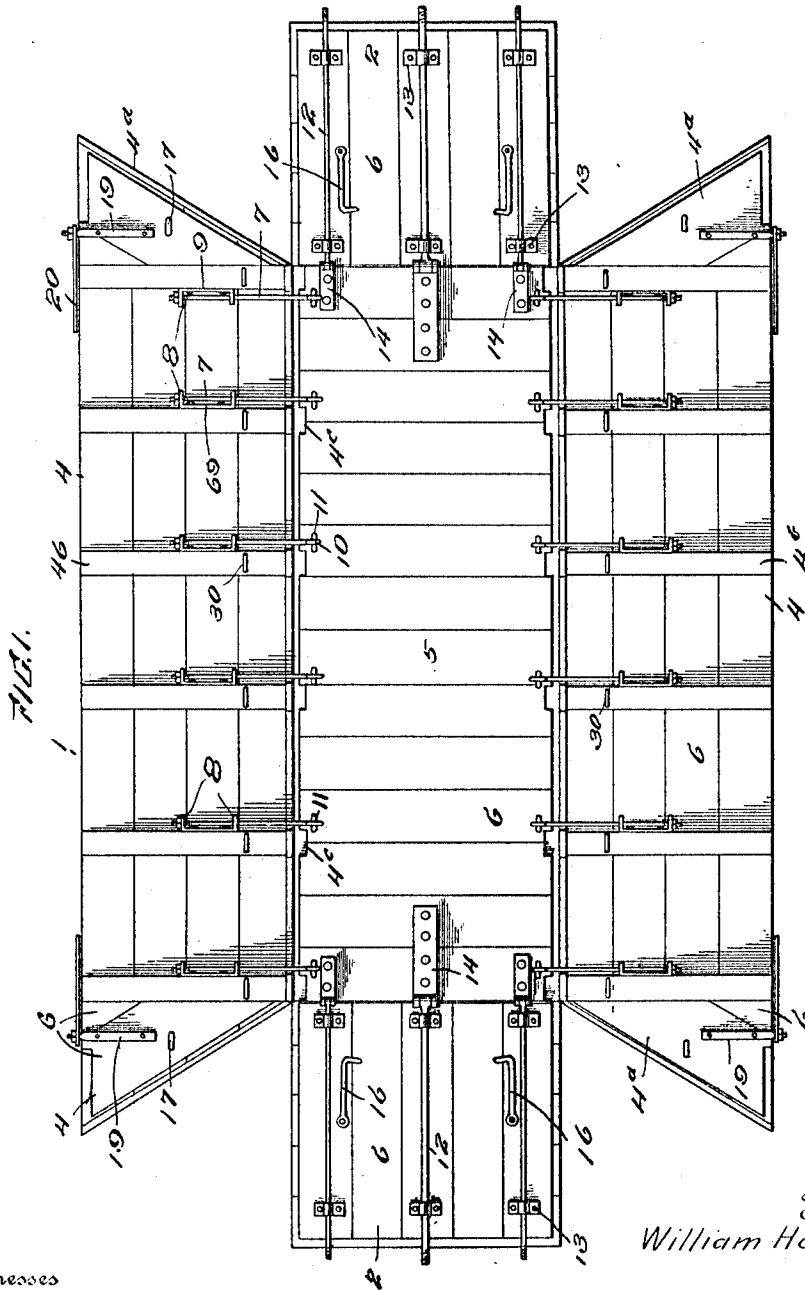


W. HOPPER.
COLLAPSIBLE LIFE BOAT.
APPLICATION FILED JAN. 8, 1914.

1,106,307.

Patented Aug. 4, 1914.

