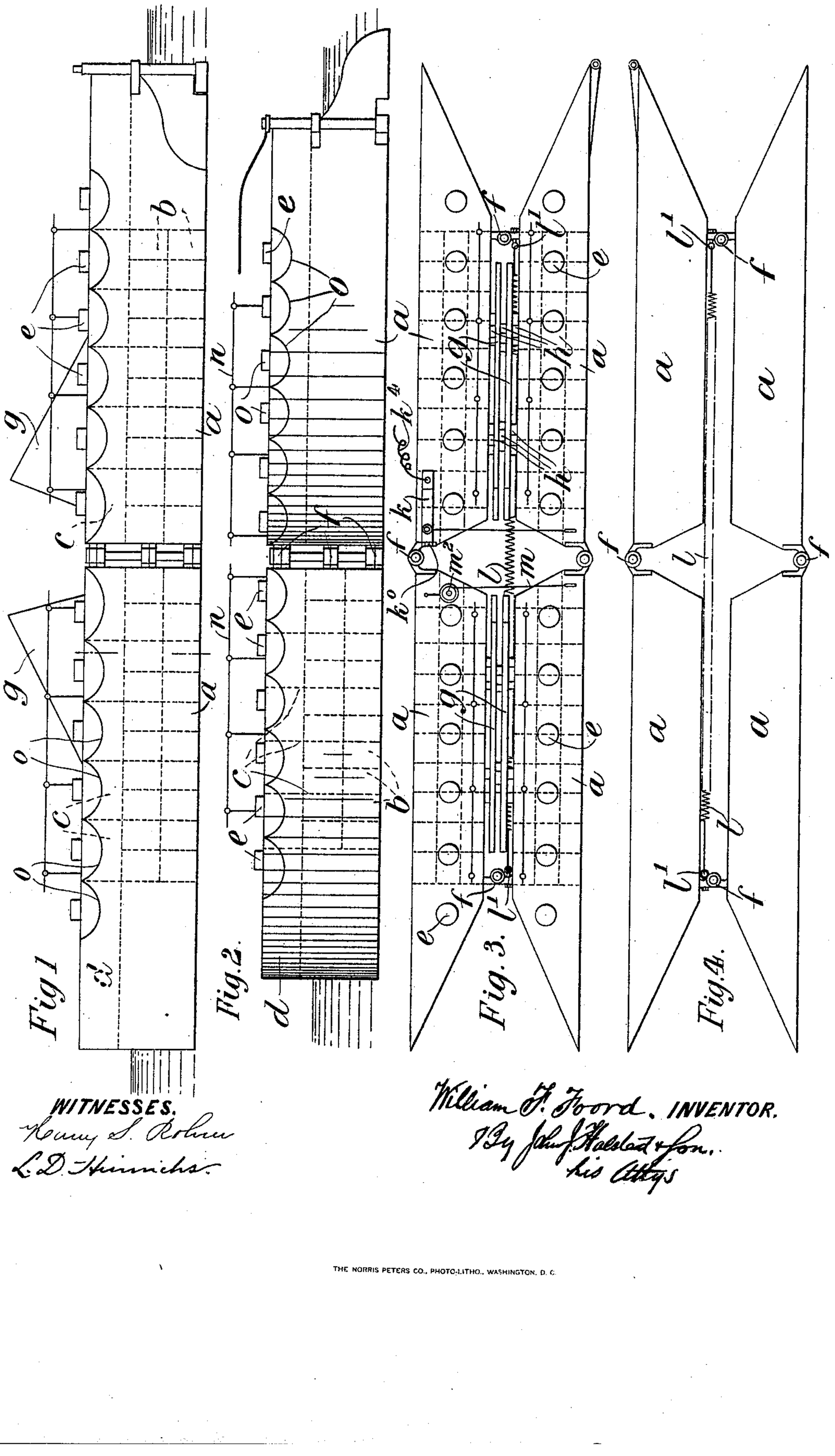
(No Model.)

2 Sheets—Sheet 1.

W. F. FOORD.

COLLAPSIBLE LIFE BOAT.

No. 594,239. Patented Nov. 23, 1897.



WITNESSES.
Henry L. Robinson
L. D. Hinrichs.

William F. Foord. INVENTOR.
By John J. Halsted & Son.
his Attys

(No Model.) 2 Sheets—Sheet 2.

