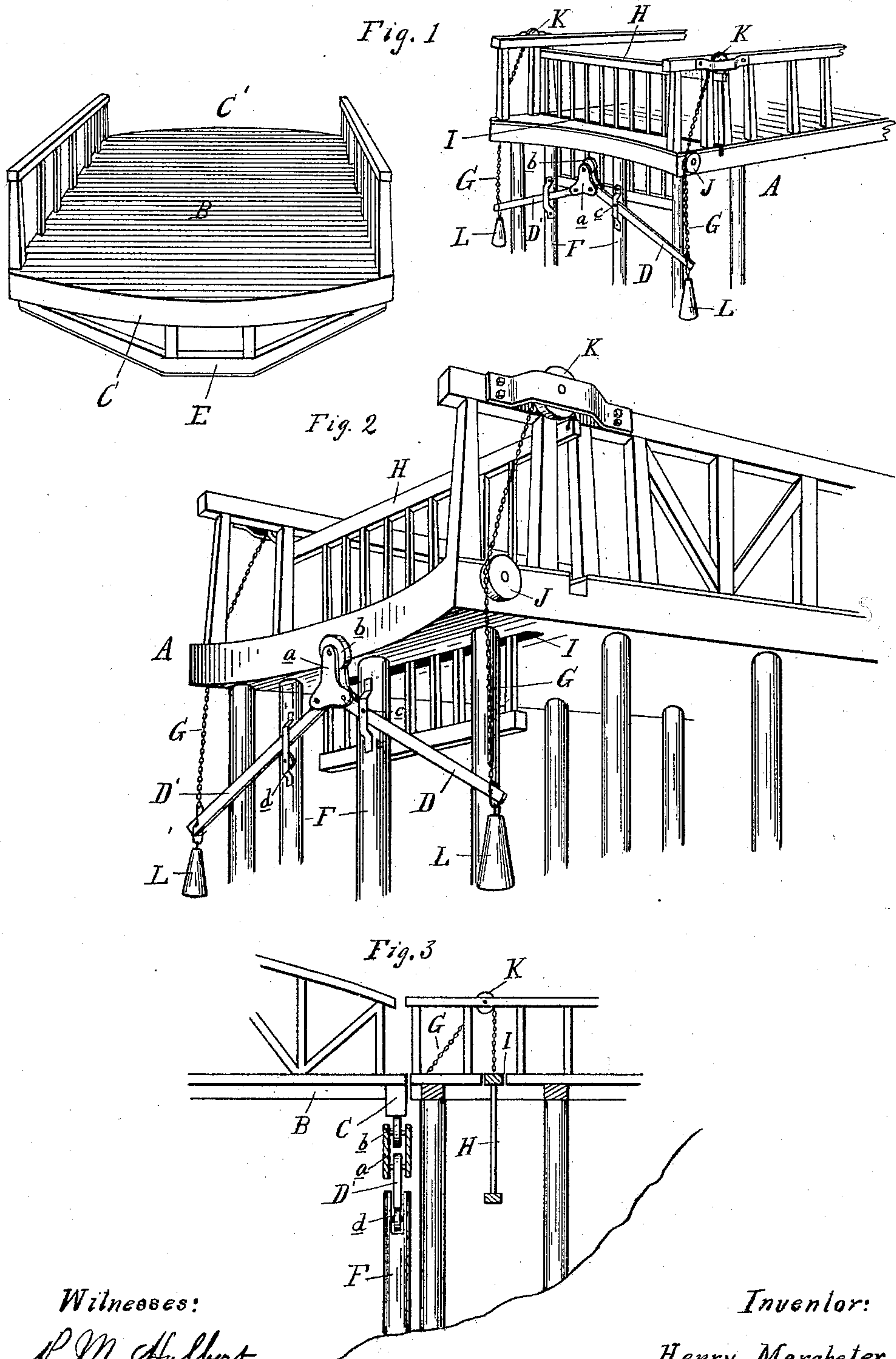
(No Model.)

H. MARCHETER.

AUTOMATIC GATE FOR SWING BRIDGES.

No. 395,752.

Patented Jan. 8, 1889.



Witnesses:

R. M. Hulbert.
John Schuman.

Inventor:

Henry Marcheter

By Thos. L. Sprague Son
Atty.

UNITED STATES PATENT OFFICE.

HENRY MARCHETER, OF WALLACEBURG, ONTARIO, CANADA.

AUTOMATIC GATE FOR SWING-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 395,752, dated January 8, 1889.

Application filed May 28, 1888. Serial No. 275,356. (No model.)

