

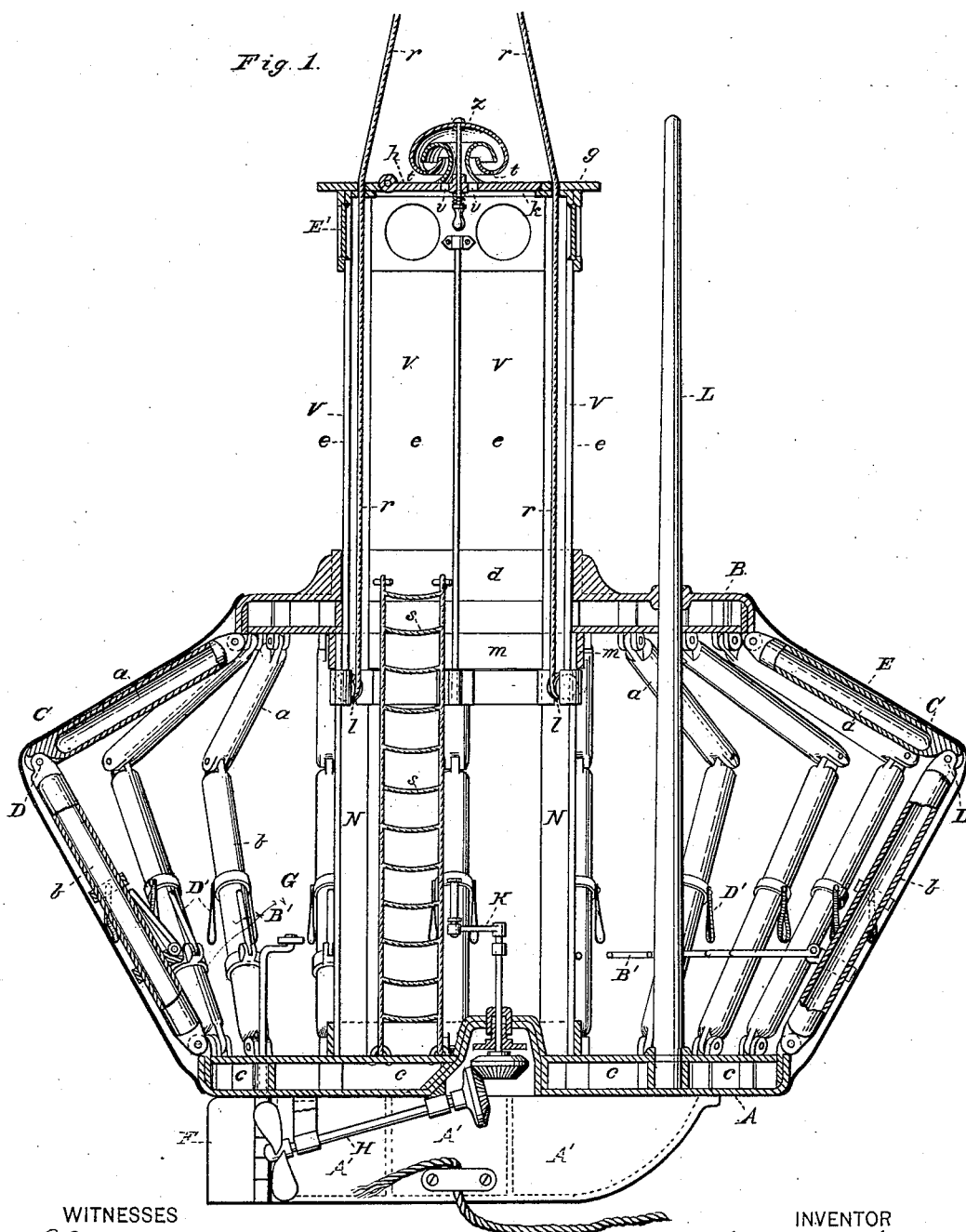
(No Model.)

2 Sheets—Sheet 1.

J. FISCHER.
EXPANSIBLE LIFE BOAT.

No. 348,158.

