

1,295,561.

H. S. MOORE.

HATCH COVER.

APPLICATION FILED JULY 15, 1918.

Patented Feb. 25, 1919.

2 SHEETS—SHEET 1.

Fig. 1

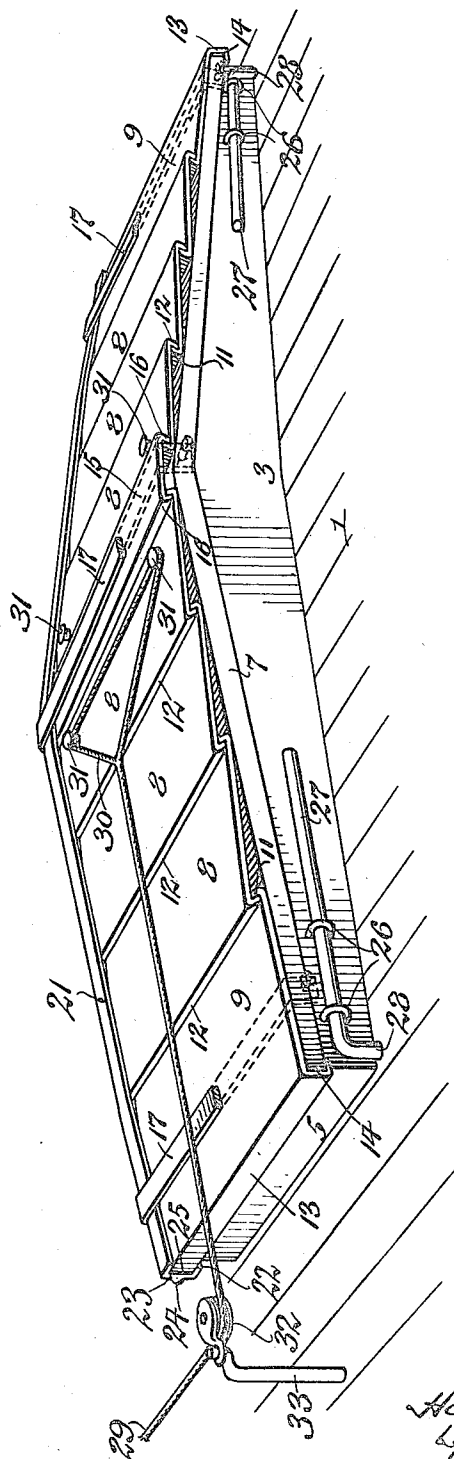
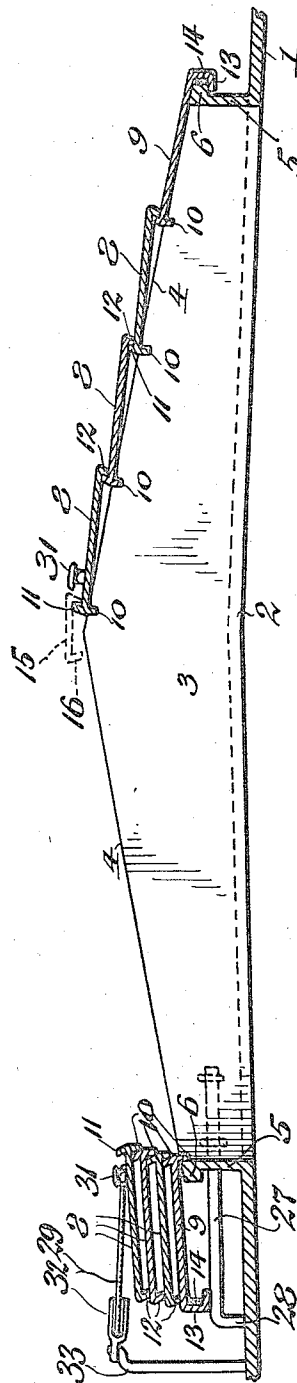