4 SHEETS-SHEET 1.



Witnesses

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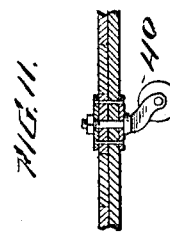
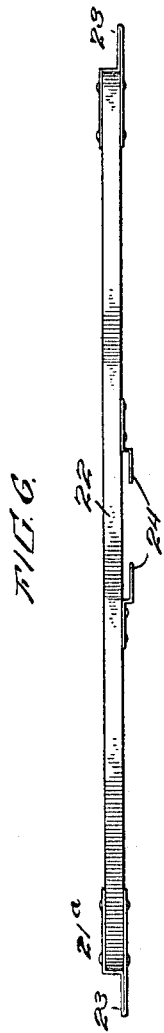
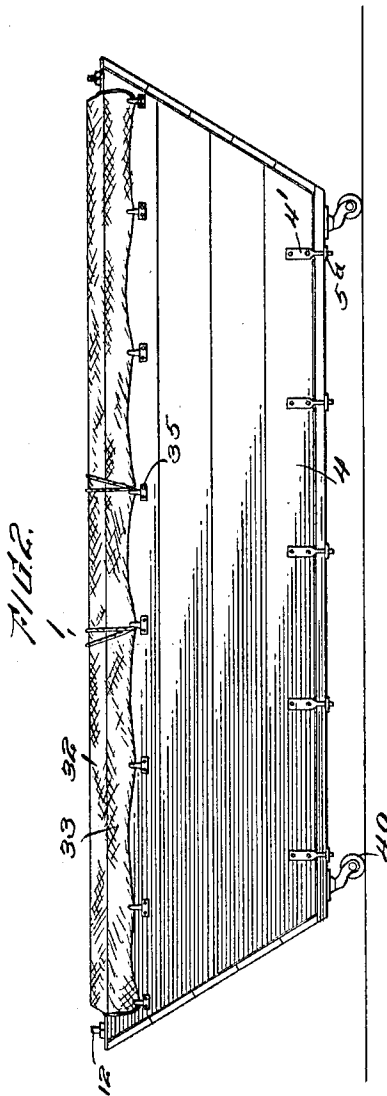
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4 SHEETS-SHEET 2.



Witnesses

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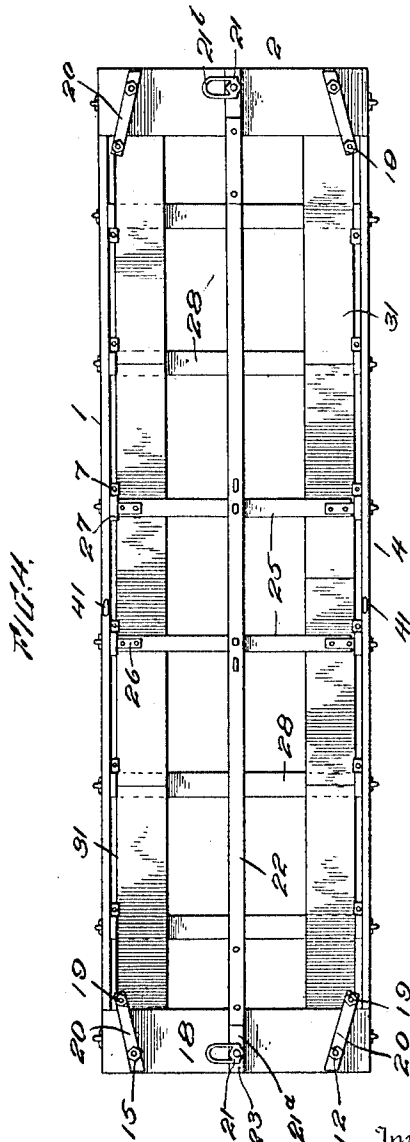
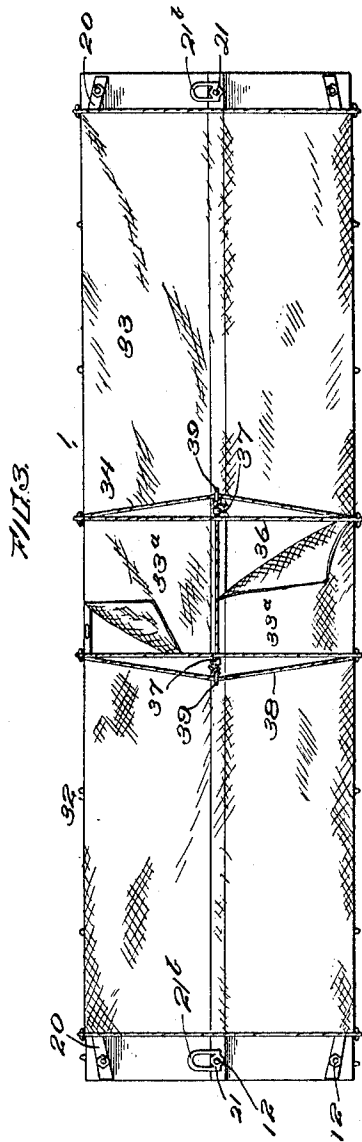
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4 SHEETS-SHEET 3.