Patented Aug. 24, 1886.



WITNESSES
Villette Anderson.
Grace M. Craig

INVENTOR
Julius Fischer
 24 *Anderson Smith*
 7 *his* ATTORNEYS

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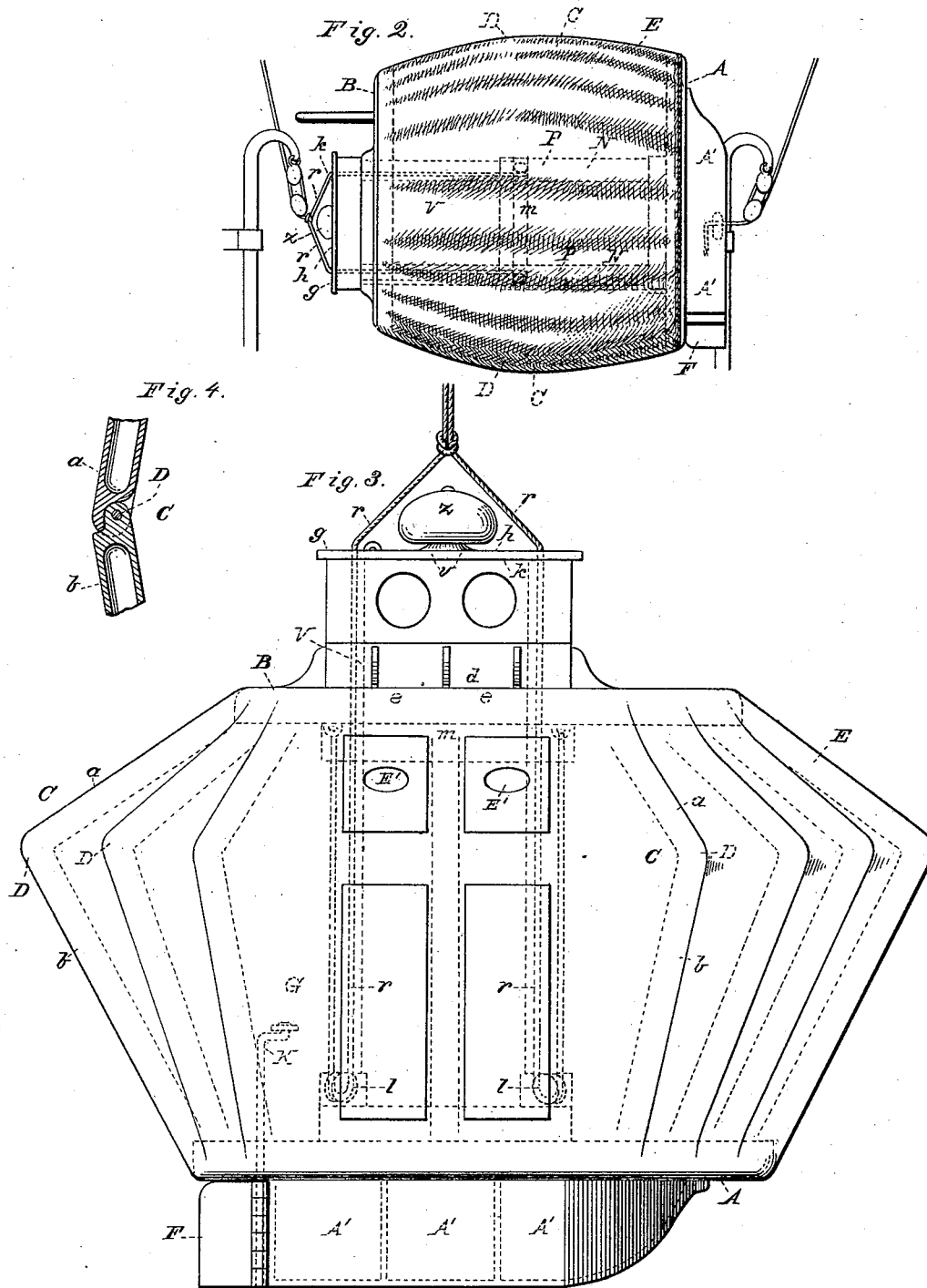


Fig. 4.