Fig. 2

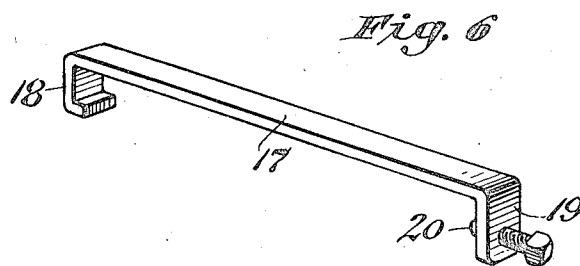
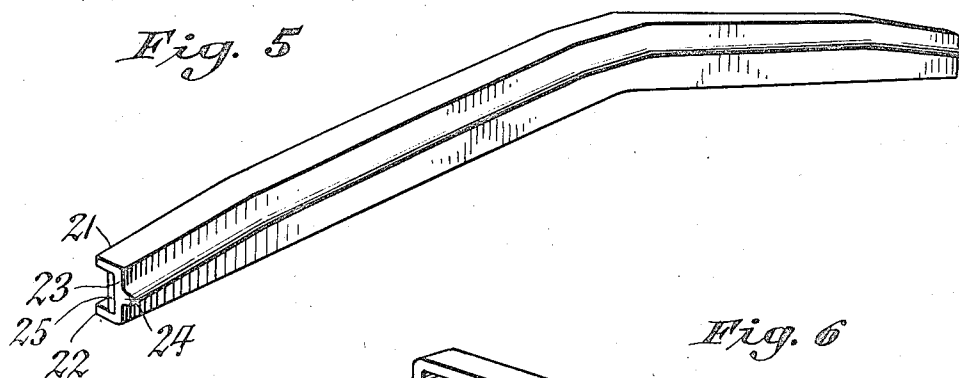
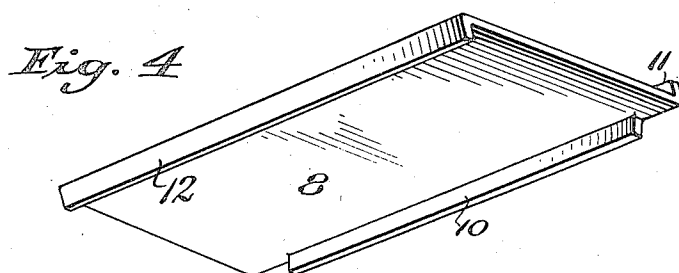
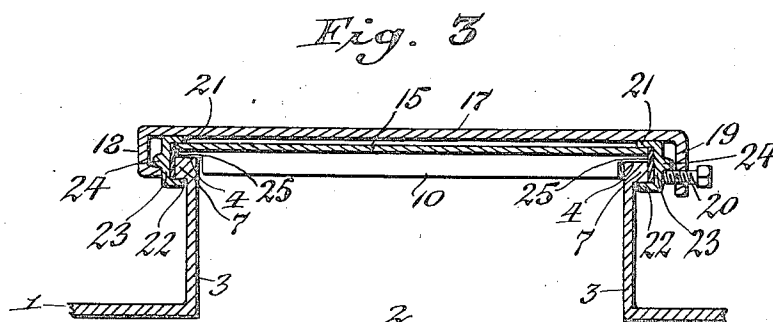


Harry S. Moore inventor  
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2 SHEETS—SHEET 2.



Harry S. Moore Inventor  
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# UNITED STATES PATENT OFFICE.

HARRY S. MOORE, OF ALGONAC, MICHIGAN.

## HATCH-COVER.

1,295,561.

Specification of Letters Patent.

Patented Feb. 25, 1919.

Application filed July 15, 1918. Serial No. 244,856.

*To all whom it may concern:*

Be it known that I, HARRY S. MOORE, a citizen of the United States, residing in Algonac, in the county of St. Clair and State of Michigan, have invented new and useful Improvements in Hatch - Covers, of which the following is a specification.

This invention relates to a covering for the hatchways of ships and more particularly to a covering for this purpose which comprises in its general organization a plurality of cover-plates which are adapted to be spread over the coaming while in their operative position for closing the hatchway or the same may be stacked in piles on the deck at the side of the hatchway for uncovering the latter.

