

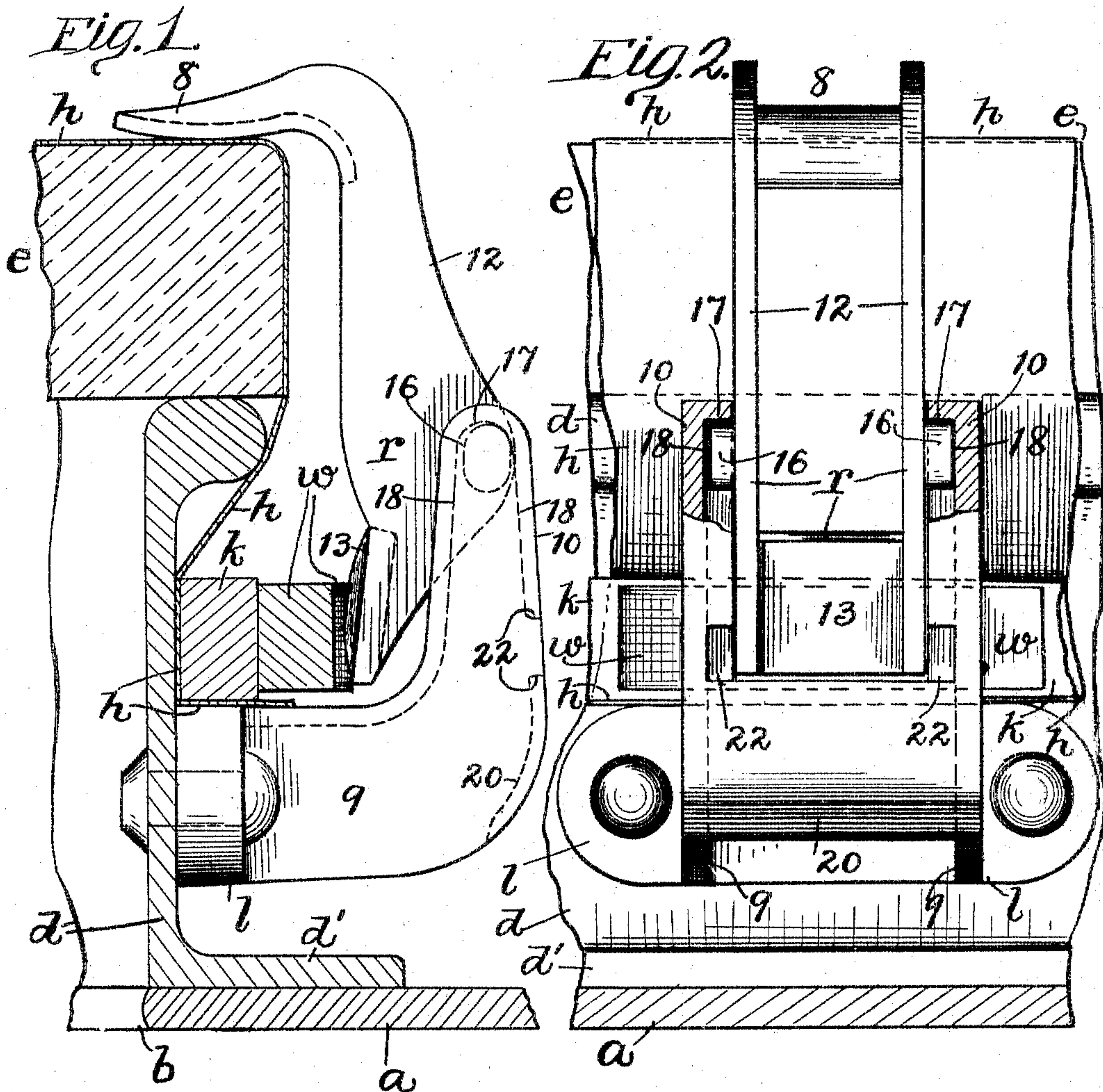
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PATENTED DEC. 6, 1904.