W. F. FOORD.

COLLAPSIBLE LIFE BOAT.

No. 594,239. Patented Nov. 23, 1897.

Fig 8

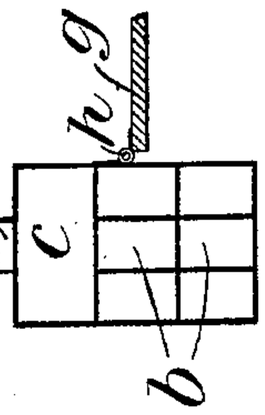


Fig 11

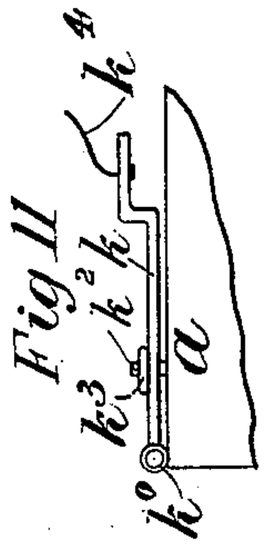


Fig 12.

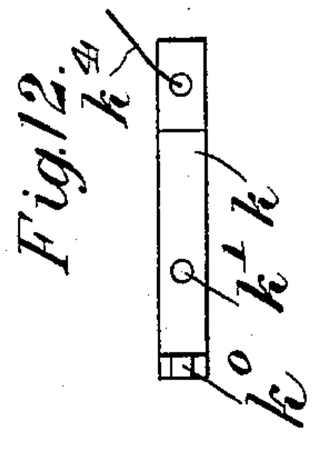


Fig 7

