

(No Model.)

2 Sheets—Sheet 1.

C. GARDNER.
COMBINED LIFE BOAT AND SHIP'S SAFE.

No. 516,968.

Patented Mar. 20, 1894.

Fig-1-

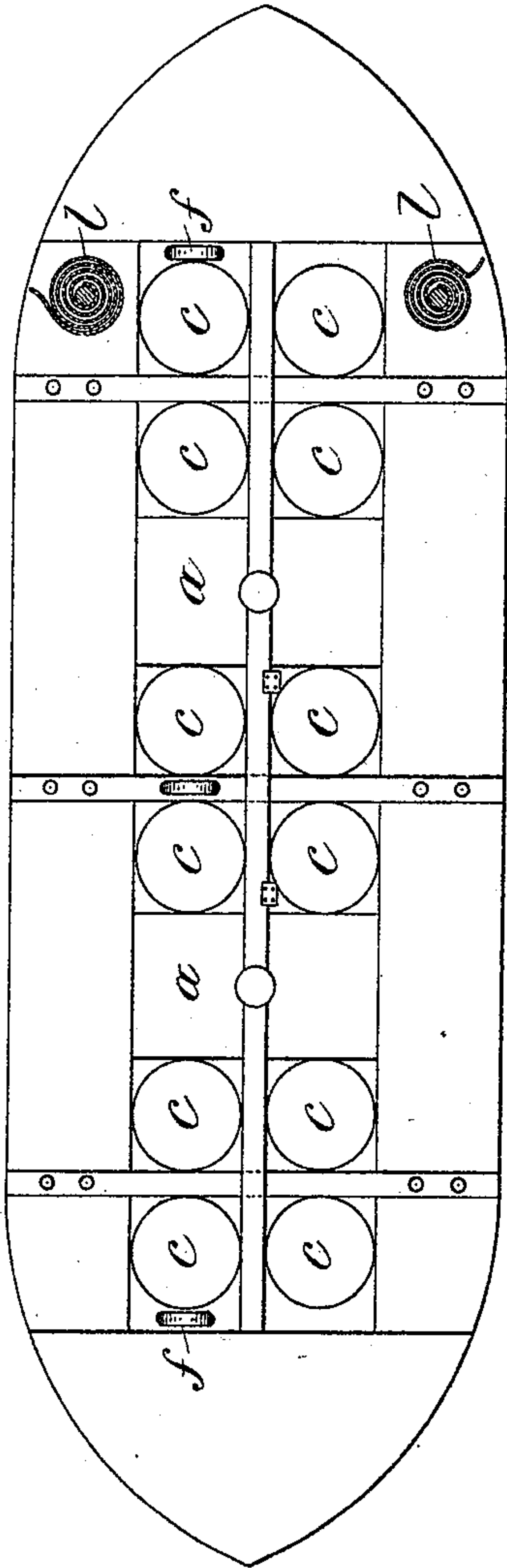
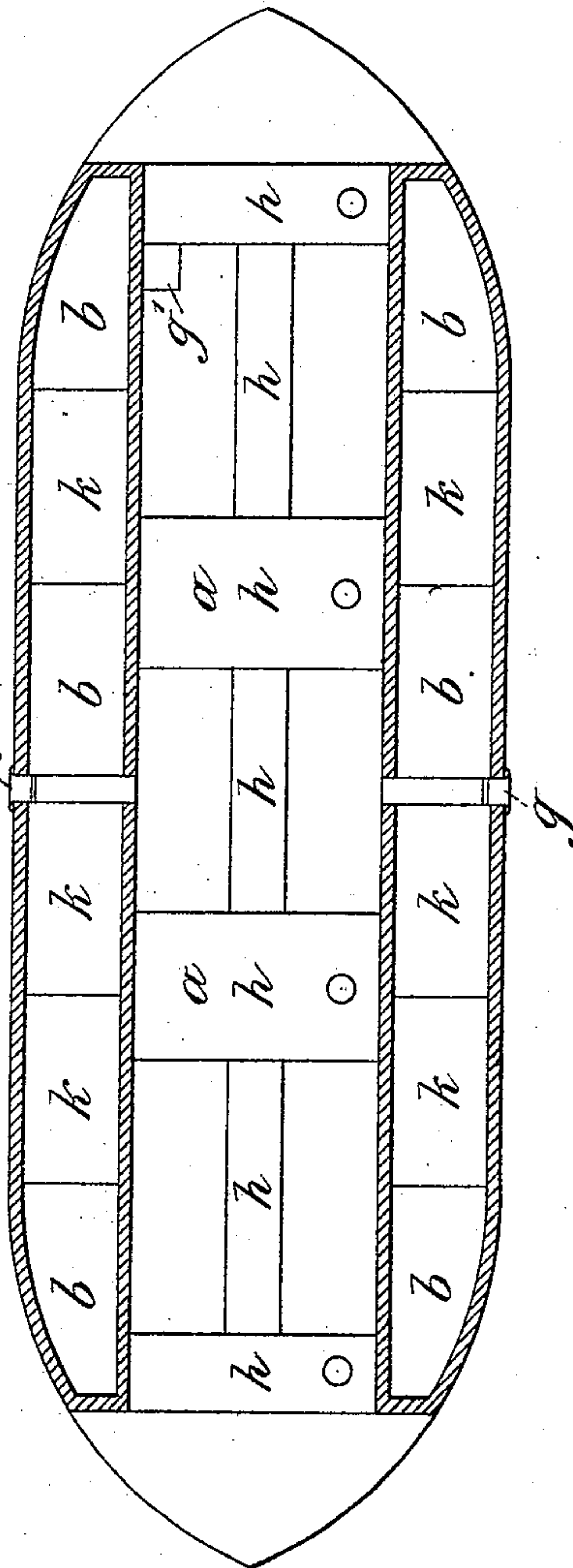