A. P. RANKIN.  
HATCH FASTENER.  
APPLICATION FILED MAR. 21, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:  
Daniel O. Daly.  
Victor C. Lynch.

INVENTOR  
Archibald P. Rankin  
BY  
Snyder & Dorer  
his ATTORNEYS

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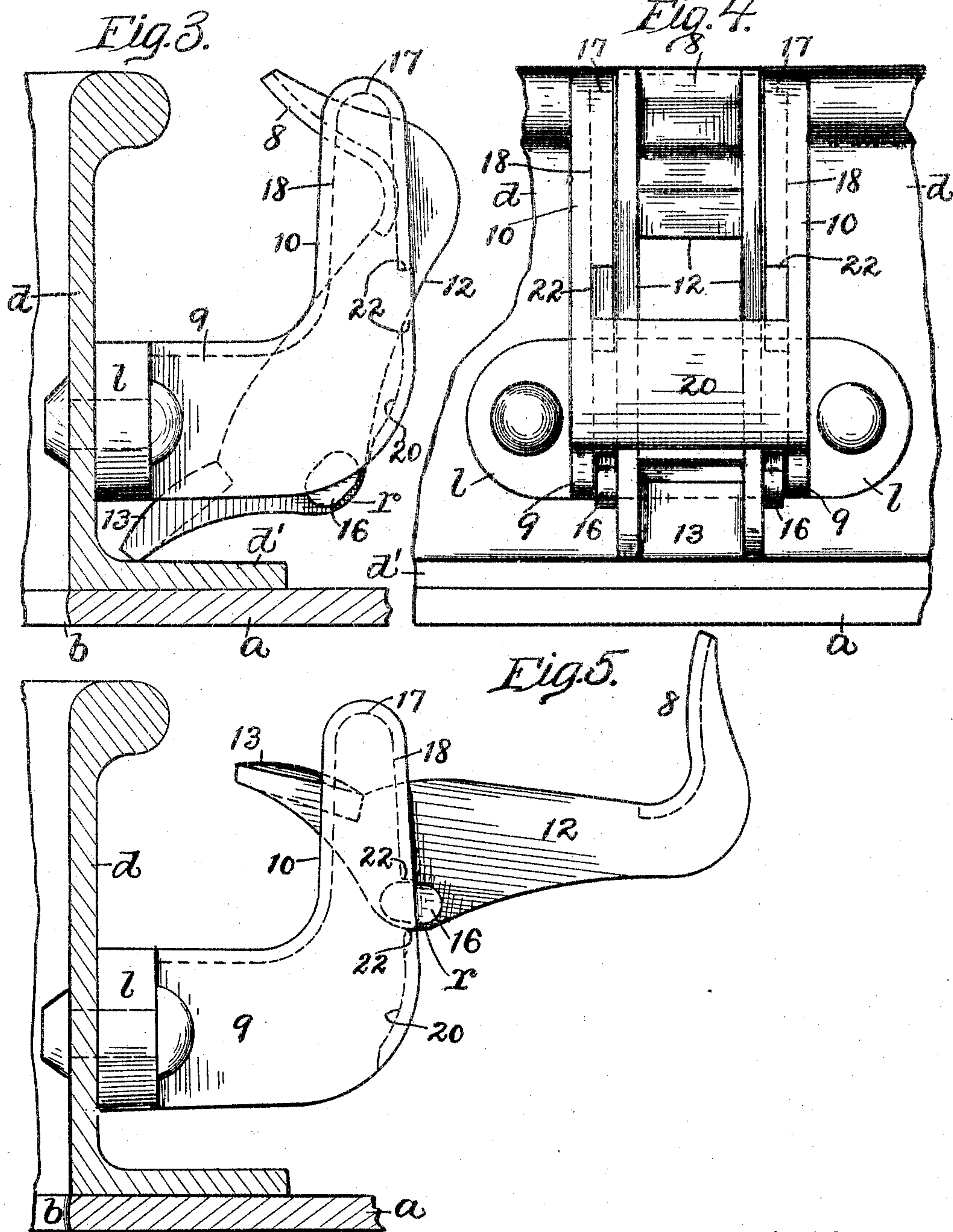
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# UNITED STATES PATENT OFFICE.

