

No. 610,547.

Patented Sept. 13, 1898.

F. N. LYONS.
LIFE BOAT.

(Application filed Nov. 17, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

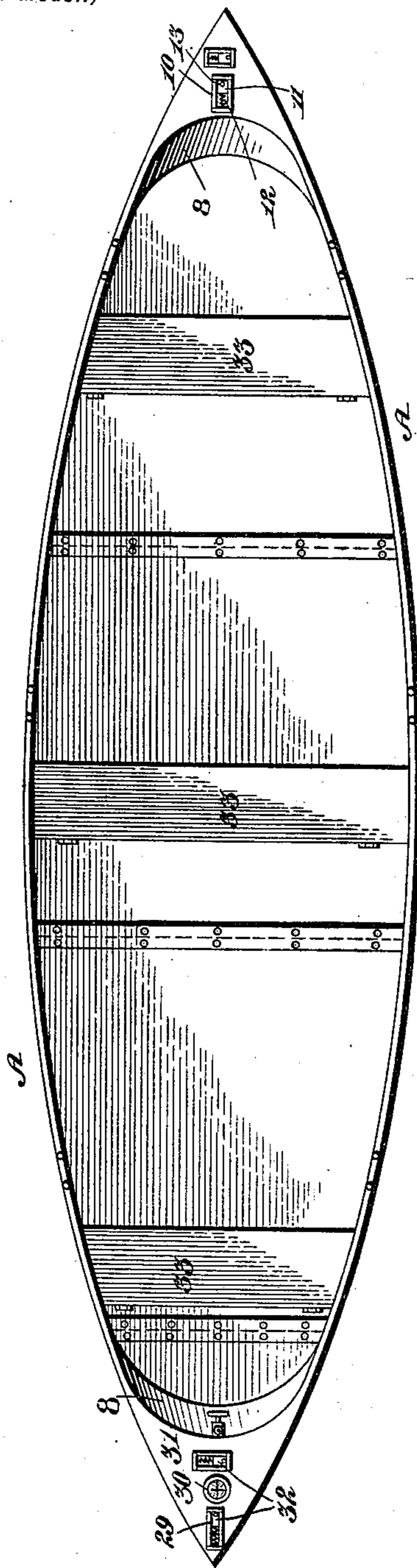
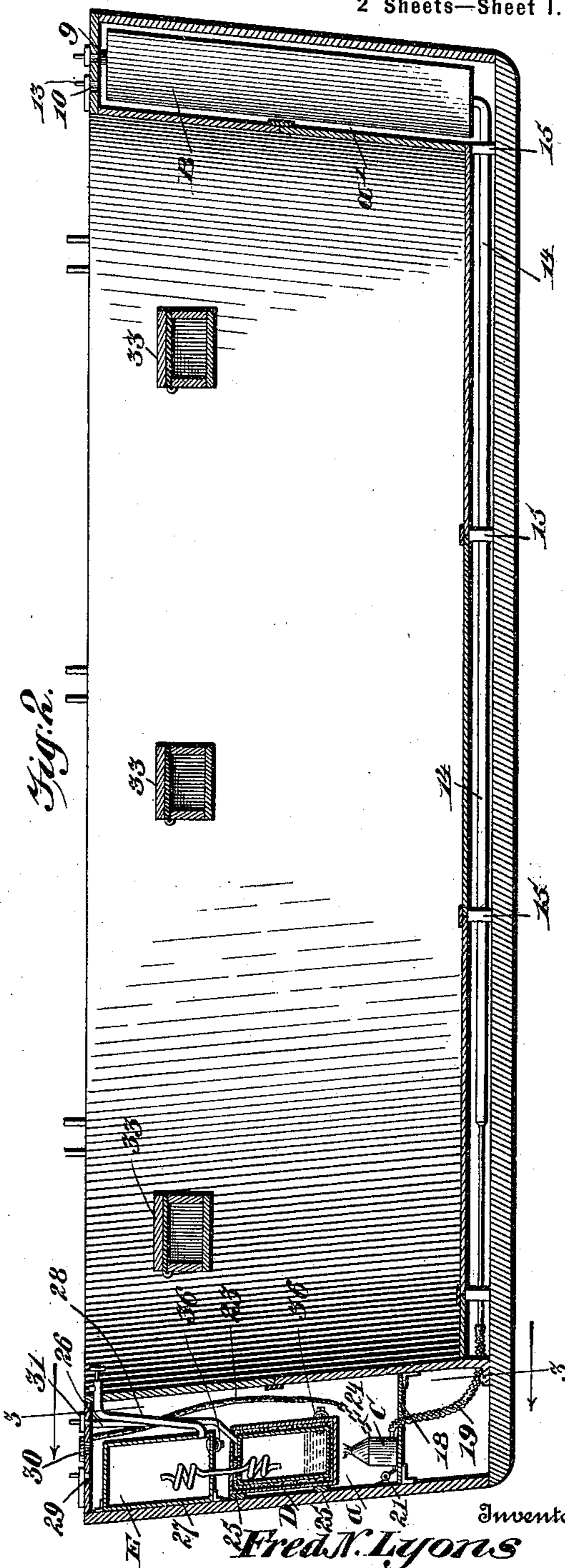


