

(No Model.)

2 Sheets—Sheet 1.

L. KONRAD, G. P. FROMM & H. KAUER.

LIFE SAVING APPARATUS FOR VESSELS.

No. 568,982.

Patented Oct. 6, 1896.

Fig: 1.

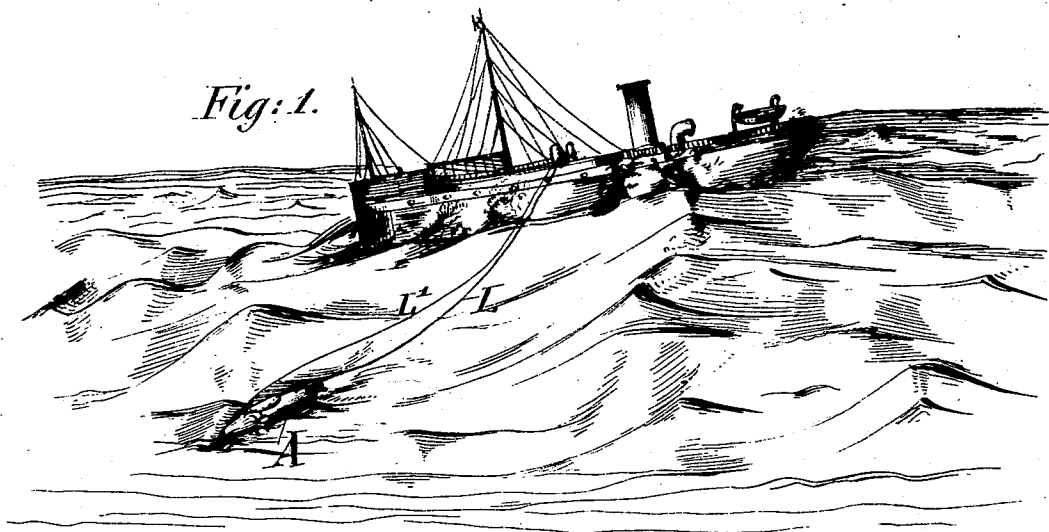


Fig: 2.

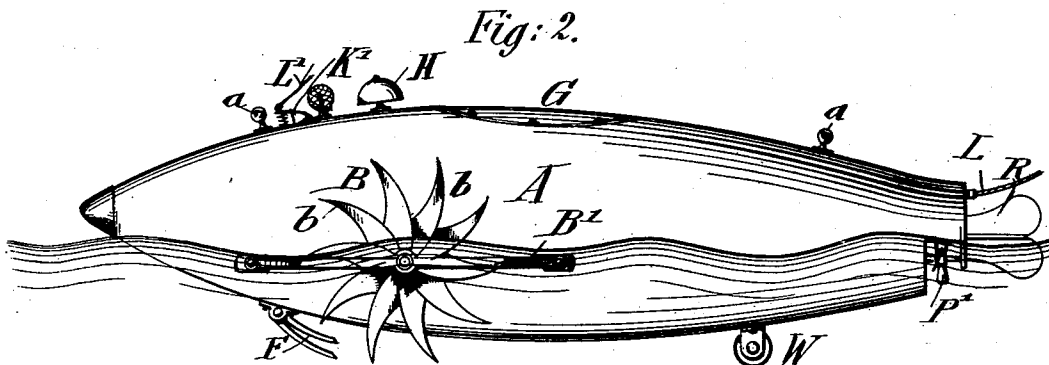
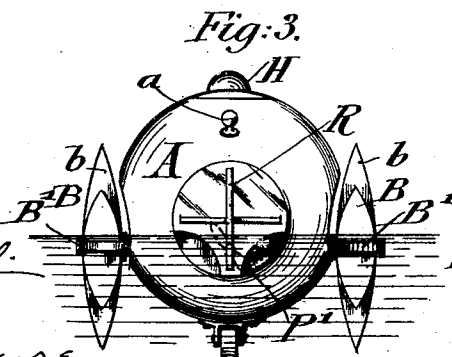


Fig: 3.



