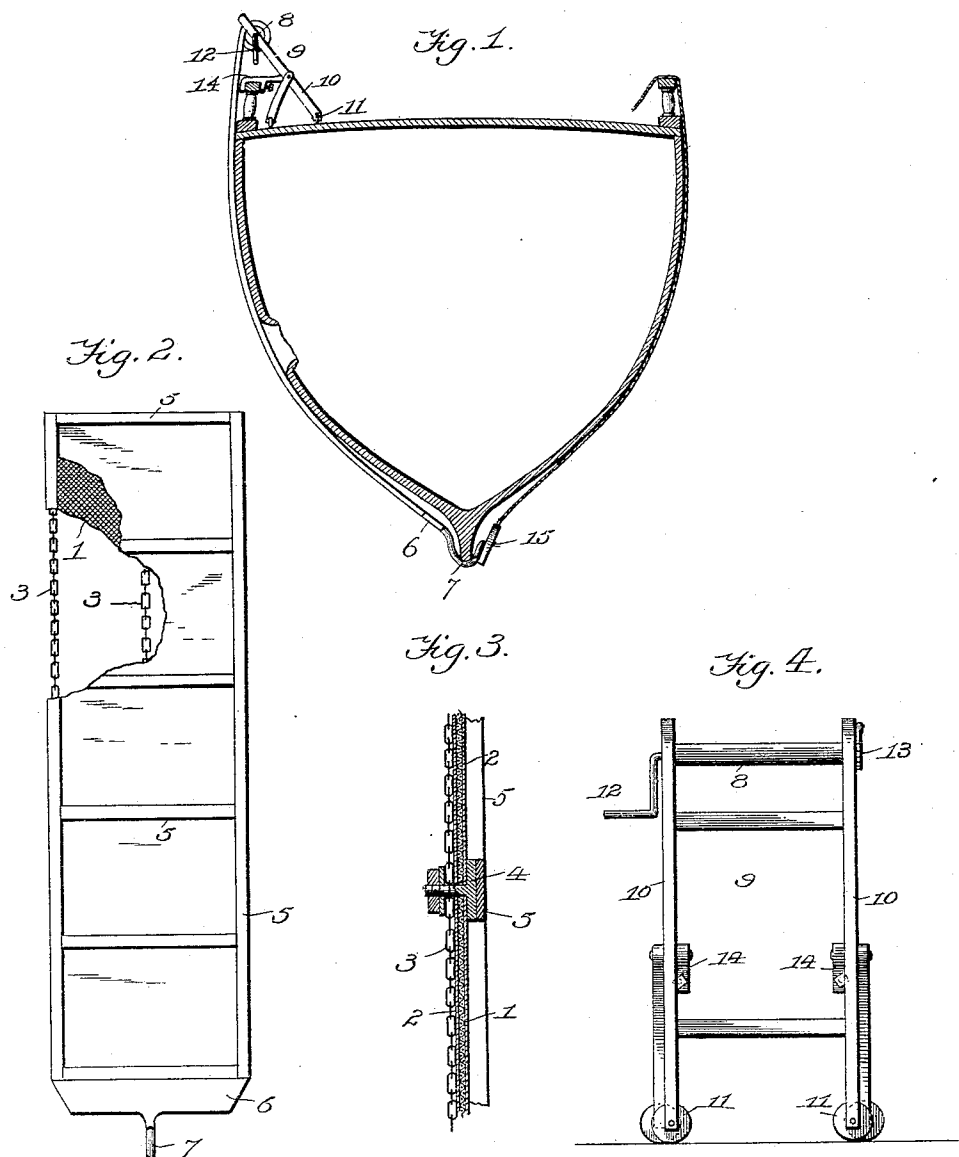


(No Model.)

C. SCHROEDER.
LEAK STOPPER.

No. 569,430.

Patented Oct. 13, 1896.



WITNESSES:

Harry S. Rohrer.
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UNITED STATES PATENT OFFICE.

CHARLES SCHROEDER, OF COLUMBUS, OHIO.

LEAK-STOPPER.

SPECIFICATION forming part of Letters Patent No. 569,430, dated October 13, 1896.

Application filed April 20, 1896. Serial No. 588,287. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SCHROEDER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Means for Temporarily Closing Holes in the Sides or Bottoms of Ships or other Vessels; 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.