Fig. 2.



Witnesses

W. G. Dieterich

Chas. Brock

Inventor

Fred N. Lyons

W. J. Murdock
Attorneys

No. 610,547.

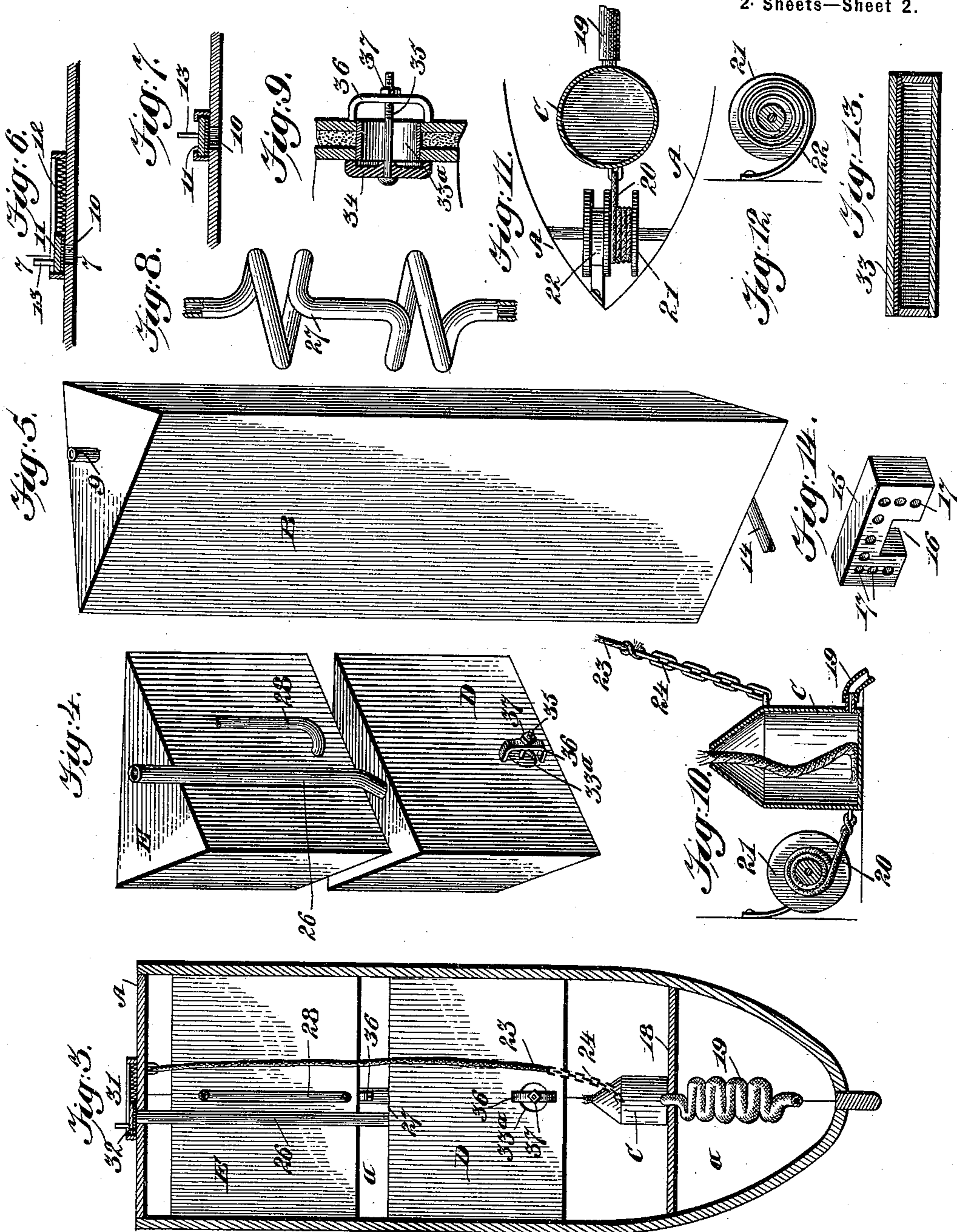
Patented Sept. 13, 1898.