ARCHIBALD P. RANKIN, OF LAKEWOOD, OHIO.

## HATCH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 776,757, dated December 6, 1904.

Application filed March 21, 1904. Serial No. 199,276. (No model.)

*To all whom it may concern:*

Be it known that I, ARCHIBALD P. RANKIN, a citizen of the United States of America, residing at Lakewood, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Hatch-Fasteners; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in hatch-fasteners for ships or vessels, and pertains more especially to an improvement of the hatch-fastener disclosed in United States Letters Patent No. 709,928, granted September 30, 1902.

The primary object of this invention is to prevent the hatch-clamping jaw of the hatch-fastener upon being rendered inoperative from swinging laterally and outwardly onto the deck of the vessel, and thereby prevent the obstruction by the said clamping device of the passage-way on the deck around the hatchway, whose surrounding guard or frame is provided with the hatch-fastener.

With this object in view this invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, largely in section, showing my improved hatch-fastener applied to a hatch arranged over a hatchway in the deck of a ship or vessel. Fig. 2 is a right-hand side elevation relative to Fig. 1, partly in section. Fig. 3 is a side elevation, partly in section, corresponding with Fig. 1, except that in Fig. 3 the hatchway is shown without the application of the hatch and the hatch-clamping device of the hatch-fastener is shown in its inoperative position. Fig. 4 is a right-hand side elevation relative to Fig. 3. Fig. 5 is a side elevation, partly in section, corresponding with Fig. 3, except that in Fig. 5 the clamping device of the hatch-fastener is shown in position to be applied to or removed from the bracket-arms of the hatch-fastener.

Referring to the drawings, *a* designates the deck of a ship or vessel, *b* the hatchway formed

in the said deck, and *d* the frame or guard which surrounds the hatchway and prevents the ingress of water from the deck into the hatchway. The guard *d* is of any suitable construction, and *e* represents the hatch for covering the hatchway. The hatch *e* in Figs. 1 and 2 is shown extending over and resting upon the upper edge of the guard *d*. The hatch *e* comprises a tarpaulin or flexible waterproof covering *h*, which extends over the outer side of the upper portion of the guard *d*. Battens instrumental in tightening the covering *h* and holding it stretched taut are applied, and in Figs. 1 and 2 of the drawings a batten *k* is arranged horizontally and extends along the outer side of the guard *d*.

The batten *k* rests upon a bracket *l*, which is arranged externally of and rigidly secured to the guard *d*, and the tarpaulin or covering *h* extends between the external surface of the said guard and the said batten and between the under side of the batten and the said bracket.

The bracket *l* has two parallel angular arms 9, which are arranged a suitable distance apart longitudinally of the guard *d*. The arms 9 project first laterally and outwardly from the guard *d* and then upwardly, as at 10. The outer portion 10 of the bracket-arms 9 are arranged vertically or approximately vertically and project a suitable distance above the batten *k*. The outer and upwardly projecting portions 10 of the bracket-arms 9 within their upper ends afford bearing to the journals or trunnions 16 of a bell-crank *r*, which forms the clamping device of my improved hatch-fasteners. The bell-crank *r* has a long arm 12 and a short arm 13. The long arm 12 is provided at its free end with a clamping-jaw 8, which in the operative position of the bell-crank, as shown in Figs. 1 and 2, bears downwardly upon the adjacent portion of the hatch externally of the tarpaulin or covering *h* of the hatch and is consequently instrumental in holding the hatch firmly down upon the guard *d*. The bell-crank *r* is arranged between the bracket-arms 10. The short arm 13 depends into suitable proximity to the outer side of the batten *k* in the operative position of the bell-crank, but is arranged far enough from the outer side of the said batten to accommo-



date the interposition between the said arm and the batten of a wedge *w*. Obviously the bell-crank *r* during its operation by the engaging wedge *w* by driving the wedge in between the arm 13 and the batten causes the jaw 8 to bear downwardly upon the hatch.