The object of my invention is to provide a reliable and quickly-handled apparatus for temporarily but tightly closing a hole in the side or bottom of a vessel while in the water, whether said hole be made by a collision or by the grounding of the vessel. In the event of such an accident it is important that some means be conveniently at hand which may be quickly and effectively brought into use for the purpose of temporarily closing the hole on the outside, so that the same may be repaired from the interior side of the vessel.

My invention consists, first, of a band having a weight and hook at its lower end, said band being adapted for use in covering a hole in the vessel; second, in a reel or carriage for containing and handling said band, and, third, in other details for the successful carrying out of my invention, all of which are hereinafter fully explained in the following description.

In the accompanying drawings, Figure 1 illustrates a vessel in sectional view showing the application of my invention. Fig. 2 is a view of the inner side of the band or that side which is placed next the vessel. Fig. 3 is a longitudinal sectional view of the band or fabric. Fig. 4 is a front elevation of the windlass.

The band or fabric consists of a woven wire-cloth 1, covered on both sides with canvas 2. The edges and middle of the band are strengthened by chains 3, secured along the outer side. Across the inner side of the fabric and transversely to its length are secured steel bars 4, about half an inch thick, placed at suitable intervals, usually about three feet apart. These bars are faced with strips of soft rubber 5, also about a half-

inch thick. Along the opposite edges of the band are also strips of rubber about two inches wide and an inch thick, so that the surface of the rubber-faced bars and of the strips along the edges of the band are flush or in the same plane with each other. A series of pockets or recesses are thus formed on the inner side of the band, the boundaries of which are of soft rubber, and when the band is placed over a hole in the side or bottom of the vessel the pressure of the inflowing water or of water tending to flow into the hole forces the rubber tightly against the hull around the hole and so closes the same and stops the leak.

The lower or free end of the band is furnished with a heavy weight 6, of steel or iron, which is prolonged into or is provided with a hook 7, that is to be caught under the keel. The upper end of the band is secured to the barrel 8 of a reel or windlass 9, which consists, essentially, of a frame having side pieces 10 footed with wheels or rollers 11, and the barrel which is furnished with a suitable crank 12 and ratchet and pawl 13, the barrel being journaled horizontally between the side pieces of the frame and the latter being duly braced with cross-pieces. Suitable means 14 are provided also for firmly clamping the windlass to the rail or bulwarks of the vessel.

For the more speedy and successful use of my invention it is recommended that the vessel be numbered consecutively at small intervals from stem to stern on both the inside and out of the starboard and port sides of the vessel, corresponding numbers either side being placed in the same vertical cross-section on either side, so that the exact position of a hole below the water-line may be quickly and accurately determined. When a hole has been made, the windlass or reel containing the band is carried to the proper side of the ship and the band lowered so as to stand opposite the hole, when the suction will ordinarily be sufficient to draw the band over the same. If the current be so strong as to throw the band from the vessel, the latter should be brought about when the current will be sufficient to drive the band against the side of the ship. In order to secure to the keel the hook at the lower end of the band, I propose to lower from the opposite

side of the vessel a powerful magnet 15, which will draw the weight and its hook to the proper position for the engagement of the hook with the keel. When the hook is properly under the keel, the band should be drawn tight by winding it upon the windlass. After a wound in the ship's side or bottom has been thus bandaged it may be treated from the inside in the best available manner, or if the vessel happens to be close to port repairs may, at discretion, be postponed until arrival there.

If the hole in the vessel is produced by running aground and the vessel has come to a standstill, a band having a weight with long points at its lower end to penetrate the mud or sand may be brought into use and so anchor the band opposite the hole.

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

1. A band for temporarily closing holes in vessels having at its lower end a weight, and a hook adapted to engage the keel.

2. An apparatus for temporarily closing holes in vessels, comprising a drum or windlass, a movable carriage therefor, and a band having a weight and a hook at its lower end adapted to engage the keel. 25

3. Means for temporarily closing holes in vessels while in the water, comprising a band having a weighted iron or steel hook at its lower end, and a magnet adapted to draw said hook under the keel into position to engage the same, substantially as set forth. 30

In testimony whereof I affix my signature in presence of two witnesses. 35

CHARLES SCHROEDER.

Witnesses:

GEORGE M. FINCKEL,
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