

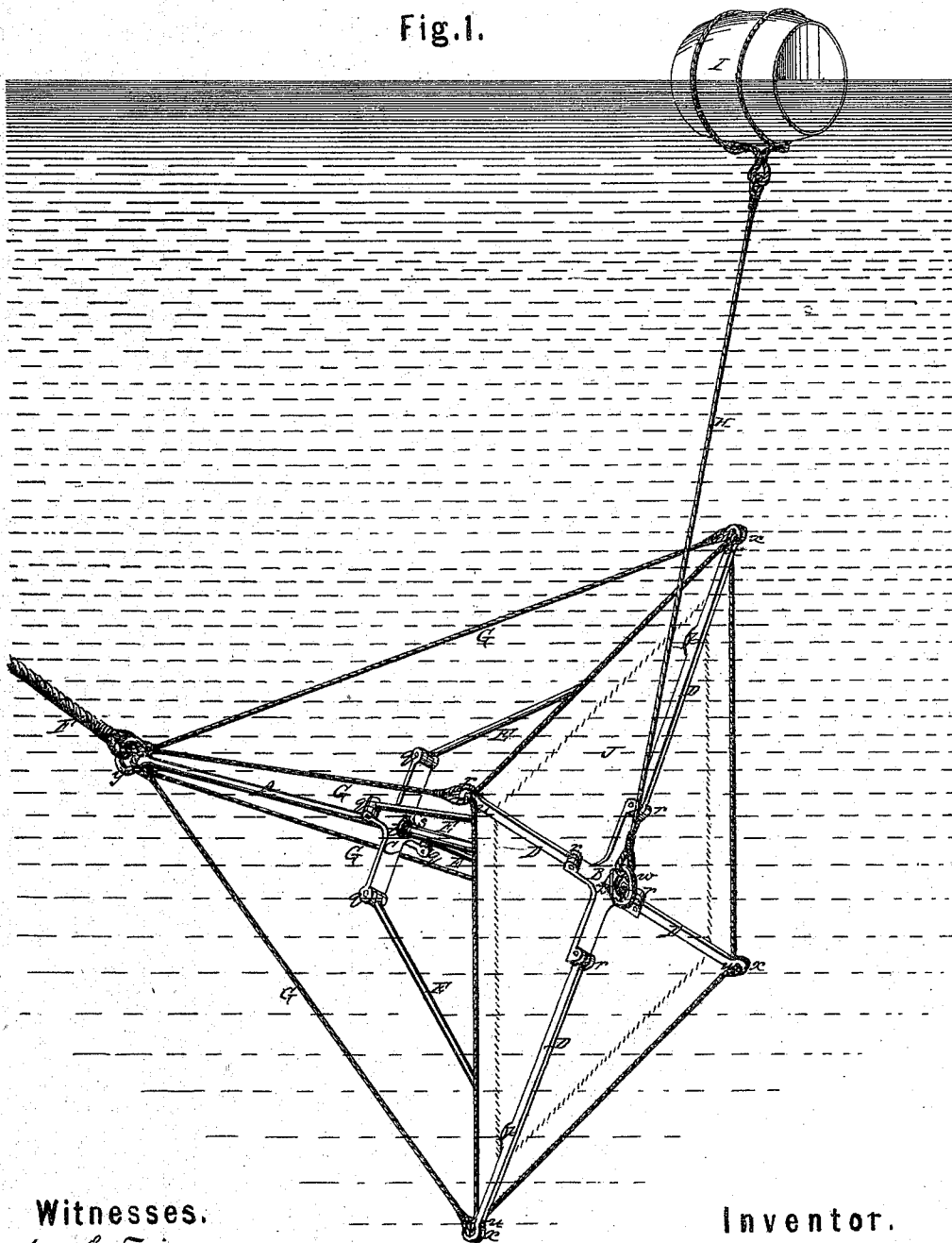
T. WILSON & A. CRAWFORD.

Improvement in Marine-Drag or Floating-Anchor.

No. 129,878.

Patented July 23, 1872.

Fig. 1.



Witnesses.

Geo. L. Ewin
Walter Allen

Inventor.

Thomas Wilson
Alexander Crawford
By Knights
Attorneys.

T. WILSON & A. CRAWFORD.

Improvement in Marine-Drag or Floating-Anchor.

No. 129,878.

Patented July 23, 1872.

