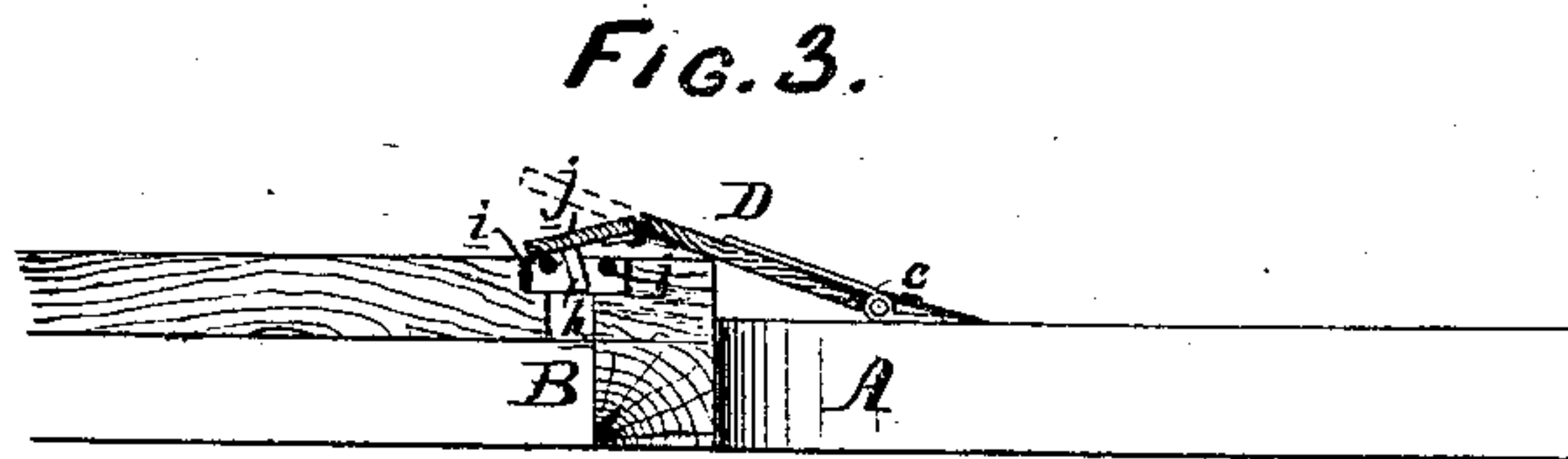
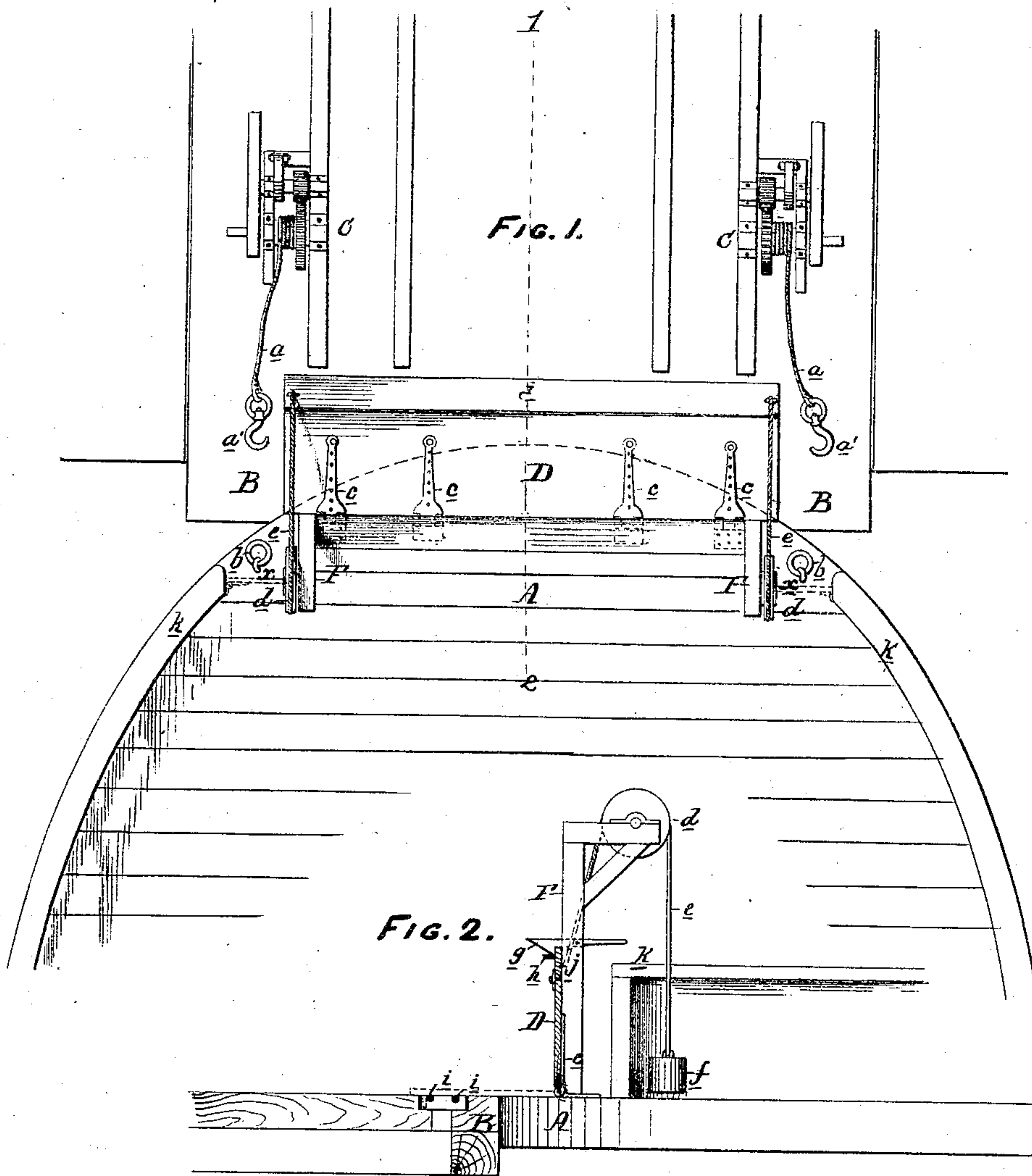


WILLIAM J. ALSOP.
Improvement in Bridge for Ferry-Boats.
No. 127,542. Patented June 4, 1872.