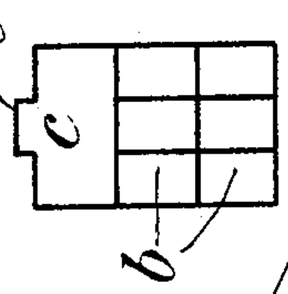


Fig 9

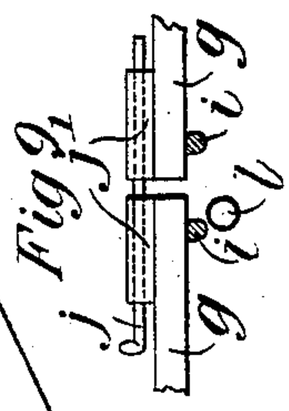


Fig 10

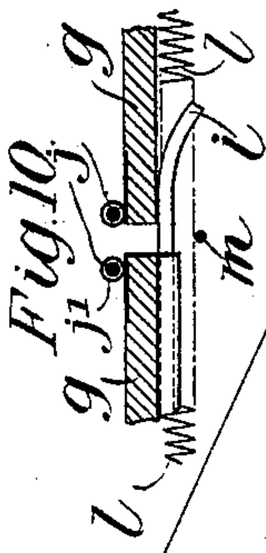


Fig 5

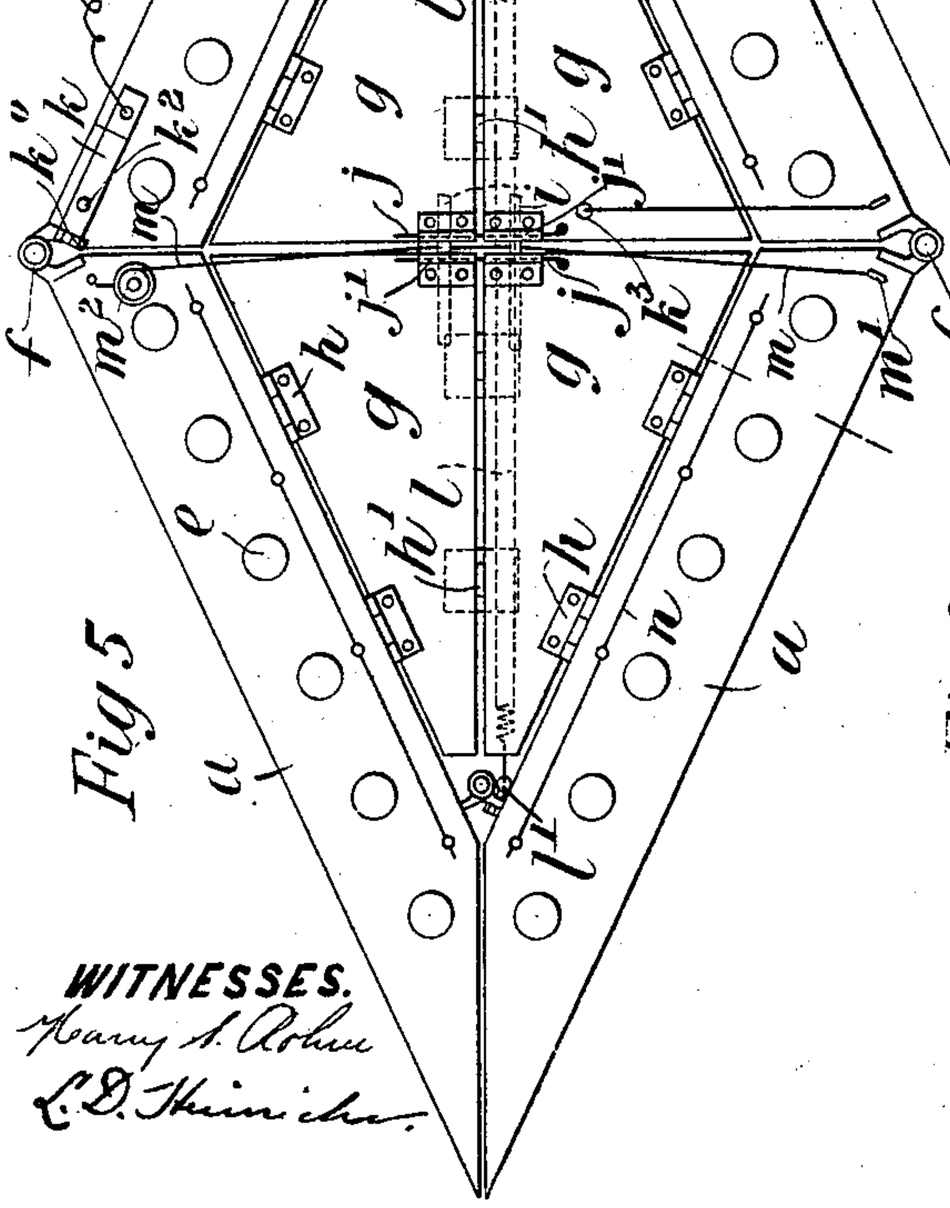
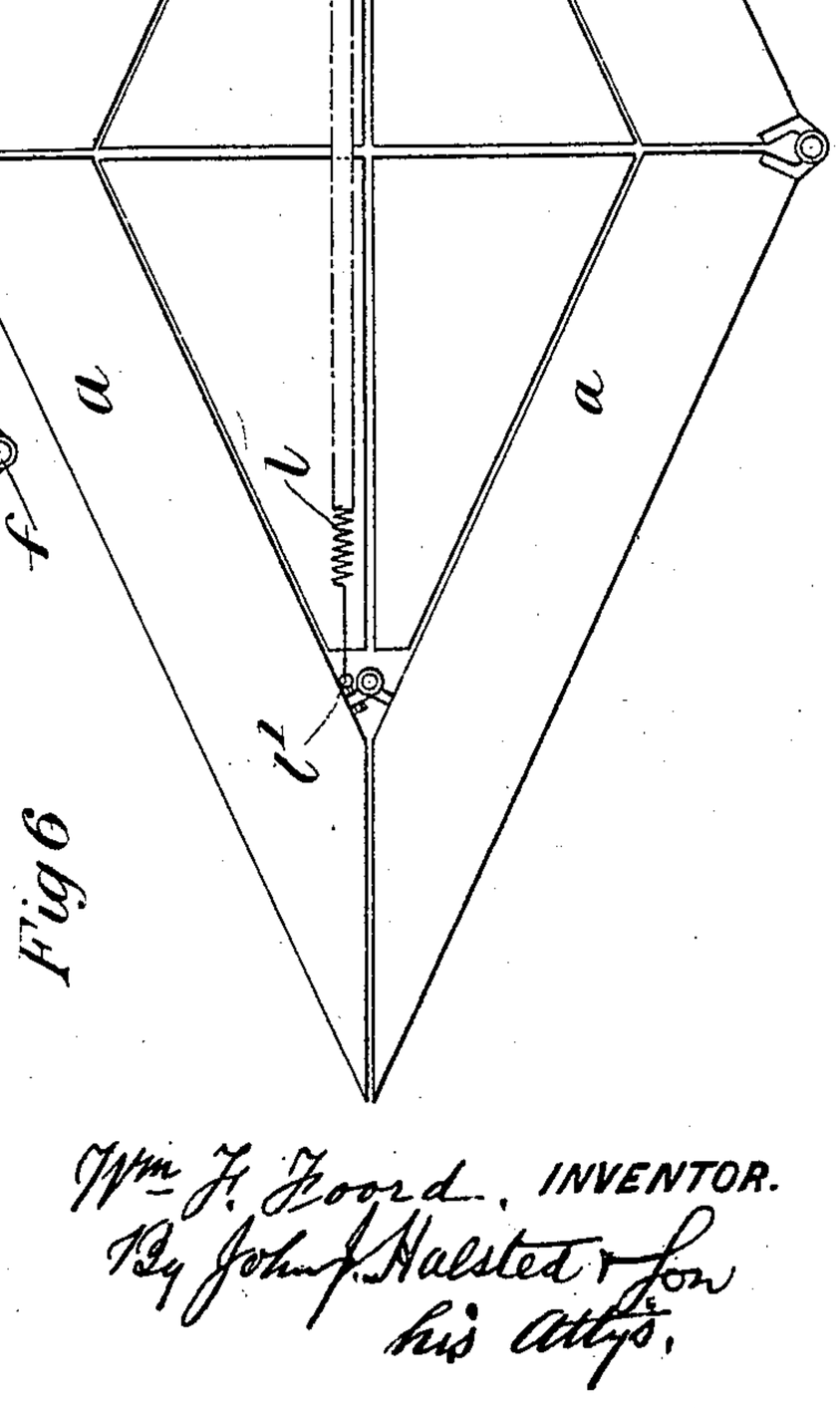


