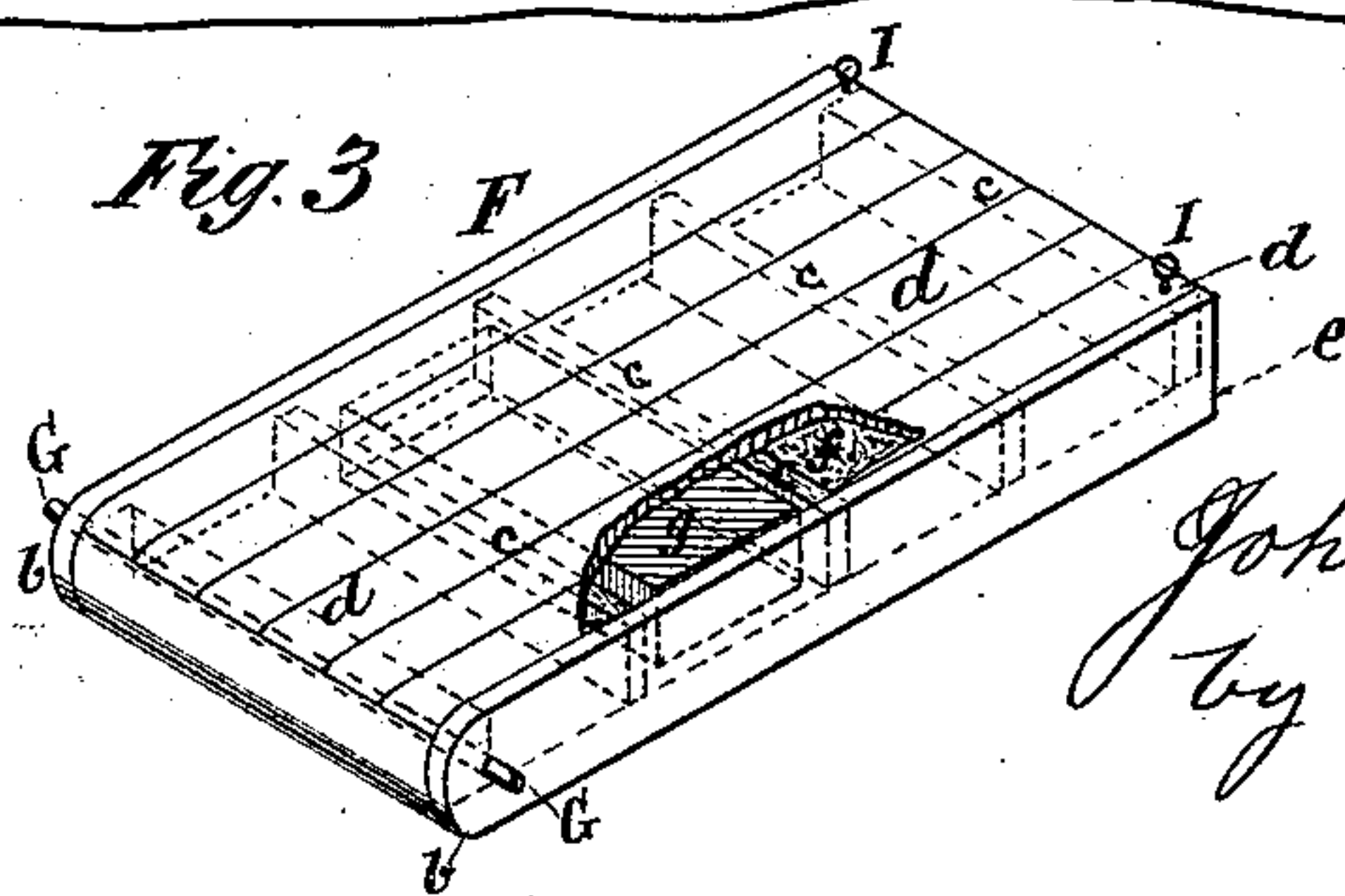