Fig-2-



Witnesses:

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Percy C. Bowen.

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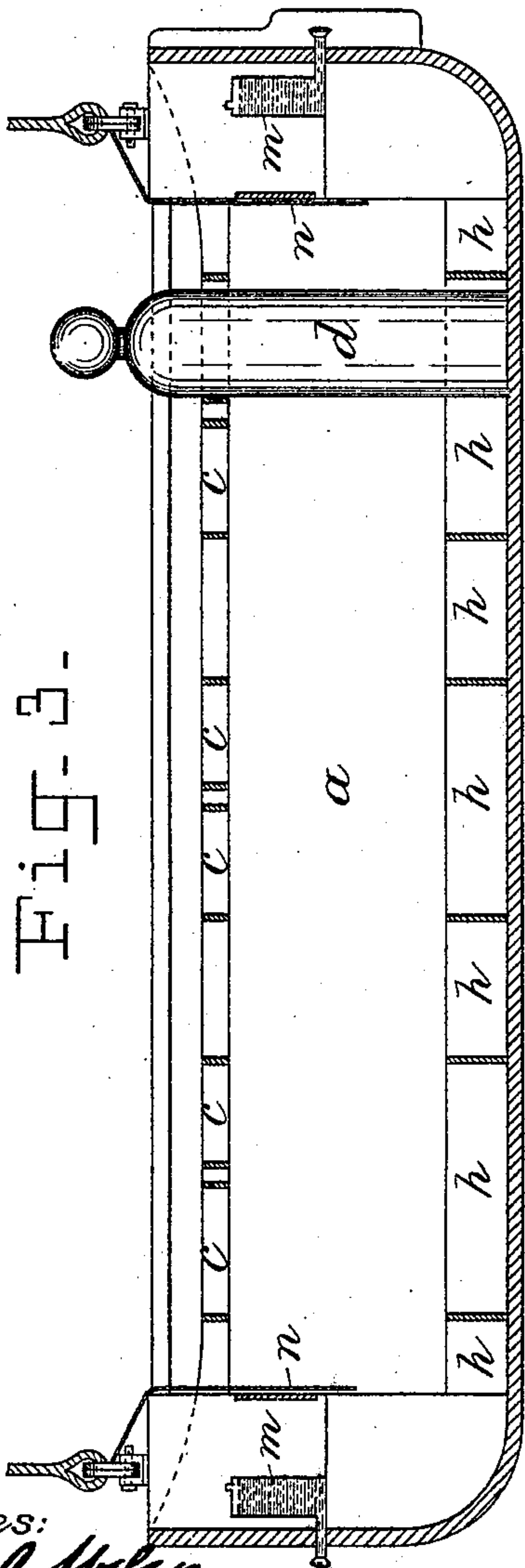
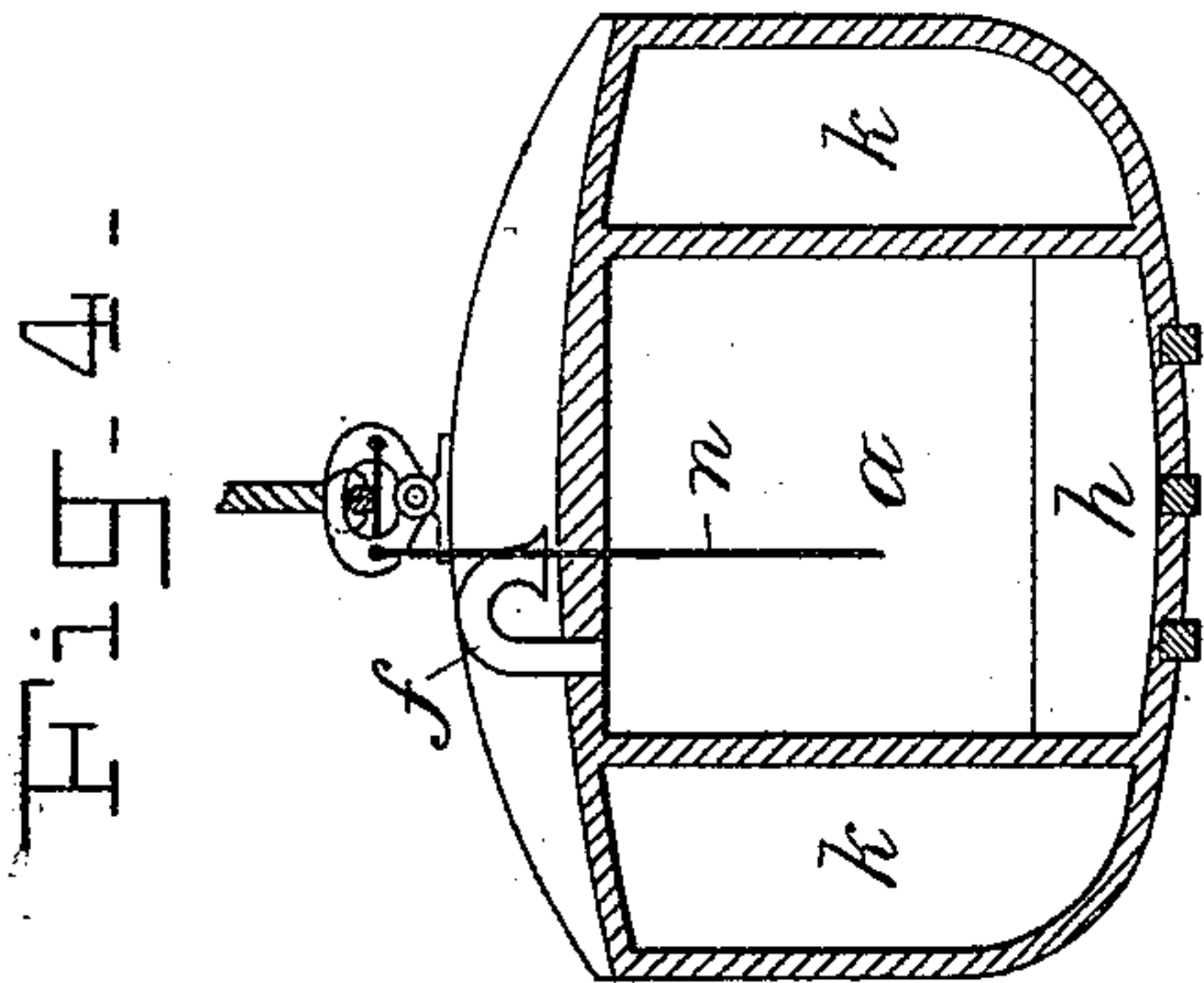
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2 Sheets—Sheet 2.