Fig 6



WITNESSES.
Harry A. Rohrer
C. D. Steinicke.

Wm F. Foord. INVENTOR.
By John J. Halsted & Son
his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM FREDERICK FOORD, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF TO WILLIAM GOWAN, OF SAME PLACE.

COLLAPSIBLE LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 594,239, dated November 23, 1897.

Application filed October 13, 1896. Serial No. 608,739. (No model.) Patented in England August 16, 1894, No. 15,605.

To all whom it may concern:

Be it known that I, WILLIAM FREDERICK FOORD, a subject of the Queen of Great Britain, residing at London, England, have invented a new and useful Improved Collapsible Life Boat or Raft, (for which I have obtained a patent in Great Britain, No. 15,605, dated August 16, 1894,) of which the following is a specification.

This invention relates to an improved collapsible life boat or raft.

According to my invention I form the boat of a number of hollow rafts provided with a number of hollow air-tight compartments or filled with cork. The said rafts are so hinged together that they can be opened out or collapsed, as desired, and to the inner side of each is hinged a flap in such a manner that the flaps together are designed to form the bridge or deck of the boat when opened out. To provide space for storing provisions, I form a number of water-tight compartments in the rafts.

In the accompanying drawings, Figure 1 is an elevation of my life boat or raft in its collapsed position. Fig. 2 is a similar view showing the boat opened out. Fig. 3 is a plan of the collapsed boat. Fig. 4 is an under side view of the collapsed boat; Fig. 5, a plan of the boat opened out; Fig. 6, an under side view of the boat opened out, and Figs. 7 to 12 are views of details.

a a are the rafts (four in number) of suitable dimensions and preferably made of steel plate, (although they may be made of any other suitable material,) and *b b* are the compartments, which are made air-tight, the said compartments being designed to maintain the rafts floating should they spring a leak. Instead of dividing the rafts into the compartments *b b* the said rafts may be filled with cork.

c c are the air-tight compartments, arranged in the top halves of the four rafts *a* for storing provisions, and *d d* are tanks for containing oil to be used in a rough sea. These compartments are shown in dotted lines in Figs. 1, 2, and 3 and in section in Figs. 7 and 8.

e e are water-tight caps with which the compartments are provided.