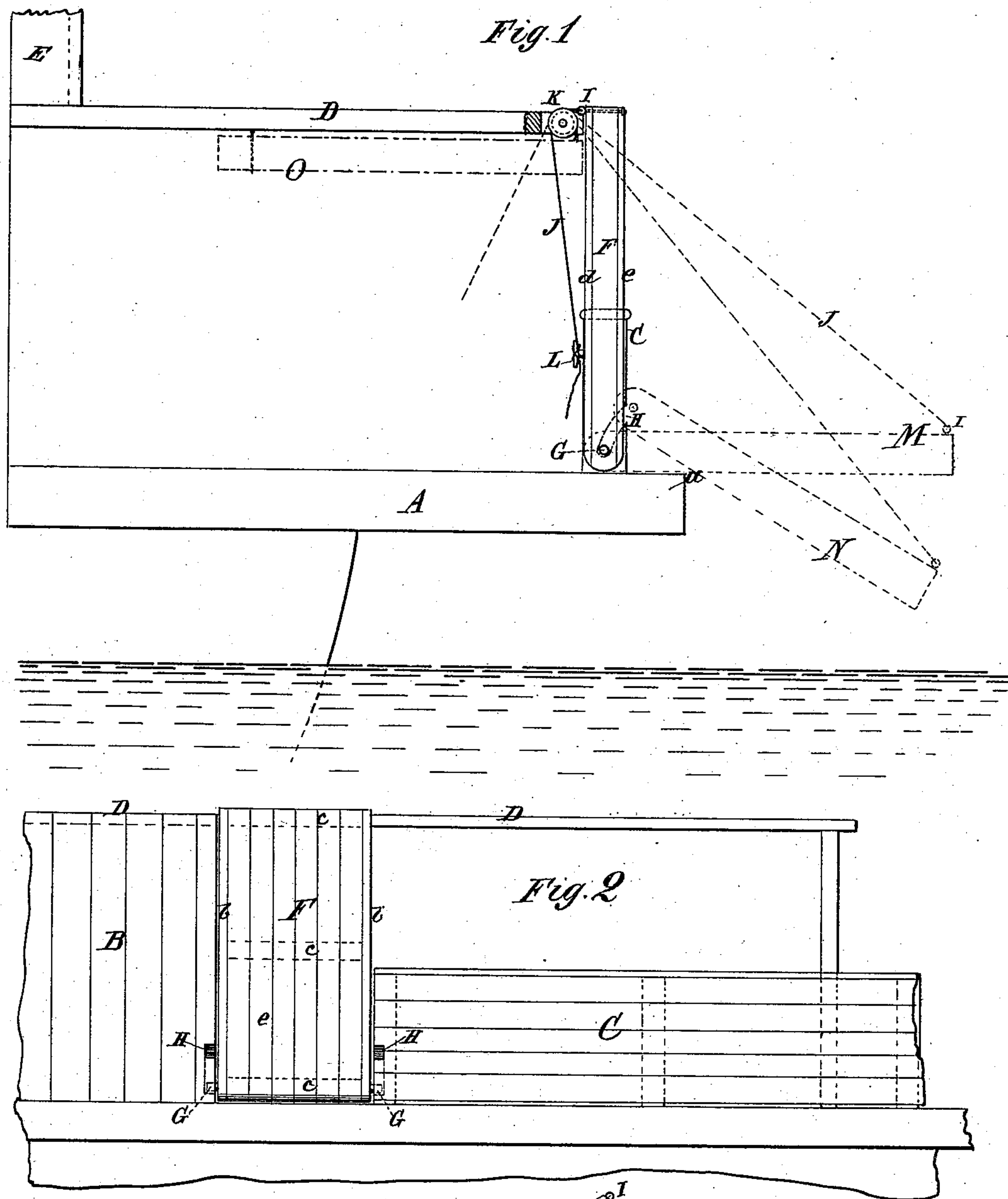