F. N. LYONS.
LIFE BOAT.

(Application filed Nov. 17, 1897.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

W. E. Dieterich
Chas. O. Brock

Inventor

Fred N. Lyons,

by O. M. Mather
Attorneys

UNITED STATES PATENT OFFICE.

FRED NELSON LYONS, OF MENDOCINO CITY, CALIFORNIA.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 610,547, dated September 13, 1898.

Application filed November 17, 1897. Serial No. 658,876. (No model.)

To all whom it may concern:

Be it known that I, FRED NELSON LYONS, residing at Mendocino City, in the county of Mendocino and State of California, have invented a new and useful Life-Boat, of which the following is a specification.

My invention relates to an improved life-boat, the primary object of the invention being the novel construction and arrangement in the boat of means for producing fresh water from the sea-water, in order that in the use of the boat in emergency cases while at sea fresh water may be obtainable when desired.

The invention will first be described in connection with the accompanying drawings and then pointed out in the claims.

Figure 1 of the drawings is a plan view of my improved life-boat. Fig. 2 is a vertical central section of the same. Fig. 3 is a vertical section of the boat on the line 3 3, Fig. 2. Fig. 4 is a perspective view showing the salt-water reservoir and the condensing or fresh-water chamber. Fig. 5 is a perspective view of the tank for alcohol or the like. Fig. 6 is a vertical section showing the cover for the air-inlet vent of the apparatus and the means for operating the cover. Fig. 7 is a cross-section of the same, taken on the line 7 7, Fig. 6. Fig. 8 is a sectional view of the vapor-conduit intermediate the salt-water reservoir and the condensing-chamber. Fig. 9 is a sectional detail illustrating the opening through which sediment in the reservoir may be removed, the cover therefor, and means for securing the same. Fig. 10 is a detail section showing the lamp and the means for returning the lamp to its normal position after it has been moved for lighting. Fig. 11 is a plan of the same, showing the lamp in horizontal section. Fig. 12 is a view in elevation, showing the spring for governing the movement of the lamp. Fig. 13 is a longitudinal section of one of the seats for the boat. Fig. 14 is a perspective view of one of the blocks for the false bottom of the boat, showing the same adapted for use in my improved boat.

Referring to the drawings, A represents my improved boat, the shell and general contour of which are of usual form. A partition 8 is secured at either end of the boat, forming a

compartment *a* at the bow and another compartment *a'* at the stern.