Fig. 2.

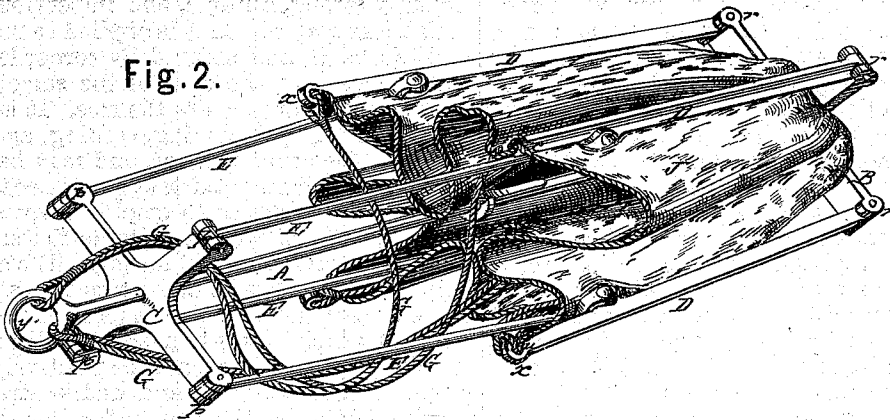
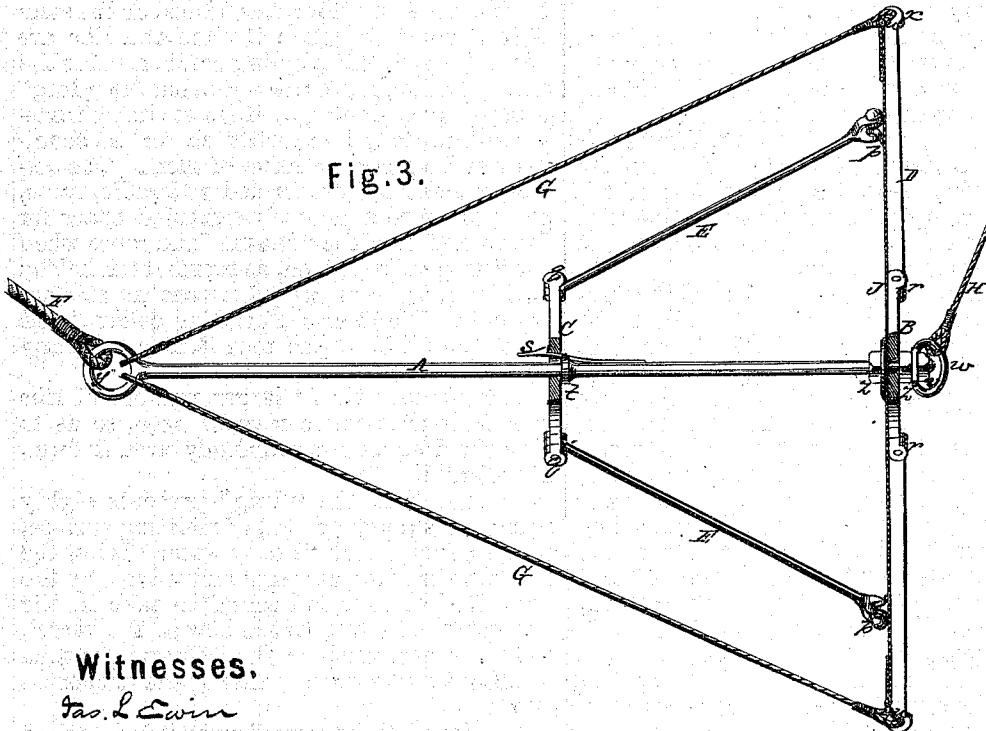


Fig. 3.



Witnesses.

Geo. L. Swin

Walter Allen

Inventor.

Thomas Wilson
Alexander Crawford
By *Arthur H. H. H.*
Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS WILSON AND ALEXANDER CRAWFORD, OF DETROIT, MICHIGAN.

IMPROVEMENT IN MARINE DRAGS OR FLOATING ANCHORS.

Specification forming part of Letters Patent No. 129,878, dated July 23, 1872.

Specification describing an Improved Drag-Anchor, invented by THOMAS WILSON and ALEXANDER CRAWFORD, both of Detroit, in the county of Wayne and State of Michigan.