Fig. 3.

WITNESSES

Villette Anderson.
Grace M Craig

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INVENTOR

Julius Fischer,
 by Anderson & Smith
his ATTORNEYS

By Anderson & Smith

ATTORNEYS

UNITED STATES PATENT OFFICE.

JULIUS FISCHER, OF WASHINGTON, DISTRICT OF COLUMBIA.

EXPANSIBLE LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 348,158, dated August 24, 1886.

Application filed April 16, 1885. Serial No. 162,471. (No model.) Patented in Belgium December 31, 1884.

To all whom it may concern:

Be it known that I, JULIUS FISCHER, a subject of the Emperor of Germany, residing at Washington, in the District of Columbia, have
5 invented certain new and useful Improvements in Automatic Life-Boats; and I do 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 appertains to make
10 and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and is a vertical section. Fig.
15 2 is a side view as hung on the davits. Fig. 3 is also a side view, and shows the boat in an upright position. Fig. 4 is a detail view to show the joint of the elbow.

20 This invention has relation to life-saving boats; and it consists in the construction and novel arrangement of devices, all as hereinafter set forth, and pointed out in the appended claims.

25 In the accompanying drawings, the letter A designates the bottom of the boat or float. B is the top plate, which is connected to the bottom by the elbows C, which are jointed at D, this joint being a stop-joint, preventing the arm
30 from closing in so far as to prevent them from readily bending outward when necessary. The bottom is also connected to the top plate by the flexible covering E, which forms the wall of the vessel. The upper ends of the upper
35 arms, *a*, of the elbow are pivoted to the top plate at its marginal portion, and the lower ends of the lower arms, *b*, of said elbows are pivoted to the bottom at or near its margin. These elbows are radially arranged if the vessel
40 is circular, and if oblong they are arranged to conform with such shape. The bottom of the boat is usually constructed with independent compartments, *c*, in which air is inclosed. The arms *a b* are usually made hollow between the
45 ends, so that they will possess buoyancy and can be used to serve as floats for saving life in case the boat should be broken up. The rudders or rudder, indicated at F, are geared to the bottom, their shafts passing through the
50 same, and they are operated by a handle inside the main chamber G. There is also usually provided a propeller, H, which may be geared

to be operated by a crank, K, or other common device for such purpose. A mast, L, may also be provided, and so stepped in the base that
55 it may pass through an opening in the top plate. A suitable sail can be arranged in connection with the mast. It is designed to provide a boat having a top and bottom connected by flexible side walls supported by elbows or elbow-ribs, 60 said side walls capable of expansion when the ribs are bent outward, and of elongation when the ribs are drawn endwise into position approximating straight lines, said ribs being, however, held, when in elongated position, a
65 little bent outwardly by the stop-joint construction heretofore referred to.

Secured to the base or bottom A is a strong post, P, usually consisting of four or more guides, N, which are connected at their upper
70 ends by the collar *m* in a strong and secure manner. Upon this collar the top plate rests when the boat-body is in expanded form. Through this collar and through an opening, *d*, of similar form, in the plate B, extends the
75 slide-frame or sliding entrance V, having lateral openings, *e*, and a top, *g*, provided with a valve, *h*, closing an opening, *k*, in said top. At the lower end of this slide are provided
80 pulleys *l* for the ropes *r*, said ropes being fastened by one end each to the top plate and extending downward around the pulleys and upward on the inside of the frame through the
85 top thereof to the outside, where they are secured together and provided with a ring or block for attachment to one of the davits of the ship. The bottom of the boat is provided with
90 a rope or chain connection to be attached to the other davit, so that when the boat is elongated it can be swung between the davits in horizontal position, and there will occupy but
little room comparatively.