To all whom it may concern:

Be it known that I, HENRY MARCHETER, a citizen of the Dominion of Canada, residing at Wallaceburg, in the county of Essex and Province of Ontario, have invented certain new and useful Improvements in Automatic Gates for Swing-Bridges, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in self-acting safety-gates for swing-bridges; and the invention is intended to form an improvement on Letters Patent No. 352,251, November 9, 1886, previously granted to me.

The object of my invention is to construct the device in a manner better adapted to bridges of all sizes and construction; and to this end my invention consists in an improved construction and arrangement of the double lever or levers, by means of which the movement of the swing-bridge is automatically communicated to the gate, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the swing-bridge with one of the approaches thereto, to which my device is applied and shown in position when the bridge is open to navigation. Fig. 2 is a perspective view of one of the approaches of the bridge with my self-acting gate. Fig. 3 is a longitudinal section showing details of construction.

A is the inner end of the stationary part of the bridge.

B is the swing-bridge or draw, and C and C' are the abutting ends of the stationary part and the swinging part of the bridge, respectively, all the parts being of usual or known construction.

My self-acting device consists of the levers D D', mounted upon suitable supports at the stationary ends of the bridge transverse with the same. The inner ends of these levers are pivotally secured together or to a common head, as at *a*, and carry at such point the anti-friction roller *b*, located at or near the center of the bridge and below the ends of the swing, which at this point is provided with a guide rail or bar, E, adapted to bear on top of the roller *b*.

The levers D D' are fulcrumed between their outer and inner ends—such as by supporting them upon extra piles F, or in any other suitable manner. One of the fulcrums *c* is stationary, while the other is made sliding in any suitable manner—as, for instance, shown in the drawings, where the fulcrum of the lever D' is formed by loosely supporting the lever upon a roller, *d*, which forms the bearing of the lever. To the outer ends of the levers D D' are secured the chains G, which operate the gate.

The gate H is a vertically rising and falling gate, which closes or uncloses the approach to the swing by rising or falling through a transverse opening, I, formed in the stationary parts of the bridge, and which transverse opening is adapted to be closed by the upper rail of the bridge when the gate is open.

The lower ends of the chains G are secured, as shown, to the outer ends of the levers D D', and from thence pass in an upward direction over the guide-sheaves J, secured to the ends of the bridge, and then over the top rollers, K, mounted above the gate, and thence in a downward direction, their free ends being secured to the outer ends of the gate H.

L are counter-weights secured to the ends of the levers D D'.

In practice, the parts being arranged as shown and described, they are intended to operate as follows: When the swing is closed, the central part of the guide-rail E bears on top of the roller *b* and keeps the levers D D' sufficiently depressed to produce the proper amount of slack in the chains G to allow the gate H to withdraw below the level of the bridge, as shown in Fig. 3, whereby an open and safe passage is afforded over the bridge. As soon as the swing is moved out of position, the central part of the guide-rail E leaves the roller *b*, and the levers D D' are raised in the center, owing to the action of the weights L, thereby raising the gate H vertically upward, and as soon as the guide-rail E is to part contact with the roller *b* the gate is closed. By depressing the central part of the guide-rail E sufficiently the movement of opening and closing the gate may be thereby accomplished before the swing is moved much out of position.

The weights *L* are suitably adjusted to keep the gate normally in its raised position while the swing is open, and the gate is not withdrawn until the swing is closed, or nearly so. If no room is afforded for a gate of the kind shown to withdraw below the bridge, I connect the upper and lower rail of the gate by means of short chains, which then allow the folding of the gate into a transverse recess in the bridge.

It will be seen that in this construction the device may be manufactured without reference to the width of the bridge, at least within certain limits, while in my former patent this could not be done; besides my present construction is less liable to be tampered with or liable to accidental derangement, while at the same time it is less costly to manufacture.

While I have shown my construction as applied to one end of the bridge only, it is obvious that both ends are to be provided with the same device to guard both approaches to the bridge.

By means of the movable fulcrum *d* the levers *D D'* are free to adjust themselves.

What I claim as my invention is—

1. The combination, with the swing pro-

vided with the bar *E*, of the vertically-movable gate, the levers fulcrumed on the stationary part of the bridge transverse of the same and connected with said gate, one of said levers being movable on its fulcrum, and the roller *b*, connected with said levers and adapted to be depressed by the bar *E* on the swing to elevate the gate, substantially as described.

2. The combination, with a rising and falling gate, of the levers *D D'*, fulcrumed at the stationary end of the bridge transverse with the same and having their inner ends pivotally connected and carrying the contact-roller *b*, the fulcrums *c d*, said lever *D'* being movable on its fulcrum, the weights *L*, secured to the ends of the levers, and the chains *G*, secured to the outer ends of the levers and to the outer ends of the gate, and the sheaves *J K*, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 4th day of May, 1888.

HENRY MARCHETER.

Witnesses:

P. M. HULBERT,
JOHN SCHUMAN.