In the compartment *a'* I secure a tank B, adapted to hold alcohol or the like, the tank being of such shape as to conform to the shape of the stern of the boat, the upper end of the tank being in communication with the deck of compartment *a'* through a short pipe 9, which passes through a small opening in the deck. Alongside of the tank-inlet I form another opening 10, serving as an air-inlet, both this opening and the tank-inlet being closed by a cover 11, operated by a spring 12 and provided with a handle 13 for ease in operation. A conduit 14, leading from the bottom of the tank B, passes through the blocks 15, supporting the false bottom or floor of the boat, and extends into the forward compartment *a*, this conduit being reduced at its forward end to somewhat retard the flow of liquid from the tank. The blocks 15 are formed with suitable recesses 16 to permit the conduit to pass them and are also perforated, as at 17, to allow free passage of air from the compartment *a'* forward. Near the lower end I secure a shelf 18, on which an ordinary lamp C is adapted to rest. The interior of the lamp is in communication with the forward end of the conduit 14 through a flexible tube or pipe 19, this pipe being considerably longer than necessary to reach the conduit 14 in order to permit the lamp to be drawn to the top of compartment *a* for lighting, as hereinafter described. The lamp is secured normally in place by a cord 20, which is wound upon a drum 21, revolvably mounted upon a shaft secured in the sides of the boat. A spring 22 is coiled upon the drum, one end being secured to the post in the bow of the boat. This spring is so wound as to be loose when the lamp is in its normal position, but winds tightly upon the drum when the lamp is drawn upward, thus insuring the return of the lamp to its normal position after it has been lighted and released. A cord 23, extending from the lamp to the deck of compartment *a*, serves to draw the lamp up for lighting, a short chain 24 being preferably used between the end of the rope and the lamp to avoid danger by fire, as will be evident.

Immediately above and in close proximity to the lamp is secured a reservoir D, it being preferably secured to blocks 25, so as to avoid contact with the sides of the compartment, the reservoir being double and packed between linings of asbestos or other non-conducting material to keep as little heat from escaping by radiation as possible. The reservoir is in communication with the deck of the compartment by a pipe 26, serving to fill the reservoir with salt or sea water.

Above the reservoir D is secured a condensing or fresh-water chamber E, secured in such manner and being of such size that its sides will contact with the sides of the boat. This chamber is in communication with the reservoir through a pipe 27, having a coil 27' adjacent each end, as shown, so as to prevent the mixing of the salt and fresh water in event of the boat upsetting in a heavy sea. A pipe 28 leads from the condensing-chamber through partition 8 into convenient position for the occupants of the boat, a small suction-pump or like device being attached to the end of the pipe.

The deck of compartment *a* is formed with an air-outlet opening 29, which together with an opening 30 formed convenient to the upper end of the cord 23 to permit raising and lowering of the lamp and with another opening 31 at the upper end of the pipe 26 are closed by spring-operated covers 32.

The seats 33 of the boat are formed hollow, with hinged lids, serving as receptacles for the storage of various articles, such as canned goods or the like.

Alcohol being poured into tank B it will feed through conduit 14 to lamp C, after which the lamp may be drawn up to the deck of the compartment and lighted. Salt water having been placed in reservoir D the heat from the lamp will evaporate it, the vapor rising through pipe 27 into the condensing-chamber, wherein it is condensed both by the pressure of the vapor behind it and by the cold from the water in which the boat is afloat, as the sides of the condensing-chamber are in con-

tact with the sides of the boat. The water resulting from this condensation is, as is well known, perfectly fresh and may be drawn off for use as desired.

Both the reservoir D and condensing-chamber E are formed with openings 33, through which sediment may be removed, these openings being normally closed by rubber plugs 34, held in place by threaded rods 35, passing through arched strips 36, secured to the reservoir or chamber and adapted to receive a nut 37, all as clearly shown in Fig. 9.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A life-boat having a compartment near one end, a reservoir for salt water within the compartment, a condensing-chamber above and in communication with the reservoir, and a lamp beneath the reservoir for vaporizing the water in the reservoir, said lamp being normally positioned beneath the reservoir and adapted to be drawn up to the deck of the compartment, substantially as shown and described.

2. A life-boat having a compartment near one end, a reservoir and a condensing-chamber within the compartment, a lamp beneath the reservoir, said lamp being adapted to be drawn upward to the upper end of the compartment to be lighted, and means for automatically returning the lamp to its proper position after being lighted, substantially as shown and described.

3. A life-boat having a compartment at each end, a reservoir, a condensing-chamber, and a lamp for heating the reservoir being located in one compartment, and a tank for alcohol or other suitable liquid located in the other compartment, said tank being in communication with the lamp through a suitable conduit, substantially as shown and described.

FRED NELSON LYONS.

Witnesses:

J. WM. MULLEN,
A. BROWN.