The object of this invention is to provide a hatch cover of this general character which can be readily manipulated for opening and closing the hatchway, which is comparatively low in cost, which forms a perfectly watertight covering for the hatchway, which is not liable to be displaced when subjected to hard usage during storms, and which contains no parts which are liable to be injured or damaged.

In the accompanying drawings:

Figure 1 is a perspective view showing my improved hatch cover applied to the coaming arranged on the deck of a ship around a hatchway, one of the channel-shaped fastening-bars being omitted and some of the parts shown in section for the purpose of more clearly illustrating the invention. Fig. 2 is a vertical longitudinal section, on an enlarged scale, of a hatchway showing part of the same covered and another part uncovered in accordance with my invention. Fig. 3 is a vertical cross section of the hatchway and the cover, this section being taken crosswise of the central portion of the same. Fig. 4 is a perspective view of one of the inner cover plates forming part of my invention. Fig. 5 is a similar view of one of the channel-shaped fastening bars. Fig. 6 is a similar view of one of the clamps for securing the cover plates and fastening bars to the coaming.

Similar characters of reference refer to like parts throughout the several views.

1 represents the deck of a ship, 2 the

hatchway therein, 3, 3 the side walls of the coaming or curb which project upwardly along opposite longitudinal edges of the hatchway and 5, 5 the upright end walls of the coaming which are arranged transversely at opposite ends of the hatchway.

My improved covering for this hatchway is constructed as follows:

8, 9 represent two sets of cover-plates which are preferably constructed of sheet metal, each set being adapted to be spread in the manner of shingles over practically one-half of the coaming so as to form a closure for the respective half of the hatchway, or to be gathered in the form of a stack or pile over the deck adjacent to one end of the hatchway when the latter is to be used.

Each of these cover-plates is adapted to rest at its opposite narrow or end edges on the upper inclined faces 4, formed on one-half of each of the longitudinal walls of the coaming. At its inner long edge each of these plates is provided with a downwardly-projecting guide flange 10 which operates to stiffen this plate and also form a stop or guide which engages with the inner side of the longitudinal walls of the coaming and thereby cause this plate to be guided lengthwise of the coaming but held against transverse movement thereon. At its inner longitudinal edge each of the cover plates is also provided with an upwardly projecting coupling flange 11 which is inclined so that it leans outwardly from the central part of the hatchway toward the outer end thereof. The outermost plate 9 of each set of cover plates is provided at its outer longitudinal edge with a downwardly-projecting L-shaped flange 13 which has its concave side turned inwardly and forming together with the adjacent part of this plate a longitudinal channel or hook. This hook is adapted to engage its lower flange against the underside of a horizontal bead 6 formed on the outer side of the adjacent transverse wall of the coaming when this plate is in its operative or closed position over the respective end-portion of the hatchway. In order to form a water-tight joint between this hook-shaped flange 13 and the respective transverse bead 6, a packing 14 consisting

preferably of a strip of rubber or similar material is arranged on the bottom of the concave side of a coupling hook 13 which packing engages the outer vertical face of the transverse bead 6 and thereby effectually prevents the entrance of water from the outside into the hatchway at this joint. At its outer longitudinal edge each of the inner cover plates is provided with a downwardly-projecting inclined coupling flange 12 which slopes inwardly and practically forms a hook which is adapted to engage with the outer side of the upper flange 11 on the inner longitudinal edge of the next outer cover plate when the several plates of a set are spread into their operative position over one-half of the hatchway and its coaming, as shown in Fig. 1 and the right hand part of Fig. 2. When both sets of cover-plates are unfolded and drawn inwardly over the hatchway into their operative position the same are held against spreading by a coupling cover plate 15 which extends over the space between the opposing inner edges of the innermost cover plates 8 of both sets and is provided at its opposite longitudinal edges with downwardly converging coupling flanges 16 which engage with the outer sides of the upwardly diverging flanges 11 at the inner longitudinal edges of the innermost cover plates 8 of both sets, as shown in Fig. 1. This connection between the coupling plate and the innermost cover plates 8 is effected by sliding the coupling plate lengthwise relative to the innermost cover plates, and the disconnection between the same is effected by a reverse movement of the coupling plate relatively to the respective cover plates. When thus assembled the coupling plate forms a reliable connection between the two sets of cover plates and also holds the outer coupling flanges 12 of the inner cover plates firmly in engagement with the inner coupling flange 11 of the next outer plate and also retains the coupling hooks 13 of the outermost plates firmly in engagement with the transverse beads 6 of the coaming so as to effectually prevent the passage of water through the several joints between these plates.