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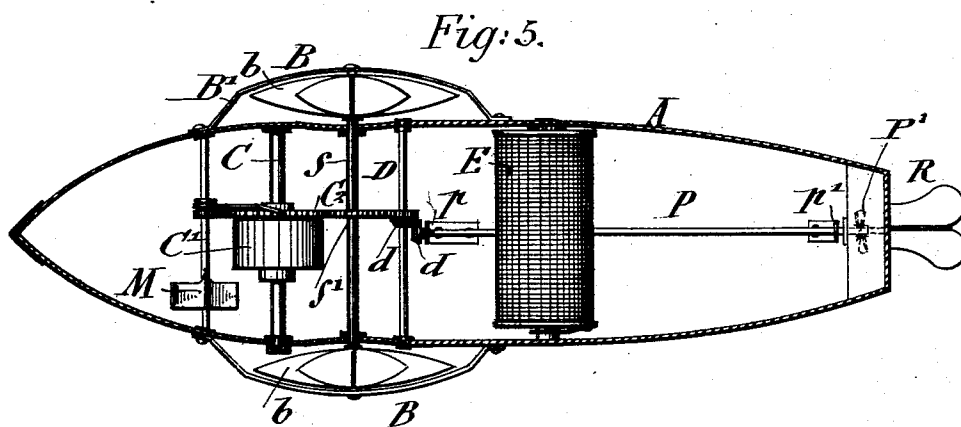
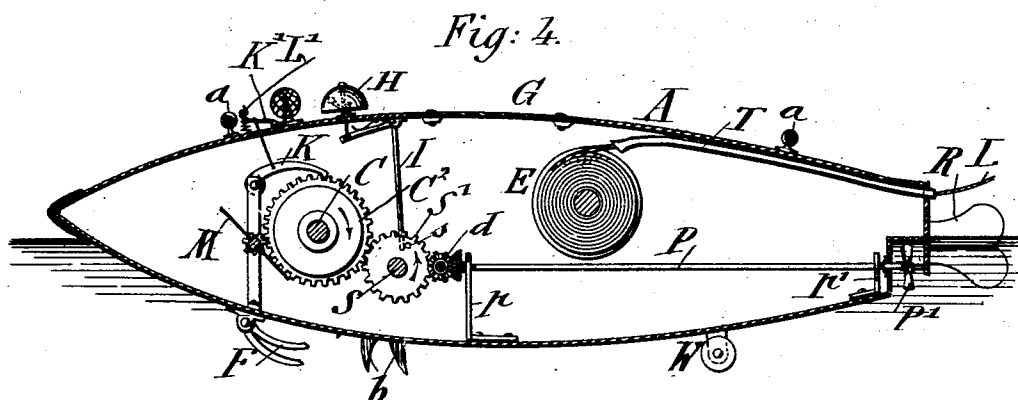
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UNITED STATES PATENT OFFICE.

LOUIS KONRAD AND GUSTAV PAUL FROMM, OF BROOKLYN, AND HANS KAUER, OF NEW YORK, N. Y.

LIFE-SAVING APPARATUS FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 568,982, dated October 6, 1896.

Application filed May 13, 1896. Serial No. 591,351. (No model.)

To all whom it may concern:

Be it known that we, LOUIS KONRAD and GUSTAV PAUL FROMM, residing in Brooklyn, in the county of Kings, and HANS KAUER, residing in the city and county of New York, State of New York, citizens of the United States, have invented certain new and useful Improvements in Life-Saving Apparatus for Vessels, of which the following is a specification.

Our invention relates to an improved life-saving apparatus for vessels of all kinds which is intended to be used for conducting a life-line from the vessel to the shore, or vice versa, in case the vessel should be aground near the shore, so as to give thereby a chance of communication with the people on shore when, owing to a storm, it will be impossible to send a life-line from the shore to the vessel by the usual appliances; and the invention consists of a life-saving apparatus for vessels which comprises a torpedo-shaped hollow body, a suitable motor in the inside of said body, means for transmitting motion to a propeller at the rear end of said body, a signaling device, paddle-wheels at both sides of said body provided with pointed paddles, a stationary rudder at the rear end of the body, pivoted drop-hooks in front of the paddle-wheels by which the device is anchored when arriving in shallow water, and a reel and guide for the life-line, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, which illustrate our invention, Figure 1 represents a perspective view of our improved life-saving appliance for vessels, showing it in the act of carrying a life-line from the vessel to the shore. Fig. 2 is a side elevation of the apparatus drawn on a larger scale. Fig. 3 is a rear elevation of the same. Fig. 4 is a vertical section of the same, showing the interior parts; and Fig. 5 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts.

Our improved life-saving apparatus is made in the shape of a torpedo and suspended by means of stationary eyes *a*, attached to the top part of the hull to davits on the vessel,

so that the apparatus can be lowered into the water whenever it should be required for use.

It consists of a cigar or torpedo shaped hollow body or hull *A*, which is provided with a solid-pointed front end, paddle-wheels *B B*, having curved and pointed paddles *b* at the sides, said paddle-wheels being supported by and applied to a shaft *S*, passing transversely through the hull. The outer ends of the shaft are supported in curved horizontal bars *B'*, that are attached to the sides of the body *A*, as shown in Figs. 2 and 5. In the interior of the hollow body *A* is arranged on a shaft *C* a suitable motor, such as a good spring or electromotor *C'*, from which motion is transmitted by gear-wheels *C² S'* to the shaft *S* of the paddle-wheels. In case a spring-motor is used, one of the ends of the shaft is squared and extended through a stuffing-box in the hull, said squared end being covered by a screw-cap applied to the body *A*, so that on removing the cap the spring-motor can be wound up again by a suitable crank. A suitable fly or other speed-regulating mechanism *M* is operated from the shaft *C* of the motor, so as to keep the same at uniform speed.

