No. 686,291. Patented Nov. 12, 1901.

J. D. HANNAH.

SHIP'S PORT HOLE.

(Application filed Apr. 12, 1901.)

(No Model.)

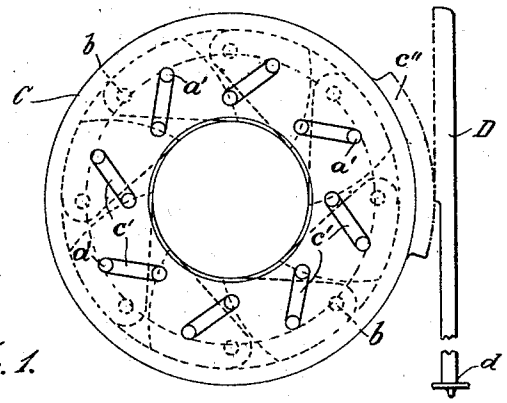


Fig. 1.

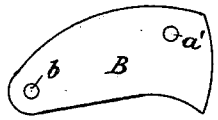


Fig. 2.

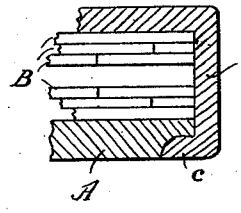


Fig. 3.

Witnesses:-
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UNITED STATES PATENT OFFICE.

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SHIP'S PORT-HOLE.

SPECIFICATION forming part of Letters Patent No. 686,291, dated November 12, 1901.

Application filed April 12, 1901. Serial No. 55,524. (No model.)

To all whom it may concern:

Be it known that I, JAMES DANIEL HANNAH, a subject of the King of Great Britain and Ireland, residing at Mu-to Villa, Canon street, Shrewsbury, England, have invented new and useful Improvements Relating to Ships' Port-Holes, of which the following is a specification.

This invention has reference to improvements relating to ships' port-holes; and the object of my invention is to provide means substantially as hereinafter described whereby the port-holes of, say, a warship may be readily closed or nearly closed when the gun or guns have been withdrawn for reloading or other purpose, so that the gunners and other persons engaged within the vessel shall be protected against an enemy's fire.

In order that my invention may be readily understood, reference is made to the accompanying drawings, in which like letters of reference indicate corresponding parts throughout the several figures, and in which—

Figure 1 is an elevation of my invention when seen from the interior of the vessel. Fig. 2 is a plan view of one of the plates constituting the closing device or shutter. Fig. 3 is a sectional view showing the cover C surrounding the plates B and the disk A.

In carrying my invention into practice I employ a ring-shaped disk or equivalent A, which I fix in any suitable manner against the inside of the opening or port-hole to which my invention is to be applied, the central opening being of sufficient size to permit the gun being worked. On said ring-shaped disk A, I pivotally mount a series of plates B, said plates being capable of being swung on their pivots *b* to any desired sufficient extent for the purpose hereinafter described. Surrounding said plates and the ring A, I provide a cover C or equivalent having a central opening and adapted to be rotated around the disk A to any desired sufficient extent. Said cover C is held in position by reason of its bottom edge being turned in, as at *c*, or provided with lugs, clips, or equivalents, as will be readily understood from the drawings. Said cover C is formed with a series of more or less tangential slots *c'*, into which pins or studs *a'*, with which I provide the plates B, project, the arrangement being such that if said cover be rotated in one direction the pins *a'* will be caused to travel outward, and thereby all the plates B will also be carried outward and the port-hole will be opened to permit of the gun being moved out; but if the cover C be moved or rotated in the opposite direction the pins *a'*, and consequently also the plates B, will be moved inward and the port-hole thereby closed.

For the purpose of readily imparting the necessary movement to the cover C so as to open or close the port-hole I form or provide said cover with a toothed part or segment *c''*, and at one side thereof I mount a rack D, which gears with said segment, and which rack is provided with a treadle or equivalent *d*, so that when it is depressed the cover C is rotated and the port-hole is opened.

In order that the port-hole may be closed automatically, I may provide the cover C or any other moving part or parts with a spring or springs or equivalents, so that the moment the treadle *d* is released the said spring or springs or equivalents will close the port-hole. If desired, the necessary opening or closing movement of my improved device may be effected by hydraulic, electric, or other power, and the means for accomplishing the desired result may be any which in practice is found most suitable.

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

1. Improvements relating to ships' port-holes consisting of a ring-shaped disk having a series of plates pivotally mounted thereon said plates having a more or less rotary movement imparted to them by a cover or equivalent, which surrounds said disk and plates, and which is provided with more or less tangential slots into which pins or studs on the plates, A, project, all for the purposes and substantially as set forth.

2. Improvements relating to ships' port-holes consisting of a ring-shaped disk having a series of plates pivotally mounted thereon,

said plates having a more or less rotary movement imparted to them by a cover or equivalent which surrounds said disk and plates and which is provided with more or less tangential slots into which pins or studs on the plates A project, said cover being provided with a toothed part or segment with which a rack or equivalent, adapted to be depressed, gears, all for the purposes and substantially as set forth.

Dated this 3d day of April, 1901.

JAMES DANIEL HANNAH.

Witnesses:
W. R. HOLM,
HY. IMRIE.