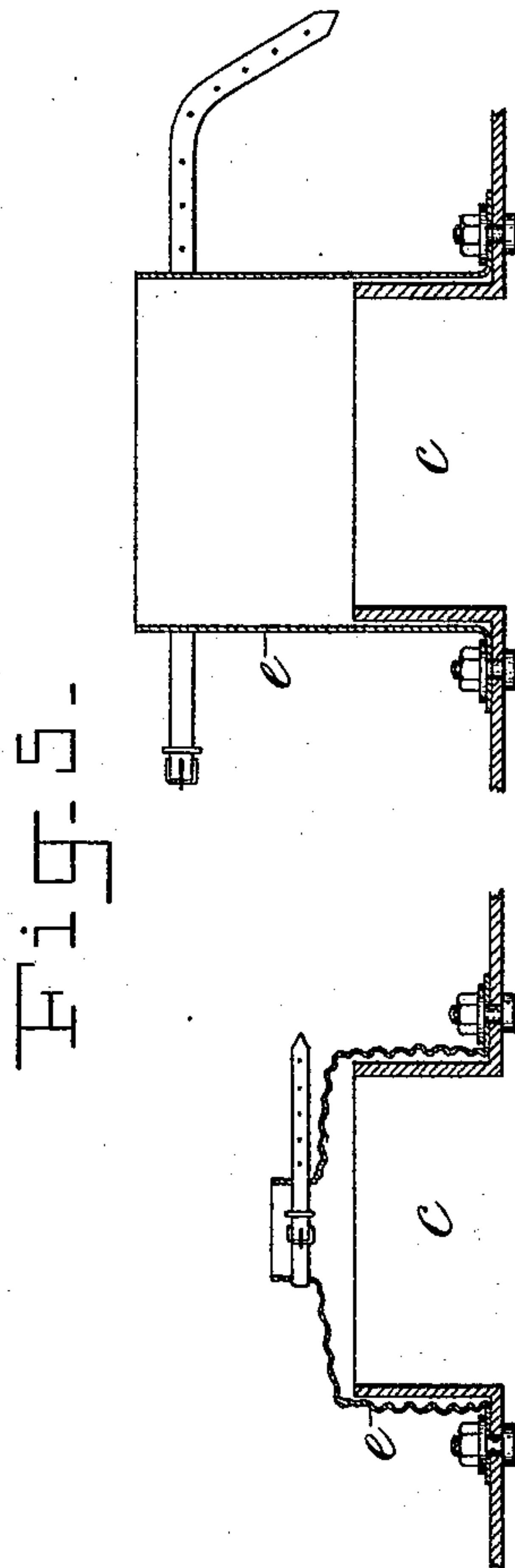
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Cuthbert Gardner,
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Attorneys.

UNITED STATES PATENT OFFICE.

CUTHBERT GARDNER, OF REDCAR, ENGLAND.

COMBINED LIFE-BOAT AND SHIP'S SAFE.

SPECIFICATION forming part of Letters Patent No. 516,968, dated March 20, 1894.

Application filed May 27, 1893. Serial No. 475,700. (No model.)

To all whom it may concern:

Be it known that I, CUTHBERT GARDNER, a subject of the Queen of Great Britain, residing at Redcar, in the county of York, England, have invented certain new and useful improvements in a combined life-saving appliance, ship's safe, and means for communicating between a sinking ship and the shore; and I do hereby 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 and use the same.

My invention relates to a vessel or boat to be used as a life-saving appliance for saving life at sea, combined with a ship's safe and furnished with means for effecting a communication between a sinking ship and the shore.

The main object of my invention is to design a life-saving appliance in the form of a boat, and of such buoyancy that it will neither sink nor remain capsized however rough the sea may be, but will right itself from any position with such a certainty and promptness, that men can be safely lashed thereto or confined in the hold without risk of being kept under water in consequence.

My invention can also be used to combine in one boat, a life-saving appliance and ship's safe in which may be stored, and eventually saved, in case of shipwreck, all gold and other valuables as well as provisions and fresh water for the crew, which storage instead of being detrimental to the buoyancy of the boat is stowed where it serves a useful purpose as ballast.

A further object of my invention is to enable a ship when wrecked, or stranded near the shore, to effect a communication with the shore, however rough the sea may be, and the ship among the rocks, by putting off the said boat which is carried ashore by the same currents which have stranded the ship.

A combined life-boat and ship's safe constructed according to my invention only need occupy about one half the space on the deck of a ship at present required to accommodate the ordinary life-boat now used, and when small, is lowered by one davit with one pair of blocks and tackle from which it is slung

in any suitable manner; but for vessels of greater size, the combined life-boat and ship's safe may be designed to carry, say twenty or more persons in which case it will be slung from two davits, and two pairs of blocks, and be housed, put ready for use, and lowered into the water in the usual manner. In order to clearly describe how my invention is carried into effect, I will now refer to the accompanying drawings in which the same is illustrated in the form of a boat constructed and equipped for the accommodation of twenty men.

Figure 1 is a view in plan of the top deck, and Fig. 2 is a sectional view in plan showing the lower internal arrangements of the hold of the vessel and of the means provided for obtaining the requisite buoyancy both along the sides and at the ends of the boat. Corresponding to these views Figs. 3 and 4 are longitudinal and transverse sectional views of the boat respectively, and Fig. 5 represents an enlarged sectional view of one of the openings for the crew to enter the hold through or stand in and represents the water-tight jacket secured thereon both in the open and closed positions.