Witnesses

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4 SHEETS-SHEET 4.

FIG. 5.

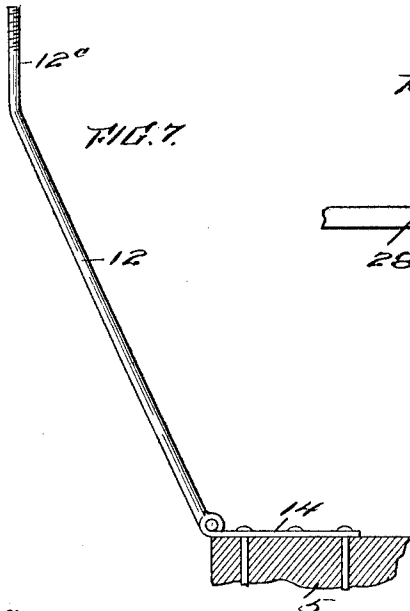
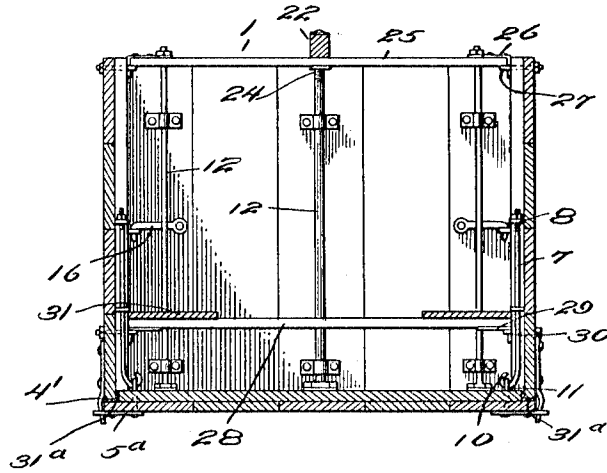


FIG. 8.

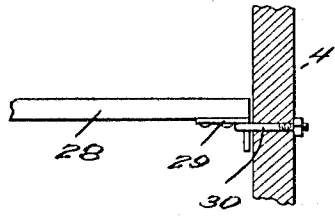


FIG. 9.

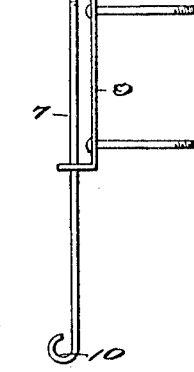
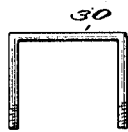


FIG. 10.



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UNITED STATES PATENT OFFICE.

WILLIAM HOPPER, OF JEFFERSON, IOWA.

COLLAPSIBLE LIFE-BOAT.

1,106,307.

Specification of Letters Patent.

Patented Aug. 4, 1914.

Application filed January 8, 1914. Serial No. 811,025.

To all whom it may concern:

Be it known that I, WILLIAM HOPPER, a citizen of the United States, residing at Jefferson, in the county of Greene and State of Iowa, have invented certain new and useful Improvements in Collapsible Life-Boats, of which the following is a specification.