In order to use the boat, it is detached at the bottom end from the davit and swung downward, so that it hangs by the ropes *r* from the
95 other davit. The body will expand, the top plate sliding downward on the guides N of the slide-frame until it rests on the collar of the post P. The entrance-opening of the slide-frame will now be exposed, and the passengers
100 can enter, either climbing through the entrance and down a ladder, *s*, in the interior of the boat, or, if necessary, passed into the entrance by means of a canvas chute. When the pas-

sengers are in, the boat is to be detached from
 the davit from which it hangs, and, resting upon
 the water, the slide will descend into the interior
 until its top portion engages the top plate
 5 of the boat, closing the opening therein. The
 slide can then be secured in position by an inside
 fastening. After this, other passengers
 can enter through the opening in the top of the
 slideway. A trap-valve, *z*, is provided in the
 10 top for the admission of air. It is bell-shaped,
 and has a guard-trough, *t*, designed to catch
 any water or spray which may enter and discharge
 the same through openings in the bottom of said
 trough. The position of the bell
 15 or dome shaped protector *z* is maintained by
 its stem, which is provided with a handle and
 spring, so that when it is found necessary to
 close the valve in very rough water, the bell-
 guard can be pulled down in close contact with
 20 the trough-guard. Openings for air are indicated
 at *v*. To admit a greater quantity of air, the
 valve or lid *h* can be raised from the inside.
 In smoother water the slide can be raised for
 greater ventilation and for lookout purposes.
 25 The bottom *A* is usually provided with compartment
A', for provisions and water. To the lower arms
 of the ribs are attached by hinges or pivots the
 seats, which preferably consist of hinged arms,
 30 *B'*, adapted to fold upward, and seat-webbing
 provided with pockets to receive said arms. Loops,
 of leather or canvas, *D'*, are also attached to the
 elbows, and serve to enable the passengers to
 steady themselves.
 This boat may have a convex, oval, polygonal,
 35 or other shape, as may be found desirable. It is
 ballasted by the construction of the bottom and
 cannot become upset. It is buoy-shaped, and will
 always right itself. It can be expanded and closed
 in elongated form, after the manner of an umbrella,
 40 as hereinbefore indicated. The flexible covering of
 the body portion should be made with a strong network
 and water-proof cloth and with inside and outside
 covering of india-rubber or gutta-percha.
 45 In the boat-shaped form illustrated plates may
 be used in the sides, and these plates may

be provided with glazed sights, as at *E'*. In other
 forms of this boat the sights may be made in the
 upper portion of the slide.

The great rapidity and ease with which the 50
 boat can be launched and the entire security from
 surroundings will be readily appreciated. It is
 apparent that it is partially launched automatically,
 or by the weight of the boat itself when its bottom
 is detached from the davit. 55

What I claim, and desire to secure by Letters
 Patent, is—

1. A life-boat consisting of a bottom, a top
 plate, and jointed ribs connecting the bottom
 and top plate, substantially as specified. 60

2. An automatically-expanding and self-closing
 life-boat having a top plate connected to its
 bottom by jointed ribs and covered with flexible
 material to form an inclosure, substantially as
 specified. 65

3. A life-boat having hollow ribs, which are
 adapted to serve the additional function of
 life-preservers in case of destruction to the
 boat, as set forth.

4. A life-boat consisting of a base, a top 70
 plate, jointed ribs connecting the same, a flexible
 covering, and a tubular slide passing through
 the said top, substantially as specified.

5. A life-boat having an expanding body, a
 top plate provided with an entrance, a slide, 75
 and ropes connecting the slide with the top
 plate, substantially as specified.

6. A life-boat having its top plate provided
 with an aperture, an entrance slide arranged
 therein, and a trap-ventilator arranged on the 80
 said slide, substantially as specified.

7. A life-boat having expanding sides, a top
 plate, a base provided with a propeller, and
 driving mechanism, and jointed ribs connecting
 the base and top, substantially as specified. 85

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

JULIUS FISCHER.

Witnesses:

ERNST FISCHER,
 PHILIP C. MAST.