The rafts *a* are of such a shape and are so connected together by hinges *f* that they can be opened out or collapsed, as shown in Figs. 1, 2, 3, and 5. When opened out, the boat is diamond-shaped in plan, as shown.

g g are the flaps, connected to the rafts *a a* by means of the hinges *h h* and to one another in pairs by hinges *h' h'*, the said flaps forming the deck of the boat when the rafts are opened out, as shown in Fig. 5, and folding into the position shown in Fig. 3 when the boat is collapsed.

i i are bolts or bars attached to one pair of flaps *g g*, as shown in Fig. 4 and to a larger scale in Figs. 9 and 10, the said bolts or bars projecting underneath the other pair of flaps *g g*. These bolts *i* are designed to raise the flaps when the wire rope *m*, which passes under the pins, as shown in Figs. 7 and 8, is tightened by the winch.

j j are bolts which pass into staples or sockets *j' j'* on the inner corner of each of the flaps *g g*, so as to secure the said flaps in position when the boat is opened out, as shown in Fig. 5 and to a larger scale in Figs. 9 and 10.

To secure the four rafts in their collapsed position, I provide a catch. (Shown in Figs. 3 and 5 and to a larger scale in Figs. 11 and 12.) This catch comprises a plate or bar *k*, hinged to one of the rafts *a* at k^0 and having a hole *k'*, through which a pin k^2, projecting from the said raft, passes. A ring k^3, secured by a wire or the like to the opposite raft *a*, is passed over the projecting pin k^2, as shown in Fig. 3, thereby holding the rafts in their collapsed position. A cord k^4 or the like is attached to the free end of the plate or bar *k*, as clearly shown in the figures, so that by pulling this cord upward the ring k^3 is pulled off the pin k^2, thus leaving the raft free to open out.

l is an india-rubber or other spring placed longitudinally in the boat and attached at *l' l'* to the two ends of the same, the said spring being designed to open out the boat when the ring k^3 is released from the pin k^2, as above described.

m is a wire rope connected at one end to one of the rafts *a* at *m'* and at its other end to a winch m^2, as shown in Fig. 5. With this arrangement it will be obvious that by winding

the rope on the winch the boat can be collapsed.

n n are hand-rails, and *o o* are life-lines, arranged around the boat. Seats may be provided to be placed across the boat when opened out.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A collapsible life-boat in which the sides of the boat are divided into parts hinged together both midway of their lengths and also near each end of the structure, these sides constituting also a part of the bow and stern, and the deck of the boat being divided longitudinally and transversely and hinged to such sides, substantially as and for the purposes set forth.

2. In a collapsible life-boat, the combination of a number of rafts each having at its extremity an inwardly-slanting side, hinged together centrally of their lengths and also near the inner ends of such slants, and having compartments filled with light buoyant material, of flaps hinged to the said rafts and to one another, substantially as shown and described.

3. In a collapsible life-boat, composed of four similar rafts each having its ends terminating in an angle as shown, and hinged together about centrally of the boat and also near the base of such angles, the combination therewith of flaps hinged to said rafts and to one another in pairs, and of means substantially as described for securing the boat in its collapsed and also in its opened-out positions.

4. In a collapsible life-boat the combination of a number of rafts hinged together, with flaps hinged to the same and to one another, a spring for opening out the boat and a wire rope and winch for collapsing the same, substantially as described.

5. In a collapsible life-boat the combination of a number of rafts hinged together, with flaps hinged to the same and to one another a catch comprising a ring connected to one of the rafts and adapted to engage with a pin on an opposite raft and a hinged plate for disengaging the said ring, substantially as, and for the purpose, described.

6. In a collapsible life-boat having its hinged sides of the form and with the pointed ends substantially as shown, and adapted to meet together to form a sharp bow and stern when the sides are opened out, the combination therewith of flaps hinged to such sides and to one another, bars attached to certain of the flaps and serving to support the other flaps, and of bolts for holding the flaps together when opened out, all substantially as shown and described.

7. A collapsible life-boat consisting of the four rafts *a*, flaps *g*, hinged to the same and to one another, bars *i*, *i*, bolts *j*, *j* for locking the said flaps, spring *l* for opening out the boat, wire rope *m*, and winch m^2 for collapsing the boat, catch for locking the boat in its collapsed position, the said catch comprising the pin k^2, ring k^3, and plate or bar *k* as described and illustrated in the accompanying drawings.

WILLIAM FREDERICK FOORD.

Witnesses:
G. F. REDFERN,
A. ALBUTT.