This invention relates to improvements in surf boats, particularly of the collapsible type, such as are for use especially in an emergency.

The invention has for its object to provide for convenience and compactness of storage of the boat when not in demand.

A further object is to insure greater comfort or rather avoid certain discomforts heretofore experienced in the use of this type or class of boats.

A still further object is to facilitate or expedite the collapsing or folding of the boat when not needed for use, as well as to provide for again suitably positioning or re-assembling its parts.

A still further object is to provide for carrying out the aforesaid ends in a simple, expeditious and effective manner.

The invention therefore consists of a boat having certain structural features, including the combination and arrangement of parts substantially as hereinafter more fully disclosed and defined by the appended claims.

In the accompanying drawings is illustrated the preferred embodiment of my invention, wherein it will be understood that various changes and modifications as to the detailed construction and arrangement of parts may be made without departing from the spirit of the invention and in which drawing—

Figure 1 is a plan view of my boat collapsed or the parts thereof spread out in prone position. Fig. 2 is a side elevation of the boat, with its parts all suitably positioned or re-assembled. Figs. 3 and 4 are plan views thereof, the former showing the canvas or water-proof covering in position thereon and the latter with such covering removed. Fig. 5 is a transverse or vertical section of the boat. Fig. 6 is a side or edge elevation of a longitudinal central member spanning the boat from end to end, for the support of the canvas cover or closure. Fig. 7 is a detached or detailed partly side view and partly sectional view of one of the end hinged or pivoted members or rods, show-

ing its structural outline and manner of hinging or pivoting the same to the bottom member. Fig. 8 is a fragmental partly side view and partly sectional view of one of the transverse side connecting members or bars, showing the detachable means of connection therefor. Fig. 9 is a detached side elevation of one of the side and bottom connecting pivoted rods or members and its side members attaching means. Fig. 10 is a detached elevational view of a staple or keeper such as used in connection with each of the transverse side connecting members or bars. Fig. 11 is a broken detailed sectional view taken through the boat-bottom, showing the use of a caster in connection with the boat. Fig. 12 is a detached plan view of the preferred form of nut used in connection with end rod members.

In carrying out my invention, I suitably construct a boat designated generally as 1, of a plurality of main or principal members or parts, two designated as 2 being appropriated for each end, the stem and stern corresponding structurally, two, designated as 4, for the sides, and one, designated as 5, for the bottom. These parts or members are each preferably formed or constituted of a plurality of planks or boards, individually designated as 6, the planks or boards of the central, bottom member 5 being arranged two thicknesses deep, the outer planks extending longitudinally and the inner planks transversely, while the single thickness of planks of the lateral and end members extend longitudinally and accordingly at right angles to the trend of the inner or upper planks of the bottom member, the purpose of which is obvious.

The lateral or side and end members are pivotally connected or hinged to the bottom members, the lateral members preferably by means of nut-equipped rods 7 extending or sliding through eyes or loops 8 at the ends of brackets 9 suitably secured to the transverse ribs or studding 4^b of the lateral or side members, the lower or inner ends of said rods being curved or formed into hooks or eyes 10 taking into or engaging staples 11 driven into, or otherwise secured to the bottom-member. The connection between the end-members 2 and the bottom-member is preferably effected by means of nut equipped rods 12 sliding or extending through eye or guide castings 13 secured to said end-members, the inner ends of the