The two trunnions or journals 16 of the bell-crank *r* are arranged in line endwise and in the operative position of the bell-crank engage and have bearing against the rounded upper end walls 17 of channels or recesses 18, formed in the inner and opposing sides of the bracket-arms 10, which recesses extend up and down the said arms and are open at their lower ends to accommodate the location of the aforesaid journals or trunnions in the movement of the bell-crank from its operative into its inoperative position, and vice versa—that is, each bracket-arm 10 is provided in its inner side with a recess 18, extending up and down the arm and having a rounded upper end wall 17, which is engaged by and affords bearing to the adjacent trunnion 16 of the bell-crank when the latter is in its operative position, as shown in Figs. 1 and 2.

The hatchway-surrounding guard *d* is provided at its outer side and at the bottom with a laterally and outwardly projecting flange *d'*, which rests upon the deck. The two bracket-arms 10 are connected together at the lower ends of the outer side walls of the recesses 18 by a web 20, which braces apart the said arms and curves or slopes inwardly and downwardly toward the guard *d*, and the said web is so arranged relative to the recesses 18 that the bell-crank *r* when rendered inoperative so as to render it free to drop from within the said recesses falls upon the inner side of the lower portion of the said web and is guided by the latter so as to drop upon the flange *d'* of the guard *d*, as shown in Figs. 3 and 4, in which position the bell-crank rests at the free end of its short arm 13 upon the said flange and leans at the outer side of its long arm 12 against the upper end of the web 20, which prevents the said bell-crank from falling onto the deck of the vessel. It will be observed, therefore, that the bell-crank or clamping device of my improved hatch-fastener does not obstruct the passage-way surrounding the hatchway, so that two hatchways can be located in close proximity to each other without the liability of having the comparatively narrow passage-way between them materially obstructed by the hatch-fasteners employed in connection with the hatches for closing the said hatchways.

The outer side walls of the recesses 18 in the bracket-arms 10 are cut away next above the web 20 to form apertures or openings 22, extending from the said recesses to the outer side of the web. The trunnions 16 of the bell-crank *r* are somewhat oblong, being somewhat greater in diameter vertically than horizontally, and the openings 22 are only large

enough to permit the passage therethrough of the smaller diameter of the said trunnions. It will be observed, therefore, that the bell-crank *r* can be applied to or removed from the bracket-arms 10 by placing the bell-crank in position, as shown in Fig. 5, to accommodate the passage of the smaller diameter of the trunnions 16 through the opening 22, but that the passage of the said trunnions into the said openings during the movement of the bell-crank from its upper and operative position into its lower and inoperative position, and vice versa, is prevented.

What I claim is—

1. A hatch-fastener comprising a bracket adapted to be secured to a hatchway-surrounding frame or guard and having two arms arranged a suitable distance apart laterally, which arms have upwardly-projecting outer portions provided, in their inner sides, with channels or recesses extending up and down the arms, which recesses are open at their lower ends and have upper end walls; a web connecting together the two bracket-arms at the outer side walls and lower ends of the said recesses and sloping inwardly and downwardly, and a bell-crank arranged between the aforesaid arms and having trunnions which have bearing, in the operative position of the bell-crank, against the aforesaid end walls, which bell-crank has an upwardly-projecting arm provided with a hatch-engageable jaw, and has its other arm depending and arranged to receive the application of power.