On the outer sides of the longitudinal walls 3, 3 of the coaming the same are provided adjacent to their upper edges with inclined outwardly projecting longitudinal coupling beads 7, 7 which are preferably flush on their outer vertical sides with the narrow end edges of the several cover-plates and the coupling plate which extend over the hatchway. For the purpose of producing a water-tight joint between the end edges of these plates and the coaming, two channel-shaped fastening bars are provided each of which conforms generally to the contour of the upper edge of the longitudinal walls of the coaming and is provided

with upper and lower horizontal flanges 21, 22 and a vertical web 23 connecting the outer edges of these flanges. In its operative position each of these fastening bars has its concave side facing inwardly and engages its upper flange 21 with the upper sides of the several plates 8, 9, 15 at one end thereof while its lower flange 22 engages with the underside of the longitudinal bead 7 on the respective longitudinal wall of the coaming, and its web 23 is arranged opposite the vertical face of this bead and the adjacent end edges of the several plates. In order to produce a water tight joint between each of these fastening bars and the plates and coaming, a packing 25 of rubber or similar material is arranged at the bottom of the channel in this bar so that the same engages with the outer vertical face of the respective longitudinal bead 7 on the coaming and the outer narrow edges of the several plates, as shown in Fig. 3, thereby positively excluding water from the hatchway at these joints.

Various means may be employed for holding the fastening bars in place relatively to the plates and coaming, those shown in the drawings being preferred on account of their simplicity of construction and ease of operation, and as there shown these fastening means comprise a plurality of clamps each of which consists of a horizontal bar 17 extending over one of the plates and the fastening bars, a downwardly projecting hook 18 arranged at one end of the clamping bar and engaging underneath a locking rib 24 arranged lengthwise on the outer side of the respective fastening bar, and a clamping screw 20 mounted in a threaded opening on a depending lug 19 arranged at the opposite end of the clamping bar and engaging with the adjacent fastening bar underneath the longitudinal rib 24 on the outer side thereof, as best shown in Figs. 1, 3 and 6. In the drawings, three of such clamps are employed, one at the center of the covering and two adjacent to opposite ends thereof, but this number may be varied to suit the length of the hatchway.

When a hatch is thus covered by my improved covering, a perfectly water-tight closure for the same is provided which excludes the entrance of water into the hold of the ship without the use of tarpaulin or any other flexible covering which is liable to wear rapidly by repeated use and therefore requires frequent renewal.

Means are provided for conveniently stacking each set of cover plates at one end of the hatchway which means are so constructed that they can be unfolded relatively to the coaming or stacking one set of plates thereon and also folded relatively to the coaming so that this plate support is out of the way and will not obstruct the

gangway on the deck when the hatchway is covered and the support is not required. In its preferred form each of these plate-supports comprises two guideways arranged on opposite sides of the end portions of the longitudinal coaming walls, each guideway consisting preferably of two loops 26, a longitudinal supporting-bar 27 slidable horizontally in one pair of these guide loops parallel with the adjacent coaming wall 3 and a supporting foot 28 arranged at the outer end of this supporting bar and adapted to rest upon the top of the deck at a distance from the hatchway. When these plate-supports are not required the rods thereof are pushed inwardly until the feet thereof are in line with the end walls of the coaming, as shown in Fig. 1, thereby clearing the gangway. When these supports are needed each supporting rod is drawn outwardly away from the coaming so that its foot rests upon the deck at a distance from the hatchway and while in this position a pair of these supporting rods will permit a set of the cover plates to be stacked thereon, as shown at the left hand side of Fig. 2, where they are conveniently accessible when it is desired to replace them over the hatchway.