This invention relates to means by which to hold a vessel against drifting when disabled or unmanageable, and when the vessel is off soundings, or when, from any other cause, ordinary anchors cannot be used or are insufficient. The improved drag-anchor or "drag" presents as a resistance a large square of canvas, or equivalent material, and is floated below the influence of surface currents and waves by a buoy. The "canvas" is stretched and supported by a light and strong metallic frame and stay-ropes. When the "drag" is not required it may be detached from its cable and buoy and collapsed by simply releasing a spring catch or key, and folding the frame with the "canvas" and stay-ropes within the same, and thus stowed away ready for immediate use when again required.

In the accompanying drawing, Figure 1 is a perspective view of the drag-anchor and its buoy as in use. Fig. 2 is an elevation of the "drag" as compacted for stowage when not in use. Fig. 3 is a longitudinal section of the drag in working condition.

In carrying out the invention a folding metallic frame of peculiar construction forms the basis. This is composed, in chief, of a straight axial rod or stem, A, a stationary collar or disk, B, and a sliding collar or disk, C, on the stem; four radial rods or ribs, D, hinged to the stationary collar, and rods or struts E connecting the ribs and sliding collar, so that by shifting the latter the ribs may be extended or collapsed. The stationary collar B is secured at one end of the stem A between screw-nuts *z*, or their equivalent, and the other end of said stem is formed with a ring, *y*, for the attachment of the cable F, also stay-ropes G, which extend to eyes *x* formed at the extremities of the ribs D. Behind the stationary collar, B on its end of the stem A, an eye-nut or swivel, *w*, is attached by screw-nut *v*, or its equivalent, secured by a key or rivet to prevent unscrewing. To this the hawser H of the buoy I is attached when the "drag" is to be used. To furnish the necessary resisting or holding surface a square sheet, J, of canvas or other suf-

ficiently strong, durable, and impervious material, is employed. This is applied to the face of the ribs D, and secured by corner loops *u* to the eyes *x* at the ends of the same; or it may be sewed or laced to the ribs. It may be strengthened by hemming, cording, and eye-letting in the usual manner, and may be composed of two or more thicknesses, if necessary. In practice we prefer to employ canvas prepared or coated with a suitable material to prevent decaying or mildewing. The size of this "canvas" may be about nine feet square, more or less, according to the size of the vessel with which it is to be used. It will present a perfectly flat surface, and be positively supported against sagging and undue strain on its fastenings by the ribs and collar or disk behind it. A shoulder, *t*, is formed on the stem A to support the slide C when the ribs are properly open, and a spring-catch, *s*, holds the same thereagainst, so as to prevent the "drag" collapsing accidentally. Keys, or simple transverse pins, may be substituted for the shoulder *t* and catch *s*, or either of them. The collars or disks B C are formed with radial arms, so as to afford a properly extended space for the reception of the "canvas" and ropes when the "drag" is collapsed, as represented in Fig. 2. The hinge-joints *r q p* between the stationary collar B and ribs D, sliding collar C and rods E, and ribs D and rods E, may be of any approved form.

It is obvious that a larger number of ribs and their accessories may be used, so as to give the drag an approximately circular form, if preferred.

In operation, the "drag" presents eighty square feet (more or less) of resisting surface, and is supported in "heavy water," below the action of surface currents and waves, by the buoy I. When it is desired to take in the "drag" it is heaved to the bow of the vessel, as an ordinary anchor; the buoy-rope is then fished up, and assists in taking the anchor on board.

To adapt it to be stowed away it is detached from the cable F and hawser H, the slide C released from the spring-catch *s*, and the frame, "canvas," and stay-ropes folded into the shape represented in Fig. 2. It is thus always ready for immediate use. When again required it is

only necessary to attach the cable and buoy-hawser, and to force the slide C into engagement with the catch s.

In dropping anchor, the "drag" is lowered into the water by the cable and buoy-rope together, and the buoy is then let go.

Claims.

The following is claimed as new:

1. A drag-anchor constructed with a folding frame and a web of canvas or other flexi-

ble material applied to the front or inner face thereof, substantially as set forth.

2. The spring-catch s, or any equivalent holding device, in combination with the stem A, slide C, struts E, ribs D, stay-ropes G, and canvas J, for the purpose specified.

THOS. WILSON.

ALEXANDER CRAWFORD.

Witnesses:

JOHN HOSMER,

R. F. TALMAN.