2. A hatch-fastener comprising a bracket adapted to be secured to a hatchway-surrounding frame or guard and having two arms arranged a suitable distance apart laterally, which arms have upwardly-projecting outer portions provided, in their inner sides, with channels or recesses extending up and down the arms, which recesses are open at their lower ends and have upper end walls; a web connecting together the two bracket-arms at the outer side walls and lower ends of the said recesses and sloping inwardly and downwardly, and a bell-crank arranged between the aforesaid arms and having trunnions which have bearing, in the operative position of the bell-crank, against the aforesaid end walls, which bell-crank has an upwardly-projecting arm provided with a hatch-engageable jaw and has its other arm depending and arranged to receive the application of power, and the outer side walls of the aforesaid recesses being cut away next above the web to form apertures or openings large enough to accommodate the passage therethrough of the aforesaid trunnions.

3. A hatch-fastener comprising a bracket adapted to be secured to a hatchway-surrounding frame or guard and having two arms arranged a suitable distance apart laterally, which arms have upwardly-projecting outer portions provided, in their inner sides, with channels or recesses extending up and down



the arms, which recesses are open at their lower ends and have upper end walls; a web connecting together the two bracket-arms at the outer side walls and lower ends of the said 5 recesses, and a bell-crank arranged between the aforesaid arms and having trunnions which are somewhat oblong vertically and have bearing, in the operative position of the bell-crank, against the aforesaid end walls, which bell- 10 crank has an upwardly-projecting arm provided with a hatch-engageable jaw and has its other arm depending and arranged to receive the application of power, and the outer side walls of the aforesaid recesses being cut away 15 above the web to form apertures or openings which are only large enough, relative to the aforesaid trunnions, to accommodate the passage therethrough of the smaller diameter of the trunnions.

20 4. The combination, with a hatchway-surrounding frame or guard provided, at the bottom, with a laterally and outwardly projecting flange, and the hatch resting upon the said guard and having its tarpaulin or flexible covering extending over and adown the outer side 25 of the guard, of a bracket rigidly secured to the guard a suitable distance below the hatch and having two arms arranged a suitable distance apart longitudinally of the guard and 30 projecting first laterally and outwardly from the guard, and then upwardly, as at 10, with the upwardly-projecting and outer portions of the said arms provided, in their opposing sides, with channels or recesses extending up 35 and down the arms, which recesses have upper end walls and are open at their lower ends; a batten resting upon the bracket and arranged to hold the aforesaid covering against the outer side of the guard; a bell-crank having 40 trunnions arranged to engage the aforesaid end walls in the operative position of the bell-crank and having one of its arms provided with a jaw arranged to bear downwardly upon the hatch in the said position, which bell- 45 crank has its other arm depending at the outer side of the adjacent batten, and a wedge be-

tween the said batten and the depending bell-crank arm, and the aforesaid bracket-arms being connected together, at the outer side walls and lower ends of the aforesaid recesses, 50 by a web which braces apart the said arms and slopes inwardly and downwardly toward the aforesaid guard.

5. The combination, with a hatchway-surrounding frame or guard provided, at the bot- 55 tom, with a laterally and outwardly projecting flange, and the hatch resting upon the said guard and having its tarpaulin or flexible covering extending over and adown the outer side of the guard, of a bracket rigidly secured to 60 the guard a suitable distance below the hatch and having two arms arranged a suitable distance apart longitudinally of the guard and projecting first laterally and outwardly from the guard and then upwardly, as at 10, with 65 the upwardly-projecting and outer portions of the said arms provided, in their opposing sides, with channels or recesses extending up and down the arms, which recesses have upper end walls and are open at their lower ends; a 70 batten resting upon the bracket and arranged to hold the aforesaid covering against the outer side of the guard; a bell-crank having trunnions arranged to engage the aforesaid end walls in the operative position of the bell- 75 crank and having one of its arms provided with a jaw arranged to bear downwardly upon the hatch in the said position, which bell-crank has its other arm depending at the outer side of the adjacent batten, and a wedge 80 between the said batten and the depending bell-crank arm, and means for guiding the bell-crank, during its fall or descent upon being rendered inoperative, onto the aforesaid flange. 85

In testimony whereof I sign the foregoing specification in the presence of two witnesses.

ARCHIBALD P. RANKIN.

Witnesses:

C. H. DORER,  
G. M. HAYES.