In case an electromotor is to be used, it is preferably provided with storage batteries which are distributed in a suitable manner at the bottom of the body, so as to keep the center of gravity in the vertical longitudinal central plane of the body *A*. From the shaft *S* of the paddle-wheels motion is transmitted by bevel-gears *d d*, one of which is arranged on a shaft *D*, to a longitudinal shaft *P*, that is supported in bearings *pp'*, attached to the bottom of the body, said shaft passing through a stuffing-box and provided at the outer end by a propeller *P'*, that rotates within a corresponding cavity at the rear end of the body. The direction of motion of the life-saving apparatus is secured by means of stationary rudders *R*, which are formed of two blades that intersect each other at right angles, so that it is steered, even if it should turn on either of its sides during its motion through the water. A reel *E* is arranged in the middle part of the body *A* for the life-line *L*, said line passing through an opening in the upper part of the same through a tube *T*, that extends flush with the upper part of the hull

along the same toward the rudder end, said line being attached to a suitable point on the vessel and payed out as the device is proceeding on its way toward the shore. A tightly-fitting hatch or trap-door G is arranged at the upper part of the body A, so as to give access to the interior of the body. A signaling-gong H is arranged on the top of the device in connection with a suitable socket for a torch, said gong being operated by a system of connected levers I and a pin s on the gear-wheel S', which is arranged on the shaft S, so as to impart an audible signal as long as the life-saving device is in motion, while the torch is used in addition thereto at night, so as to indicate the position of the same.

The motor is provided with a starting and stopping mechanism, consisting of a pawl K and a spring-actuated lever K', that is operated by a second line L' when the life-saving apparatus is lowered in the water and ready to be started toward the shore.

To the lower front part of the body are pivoted curved and pointed hooks F, which serve as anchors when the life-saving apparatus arrives at the shore, said anchors engaging in the sand and preventing the backward motion of the apparatus. The curved and pointed paddles of the paddle-wheels serve not only for the purpose of assisting the forward motion of the life-saving apparatus, but also for engaging in the sand and producing the forward crawling of the device at the shore until shallow waters are reached, where the paddles assist in preventing the backward movement of the apparatus, so that the life-saving apparatus can be taken hold of and pulled ashore with the life-line, the latter being then unwound or cut and used in the usual manner for establishing communication from the shore to the foundering vessel by means of a breeches-buoy or otherwise. When the life-saving apparatus is pulled ashore, the motor is stopped. The body is further provided near the bottom of the same with a roller W, that turns in bearings of the body A and which serves, in connection with the paddle-wheels, to permit the forward crawling of the life-saving apparatus when arriving in shallow water. The reel turns in suitable bearings and is provided with a crank by which the life-line can be wound up again ready for the next use of the life-saving apparatus.

When the life-saving apparatus is to be used, it is lowered from the davits into the water, the proper direction being given by a suitable spar, from which the motor is started. It will move in a straight line toward the shore and pay out the life-line, the end of which is firmly attached to a suitable point on the vessel. When arriving in shallow water, the pointed ends of the paddle-wheel will engage the sand and move the life-saving apparatus forward until it is fully em-

bedded with its nose in the sand of the shore and refuses to move any farther, in which case the anchors will gradually embed themselves in the shore and prevent the rearward motion of the apparatus by the waves. The life-line is then either cut from the life-saving apparatus or the life-saving apparatus pulled to the shore with the same and connection established with the vessel in the usual manner.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A life-saving apparatus for vessels, consisting of a torpedo-shaped hollow body, a propeller at the rear end of the same, a transverse shaft, paddle-wheels having curved and pointed paddles applied to the ends of the shaft, a motor for imparting rotary motion to the paddle-wheels and propeller, a reel for the life-line at the interior of the body, and a guide-tube for the life-line extending from a point above the reel toward the rear end of the body, substantially as set forth.

2. A life-saving apparatus for vessels, consisting of a torpedo-shaped hollow body, means for propelling the same in forward direction, a motor for actuating the propelling device, a reel in said body for the life-line, a guide-tube extending from a point above the reel toward the rear end of said body, and anchors pivoted to the front part of the body, substantially as set forth.

3. A life-saving apparatus for vessels, consisting of a torpedo-shaped hollow body, means for propelling said body in forward direction, a motor for actuating said propelling device, a steering-rudder formed of stationary intersecting blades at the rear end of the body, a reel for the life-line, a guide-tube for said life-line extending from the reel through said body, anchors pivoted to the lower front part of said body, and a guide-roller at the lower rear part of the same, substantially as set forth.

4. A life-saving apparatus for vessels, consisting of a torpedo-shaped hollow body, means for propelling the same in forward direction, a motor for actuating the propelling device, means for starting and stopping said motor, steering devices at the rear end of the body composed of stationary intersecting blades, a reel at the interior of the body for the guide-line, a guide-tube for the life-line, pivoted anchors at the lower front part of the body, and a roller at the lower rear part of the same, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

LOUIS KONRAD.
GUSTAV PAUL FROMM.
HANS KAUER.

Witnesses:

PAUL GOEPEL,
GEO. W. JAEKEL.