In order that the boat may serve all the purposes of my invention the following provisions in its structural and general arrangement are to be regarded as essential:

First. In order to insure that the boat be both unsinkable and incapable of being capsized under ordinary circumstances the live load is confined to a space or hold a , which is close about the center line of the boat with ample accommodation for air tight and buoyant chambers b to the outside of both the sides and ends of the hold. As will be observed from the drawings the hold a is narrow relatively to the total width of the boat and in practice it is found that when the hold does not much exceed half the width of the boat, the boat is both unsinkable and quickly rights itself from any position it may be forced into in a rough sea owing to the upward pressure due to the displacement of water exerted against the depressed side of the boat, mostly at a distance to one side of the center line thereof and therefore easily overpowering the overturning tendency of

the unbalanced live load which is exerted nearer to the boat's center line.

Secondly. For the protection and security of the men in the hold while leaving them as much freedom as possible for using the oars and otherwise controlling the boat, the hold is covered over at the top deck level with a cover designed to combine strength with lightness and in which a series of openings *c* are provided along either side of the boat's center line as shown more particularly in Fig. 1, each of which openings is intended to accommodate the body of a man standing upright in the hold up to the waist which comes about level with the said cover as shown by the dummy figure *d*. Each opening *c* is furnished with a water-tight jacket *e* secured to the ring frame thereof by any suitable means. This water-tight jacket extends a convenient length above the ring frame in the manner illustrated in detail in Fig. 5 and is furnished with a strap or the like by which to tie it round the waist of the man inside, or to be tied up like the mouth of a sack when the opening is unoccupied. Further provision for protecting the hold to be used in cases of emergency such as when a heavy sea is on and the men are driven below, may be provided in the form of a water proof apron suitably secured to the top deck and drawn over the hold cover from end to end as the men retire beneath.

Thirdly. In order to provide proper ventilation to the hold, ventilators *f* are made with siphoned heads in the manner shown and furnished if required with valves which close inward only so that while affording a free passage for the air, in rushing water is stopped by the valve. The ventilators, the particular construction of which forms no part of my invention, are placed in any position suggested by necessity or convenience.

Fourthly. To enable the hold to be cleared of water, outlets *g* are provided at suitable positions as near the level of the outside water as possible through which the water runs out from the upper part of the hold, all inrush of water from the sea being prevented by suitable valves which instantly close to any pressure from without. To clear out the lower part of the hold one or more pumps are provided at suitable positions such as at *g'*. Shown in Fig. 2. Any kind of pump that is preferred may be used.

Fifthly. For the storage of fresh water and provisions for the crew and such valuables as are to be saved from the wreck, tanks *h* and safes *k* are provided and arranged in the positions shown, the object in view being to use the fresh water as ballast, provision being made for recharging the tanks with sea water when emptied of fresh water, the said tanks

being also serviceable as seats in the bottom of the hold.

Sixthly. For effecting a communication between the ship and the shore, coils of rope I are provided reeled on vertical spindles at the stern of the boat so that the ropes coiled thereon are available for securing to the ship and to uncoil as the boat puts away to shore. Other equipments more or less useful may be included in fitting up the boat in question, such as a rudder and means for controlling it; a mast with a flag or lamp to attract the attention of a passing ship; top lights for lighting the hold and a hatchway for getting in and out of it; detaching hooks and their connections; straps at the bottom of the hold to afford a foothold for the men when standing up with half their bodies above deck and other straps in positions where they can be used as arm holdfasts for the men sitting down inside. Oil tanks *m*, are also serviceable for discharging oil on the water in the immediate vicinity of the boat.

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 life boat provided with an upper deck having openings *c* therethrough for the bodies of the passengers or crew, with water tight jackets *e* adapted to strap around the bodies of the said passengers or crew, air funnels *f* bent over and opening downward as shown, closed air chambers and safes arranged alternately along either side of the said central chamber; and tanks arranged along the bottom of said central chamber for water and provisions or ballast, substantially as and for the purposes described.

2. A life boat provided with an upper deck having openings *c* therethrough for the bodies of the passengers or crew with water tight jackets *e* adapted to strap around the bodies of the said passengers or crew, air funnels *f* bent over and opening downward as shown, closed air chambers and safes arranged along either side of the said central chamber, air chambers at the ends of said central chamber, oil tanks with outlets thereto opening outboard situated in the ends of the boat; and raised tanks *h* adapted to serve both as seats and to contain water, provisions or ballast arranged along the bottom of said central chamber, substantially as and for the purposes described.

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

CUTHBERT GARDNER.

Witnesses:

GEORGE JAMES CLARKSON,
EDWARD THOMAS ELCOAT.