rods 12 being hingedly connected, as at 14, to the bottom member, the nuts of said rods designated as 15, being omitted in Fig. 1, but shown in Figs. 2, 3, 4 and 5 being applied to said rods in sectional other parts as presently explained. The transverse ribs or studding members 4^b have their lower ends entering notches or mortises 4^c provided in the bottom member for obvious reasons. Hooks 16 attached to the said members 2 and engaging staples or keepers 17, secured to the supplemental side-members 4^a, provide for detachably connecting these parts together. The supplemental side members 4^a which are suitably fixed to the side or lateral members 4 at each end thereof, in longitudinal alinement therewith and are provided with downwardly and inwardly inclined or sloping edges, to conform the parts to the usual boat or conventional outline, as will be appreciated from Fig. 2. The end rods or members 12 are adapted therefore to enable the end-members 2 to assume a corresponding inclination with the vertical edges of the supplemental lateral members 4^a the upper end-portions of said rods being extended vertically or straight from the general inclination thereof, as at 12^a, these ends of said rods being passed through transverse plates 18, the lateral rods, those adjacent the side members 4 passing at their corresponding ends, also through straps or bars 20, applied to said plates 18, said straps or bars also having passing through them the nut-equipped upper ends of members or bars 19 bolted to the supplemental lateral members 4^a. The central end rods 12 have applied to their upper ends nuts 21 after passing said ends through end terminals or extensions of sockets 21^a upon the ends of a longitudinal brace-bar or member 22, said extensions or terminals being designated as 23, and resting upon and accordingly thus secured to the transverse end members 18 for bracing or staying the parts of the boat longitudinally, as is apparent. The stay or brace member 22 is equipped upon its underside with opposed suitably spaced stepped or angle brackets 24 adapted to take under the hatchway bars 25 thus providing for securing said brace or stay member centrally about thereto. The nuts 21, it will be noted, have integrally formed therewith loop or ring forming extensions 21^b, which may serve as a convenient means for attachment thereto of a towing line or for effecting connection there-between and the block and tackle of the davits of the vessel or boat carrying or equipped with any surf-boat, as is apparent.

The hatch-way bars or members 25 are equipped at their ends with angle members 26, with their pendent arms engaging or let into keepers or stirrups 27, the latter being formed with nut-equipped bolt-like ex-

tensions effecting connection with bars 4^b and the lateral or side members 4, as seen in Fig. 5.

Suitable transverse bars or members 28 are secured within the boat, the ends of said bars or members having secured thereto at their ends angle-members 29, the vertical or pendent arms thereof engaging or being received by keepers 30 suitably secured to the studding 4^b of the side-members 4, as seen in Fig. 8.

Suitably disposed longitudinally of the boat and resting upon the transverse bars 28, contiguous to the sides of the boat, are boards improvised into seats 31 for the use of the passengers in the emergency. It is observed that the seat-forming boards 31 may be severed to form less lengthed boards and may be light or thin, and be suitably superposed or disposed in two thicknesses for requisite strength for seats or adapted by their suitable disposition with respect to the members 28 to constitute or serve as bunks, as will be readily appreciated. The several end and side or lateral members are suitably equipped around their otherwise contacting edges with preferably rubber strips or packing 31^a to render the same effectively water-tight at those points.

The side or lateral members 4 are tightly fitted to and held against the bottom member 5 by means of metallic studs 4ⁱ secured to said lateral member upon the outside and extending therebelow and apertured eye plates or keepers 5^a secured to the lower surface of said bottom-member and adapted to receive the depending portions of said studs, as seen in Figs. 2 and 5 and also whereby, with these metallic members, as thus brought together and the end-members suitably lifted to position by pressing inwardly upon the lateral members the several parts of the structure are snugly and effectively adjusted to their respective positions.

A tarpaulin 32 including suitably oiled canvas members or closures 33, 33^a for the upper initially open portion of the boat, are provided to lessen the discomfort to which the passengers or occupants would otherwise be subjected, as will be appreciated. The canvas-members or closures are also preferably provided with corded hems, as 34, along their edges and are suitably clasped or held in place by spring-clasps 35 secured to the side or lateral members, near the upper edges thereof, said clasps being arranged to engage the canvas members at suitable intervals along the edges of their entire lengths for the effective closing of the "hold" of the boat, as exemplified in Figs. 2 and 3. The canvas-section or member 33^a covering or forming a closure for the hatchway, centrally with respect to the other canvas members or sections, is itself in sections adapted or enabled by suitably securing the