For convenience in shifting the cover plates, a shifting tackle is provided which preferably comprises a line 29 which is provided at one end with a loop 30 adapted to engage with shifting pins 31 on the upper side of the innermost cover plates while its outer end is adapted to be connected with a hauling device and its intermediate part passes around a sheave or pulley 32 mounted on a post or standard 33 rising from the deck, as shown in Figs. 1 and 2.

Owing to the strength and durability of this hatch cover, the same does not require frequent renewal, thereby effecting a considerable economy in the cost of maintenance as compared with hatch covers which utilize tarpaulin or similar flexible material. Furthermore, this covering can be easily removed from the hatch way for loading or unloading the ship and when in its normal or operative position the same renders the hatchway perfectly water tight so as to preserve the cargo and increase the safety of the ship.

I claim as my invention:

1. A hatch cover comprising a plurality of cover plates adapted to be spread over the coaming of the hatch, a bead arranged on the outer side of said coaming, and a channel shaped fastening bar which is arranged along said plates and bead and has an upper flange engaging with the top of said plates and a lower flange engaging with the underside of said bead.

2. A hatch cover comprising a plurality of cover plates adapted to be spread over the

coaming of the hatch, a bead arranged on the outer side of said coaming, and a channel shaped fastening bar which is arranged along said plates and bead and has an upper flange engaging with the top of said plates and a lower flange engaging with the underside of said bead, and provided in the bottom of its channel with a packing adapted to engage with the edges of said plates and the outer side of said bead.

3. A hatch cover comprising a plurality of cover plates adapted to be spread over the coaming of the hatch, a bead arranged on the outer side of said coaming, and a channel shaped fastening bar which is arranged along said plates and flange and has an upper flange engaging with the top of said plates and a lower flange engaging with the underside of said bead and provided on the outer side of its web with a stiffening rib.

4. A hatch cover comprising a plurality of cover plates adapted to be spread over the walls of the coaming arranged on opposite sides of a hatchway, beads arranged lengthwise on the outer sides of said coaming walls, channel shaped fastening bars each having upper and lower flanges engaging respectively with the upper side of said plates and the underside of the bead of the adjacent coaming, a clamping bar arranged transversely above said plates and fastening bars and provided at its opposite ends with means for engaging said fastening bars.

5. A hatch cover comprising a plurality of cover plates adapted to be spread over the walls of the coaming arranged on opposite sides of a hatchway, beads arranged lengthwise on the outer sides of said coaming walls, channel shaped fastening bars each having upper and lower flanges engaging, respectively with the upper side of said plates and the underside of the bead of the adjacent coaming, and each provided on its outer side with a longitudinal rib, and a clamping device comprising a clamping bar extending transversely over said plates and fastening bars, a hook arranged on one end of said clamping bar and engaging underneath the ribs of one of said fastening bars, a lug arranged on the opposite end of said clamping bar, and a clamping screw mounted on said lug and engaging underneath the rib of the other fastening bar.

6. A hatch cover comprising two sets of cover plates which are adapted to be spread over the coaming walls on opposite sides of the center of the hatchway, the innermost plate of both sets being provided with upwardly projecting coupling flanges which diverge upwardly, and a coupling plate extending over the space between the opposing inner edges of said innermost cover plates and provided at its opposite edges with downwardly converging coupling flanges

which engage with the outer side of said upwardly diverging flanges.

7. A hatch cover comprising a plurality of cover plates adapted to be spread over  
5 the coaming walls on opposite sides of the hatchway or to be stacked on one side of said hatchway, and means for supporting the cover plates when stacked comprising guides

arranged on the outer sides of said coaming walls, and supporting bars slidable 10 lengthwise in said guides and provided at their outer ends with depending feet adapted to rest on the deck of the ship adjacent to the hatchway.

HARRY S. MOORE.