(No Model.)

J. E. BARSTOW.  
Combined Gangway and Life Raft.

**No. 235,987.**

**Patented Dec. 28, 1880.**



Witnesses:  
John M. Stelle  
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*Attorney*



# UNITED STATES PATENT OFFICE.

JOHN E. BARSTOW, OF NEW YORK, N. Y.

## COMBINED GANGWAY AND LIFE-RAFT.

SPECIFICATION forming part of Letters Patent No. 235,987, dated December 28, 1880.

Application filed September 23, 1880. (No model.)

*To all whom it may concern :*

Be it known that I, JOHN E. BARSTOW, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Combined Gangway and Life-Raft, of which the following is a specification.

The object of my invention is to furnish an improved life-saving device, more especially adapted to be attached to steamboats, piers, and barges as a gangway at all the usual points of egress from the said vessels, and which, when not in immediate use, will occupy none of otherwise available space, and in case of accident by leak or fire may enable the passengers to jump far enough out from a steamer to avoid the danger of getting under the paddle-wheels, and which may quickly be detached from its fastenings and dropped into the water, and then used as a life-raft capable of supporting the weight of a large number of persons.

The construction and operation of the invention will be fully understood by the following description with reference to the accompanying drawings, in which—

Figure 1 represents a partial cross-section of a river-boat provided with my present invention. Fig. 2 is a partial side view of the same. Fig. 3 is a perspective view of the combined gangway and life-raft.

Similar letters of reference indicate like parts.

A designates the main deck of the vessel; *a*, the guard; B, the side; C, the bulwark; D, the hurricane-deck, and E the pilot-house.

F is the gangway. This is made in the shape of a flat hollow raft, of about the size of the ordinary gang-plank, by connecting two side pieces, *b*, by cross-bars *c* and covering top and bottom of the thus-constructed frame by sheathings *d* *e*, leaving an air-space of about four inches or more between them. This space, subdivided by the cross-bars *c*, is then filled with cork *f*, as in ordinary life-preservers, or with thin metallic air-tight tanks or boxes *g*, or other fillings suitable to make the raft buoyant enough to uphold twenty-five to thirty persons. The upper sheathing, *d*, which serves as the immediate gang-plank in landing passengers, should be made proportionately thicker than the bottom sheathing, *e*.

Across the raft through one end is inserted

an iron bar, with its ends projecting sufficiently through the sides *b* to form pivots G, by which the raft is hinged in the closed ends of two grooves or slots, H, formed one in each of the two opposite sides of an opening in the side or bulwark B C. The other end of the raft F is provided with strong eyebolts I, to which are secured halyards J, which latter run over pulleys or other hoisting-blocks K, attached to the deck next above, and then pass down to a suitable fastening cleat or button, L, on the inner side of the bulwark. By this construction the raft may be raised and lowered upon its hinge by means of the rope J. When raised in the vertical position it fills completely the opening in which it is hinged, reaching from the lower to the upper deck, and thus forming a portion of the side B, from which its finished sheathing *e* presents no difference in appearance, and when lowered in the horizontal position (indicated in the dotted lines marked M) it constitutes a gangway in position for receiving or landing passengers and supported entirely from the steamer, thus avoiding the objections of the ordinary gang-planks, which require the deck to be cleared before they can be put out, are in the way of passengers' feet, and are liable to slip off the guards or off the dock, wharf, or pier on which their ends are temporarily supported.

Should it be desired to move the raft F out of the way when in its vertical position, this is quickly done by keeping fast its upper end and lifting its lower end up under the hurricane-deck, in the position indicated by the dotted lines marked O.

When the raft F is lowered as gangway it projects so far outside the guard *a* that persons jumping off from it to escape from a burning steamer would run no danger of falling under the paddle-wheels.

In order to rapidly set the raft afloat when required, each slot or groove H is curved from its lower closed end to its upper end, which is open, by a circle arc having its center at the upper edge of the guard *a*, so that if the halyard J is released or cut off the outer end of the raft will weigh down like a lever, acting over the guard-edge *a* as a fulcrum, and cause the pins G to slide out of the grooves H, and the raft F to fall in the water.

It is evident that, whether or not these rafts

are fitted up for use also as gangways, a number of them may be arranged to constitute a greater or less portion of the side of the steamboat or barge, ready for use as life-rafts, for 5 which purpose they may be got overboard much more rapidly than the life-boats, and with even less inconvenience than the ordinary gang-planks.

My combined raft and gangway is equally 10 applicable for use on piers and other landing-places, and may easily be provided with one or more rowlocks for propulsion by sculling or rowing.

The combined gangway and life-rafts may 15 be provided with means for locking and unlocking them in the raised position by the person in the pilot-house E.

In case of a fire burning off the halyards J the raft would be launched immediately.

Having thus described my invention, what 20 I claim as new, and desire to secure by Letters Patent, is—

A life-raft arranged to cover an opening in a frame, side, or bulwark of a pier, steamboat, or other floating vessel, substantially as shown, 25 the same being provided with pivots G, hinged at opposite sides of said opening in open grooves or slots H, in combination with suitable hoisting devices J K L, to adapt the raft for being readily set afloat or lowered for use 30 as a gang-plank, in the manner and for the purpose substantially as hereinbefore set forth.

JOHN E. BARSTOW.

Witnesses:

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A. W. ALMQUIST.