corded hem between the sections in eye-
 studs 37 secured in the member 22, and
 passing endless extensions or continuations
 38 of the corded hem of said sections under
 5 angle-studs 39 projecting from said member
 22 and looping the same into engagement
 with certain of the spring-clasps 35, as
 seen particularly in Fig. 3 and partially in
 Fig. 2. The hatch-way closure-sections 33^a
 10 are adapted to be folded back upon them-
 selves, at diagonally opposite corner-edges,
 as seen in Fig. 3, whereby ready access may
 be had to the "hold" of the boat by the
 passengers in passing from a vessel or trans-
 15 port, in an emergency.

It has therefore been made apparent, it is
 believed from the foregoing in connection
 with the accompanying illustration, that my
 invention fulfils all the requirements of a
 20 compactly and readily collapsible or fold-
 able surfboat for emergency use, as an ad-
 junctive part or equipment especially of
 passenger-carrying vessels as well as equally
 adapted for use for other craft.

25 It is also observed that, while the boat is
 readily collapsible, it is also durable and
 capable of enduring great resistance, as is
 of great moment in this type of boat.

The boat or structure may be suitably
 30 mounted upon casters 40 of any preferred
 or other construction for convenience and
 facility in moving the boat to position upon
 "ship-board."

It is also observed that in suitably pro-
 35 viding for the propulsion or movement of
 the boat, staples 41, to serve as oar "pins"
 may be supplied to the top plank of each
 lateral or side-member, within the hatch-
 way, to receive oars (not shown) which,
 40 when not in use, may be suitably stored or
 lie in the bottom of the boat.

I claim—

1. A boat or structure of the type de-
 scribed including foldable lateral and end
 45 members, and a bottom-member, said lateral
 members having alining supplemental mem-
 bers with downwardly and inwardly sloping
 or inclined forward edges, transverse plate
 members upon the upper edges of said
 50 lateral and end members, straps or bars
 superposing said plates and rod and bar
 members effecting connection between said
 plates, and straps and said end and supple-
 mental lateral members.

2. A boat or structure of the type de- 55
 scribed, including a bottom member and col-
 lapsible end and lateral members, means ef-
 fecting connection there-between, a central
 longitudinal member having connection
 with said end-members comprising nut- 60
 equipped rods extending through end-
 terminals of said longitudinal member, the
 nuts of said rods having loop forming ex-
 tensions to receive a towing-line or provide
 for the attachment thereto of a block- and 65
 tackle of the davits of a vessel.

3. A boat or structure of the type de-
 scribed including a tarpaulin forming a clo-
 sure for the "hold," said tarpaulin being in
 sections, the central section itself being in 70
 sub-sections and adapted to form a closure
 for the hatch-way, said tarpaulin sections
 or members having corded hems with cord-
 extensions, said boat having a central longi-
 tudinal member equipped with apertured 75
 studs and angle studs, said boat also being
 provided with spring-clasps, said cord ex-
 tensions being engaged with said studs and
 spring clasps.

4. A boat or structure of the type de- 80
 scribed including a bottom member and
 foldable lateral and end members, said
 lateral and end members being equipped
 with slidable hook-ended rods engaging
 keepers secured to said bottom-member, said 85
 hook-end rods also extending through
 brackets secured to said lateral members and
 through guides on said end-members.

5. A boat or structure of the type de- 90
 scribed, including a bottom-member and col-
 lapsible lateral and end members and means
 effecting connection there-between, com-
 prising a central longitudinal member,
 transverse plates resting upon the upper
 edges of said end and lateral members, and 95
 nut-equipped inclined rods pivotally con-
 nected to said bottom member and having
 upper and right-lined portions extending
 through said transverse plates, and end
 terminals of said central longitudinal mem- 100
 ber.

In testimony whereof I affix my signature
 in presence of two witnesses.

WILLIAM HOPPER.

Witnesses:

A. D. HOWARD,
 P. H. BRADLEY.