WITNESSES { *Mr. B. Harding.*
John Parker

Wm J. Alsop.
By his atty.
Horsman & Son

UNITED STATES PATENT OFFICE.

WILLIAM J. ALSOP, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN BRIDGES FOR FERRY-BOATS.

Specification forming part of Letters Patent No. 127,542, dated June 4, 1872; antedated May 21, 1872.

SPECIFICATION.

To all whom it may concern:

I, WILLIAM J. ALSOP, of Camden, county of Camden, State of New Jersey, have invented an Improved Bridge for Ferry-Boats, of which the following is a specification:

Nature and Object of the Invention.

My invention consists of a bridge or "plank" hinged to a ferry-boat, and arranged to lap over the same and onto the slip or wharf up to which the boat is brought, so as to form a safe means of passing onto or from the boat, and so as also to form, when elevated, a guard for the end of the said boat; and my invention also consists of certain devices for raising and lowering the said bridge, and of certain peculiarities in the construction of the latter.

Description of the Accompanying Drawing.

Figure 1 is a plan view of part of a wharf or slip and of one end of a ferry-boat with my improved bridge; Fig. 2, a sectional view of the same on the line 1 2, Fig. 1; and Fig. 3, a view of part of Fig. 2, with the parts in a different position.

General Description.

A represents one end of a ferry-boat, rounded as usual, and adapted to the correspondingly-recessed wharf or slip B, which is provided with the usual appliances for bringing it to and maintaining it on the same level as the deck of the boat. The slip has also the ordinary cranks and drums C C for drawing in and holding the boat, by means of ropes or chains *a* and hooks *a'* adapted to the rings *b* on the deck of the said boat. Instead of the usual loose bridge or "plank" which is thrown over onto the boat to afford a passage to or from the latter when brought up to the slip, I employ a bridge, D, which extends entirely across the end of the boat and is hinged to the latter at its inner edge, so that when lowered or turned down it may lap over both the boat and slip and afford a safe passage for passengers and vehicles, as it cannot slip or be adjusted to any other than a proper position, owing to the fact that it is secured at one edge to the boat by the hinges *c c c c*.

The bridge may be made of planks or slats, or even of stout sheet-iron, and may be operated by hand or by any appropriate arrangement of tackle, and when the boat has moved away from the slip the said bridge may be simply raised and retained in a vertical position so as to serve as a guard for the end of the boat and enable the usual chains and ropes to be dispensed with; or it may be turned completely over upon its hinges and be laid flat upon the deck of the boat.

I prefer, however, to arrange and operate the bridge in the manner and by the devices illustrated in the drawing, as I will now proceed to describe.

A post, F, is secured to the deck of the boat close to each of the opposite ends of the bridge, at the rear of the latter, and to each of these posts is hung a pulley, *d*, over which passes a rope or chain, *e*, secured at one end to the outer edge of the bridge, and having suspended from its opposite end a weight, *f*. A latch-lever, *g*, Fig. 2, is hung to each of the posts *f*, and is arranged to catch and retain the bridge when the latter is elevated. The bridge is furnished on the under side, close to its outer edge, with two or more projections, *h*, which are arranged, when the bridge is lowered, to hook over rollers or bars *i* placed in a recess on the slip, this arrangement enabling the bridge to serve as a means of securing the boat to the slip when brought straight up to the latter, and consequently enabling the chains *a* and hooks *a'* to be in some cases dispensed with. The bridge is also constructed with a section or strip, *j*, hinged to its outer edge, as shown in Fig. 3, so that in case the slip should be somewhat higher than the boat the said hinged section may drop onto the slip instead of projecting above the same at an angle, as shown by dotted lines in Fig. 3. In place of this single hinged strip at its outer edge, the whole bridge might be composed of a number of sections hinged together, in order to enable it to adapt itself more readily to inequalities in the height of the boat and slip.

When the boat is brought up to the slip the latch-levers *g* are raised and the bridge is lowered gradually, by means of the ropes or chains *e*, until it rests upon the slip; and the

bridge is raised in the same manner when the boat moves away from the slip, the weights *f* serving as counter-balances and enabling the bridge to be operated with comparatively little exertion. The bridge when raised rests against the posts *F*, and is locked by means of the latches *g*, it serving then as a much more effectual guard for the end of the boat, in preventing passengers from approaching the latter too closely, than the usual ropes and chains, which can be dispensed with when the bridge is thus arranged.

I propose to arrange at either side of the bridge, between the posts *F* and rail *k* of the boat, small gates or passages *x x*, to enable the attendants to attach the hooks *a'* to the ring *b* on approaching the slip, before the bridge is lowered.

Claims.

1. The arrangement, on a boat, of the up-rights *F F*, the counterbalanced hinged bridge *D*, and the self-acting catch *g* for retaining the bridge when elevated, as described.

2. The hinged bridge *F*, when composed of two or more sections hinged together, as set forth.

3. The combination of hooks or projections *h* on the under side of the bridge with rollers or bars *i* on the slip, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses:

W. J. ALSOP.

WM. A. STEEL,

JOHN K. RUPERTUS.