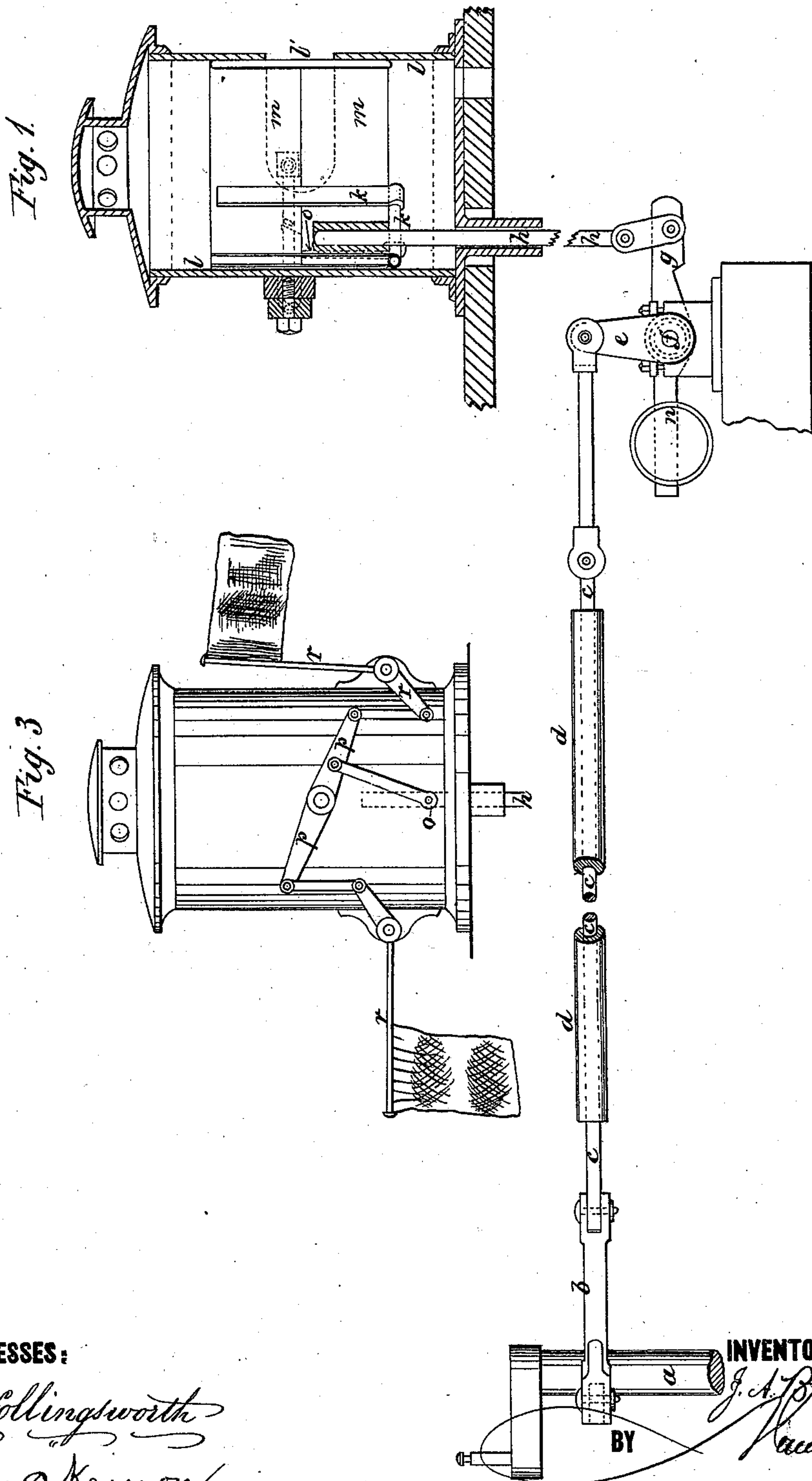


J. A. BRIEBACH.

RUDDER INDICATING APPARATUS FOR VESSELS.

No. 174,186.

Patented Feb. 29, 1876.



WITNESSES:

W. W. Hollingsworth
John C. Kemmer

INVENTOR:

J. A. Briebach
 BY *Wm F B*

ATTORNEYS.

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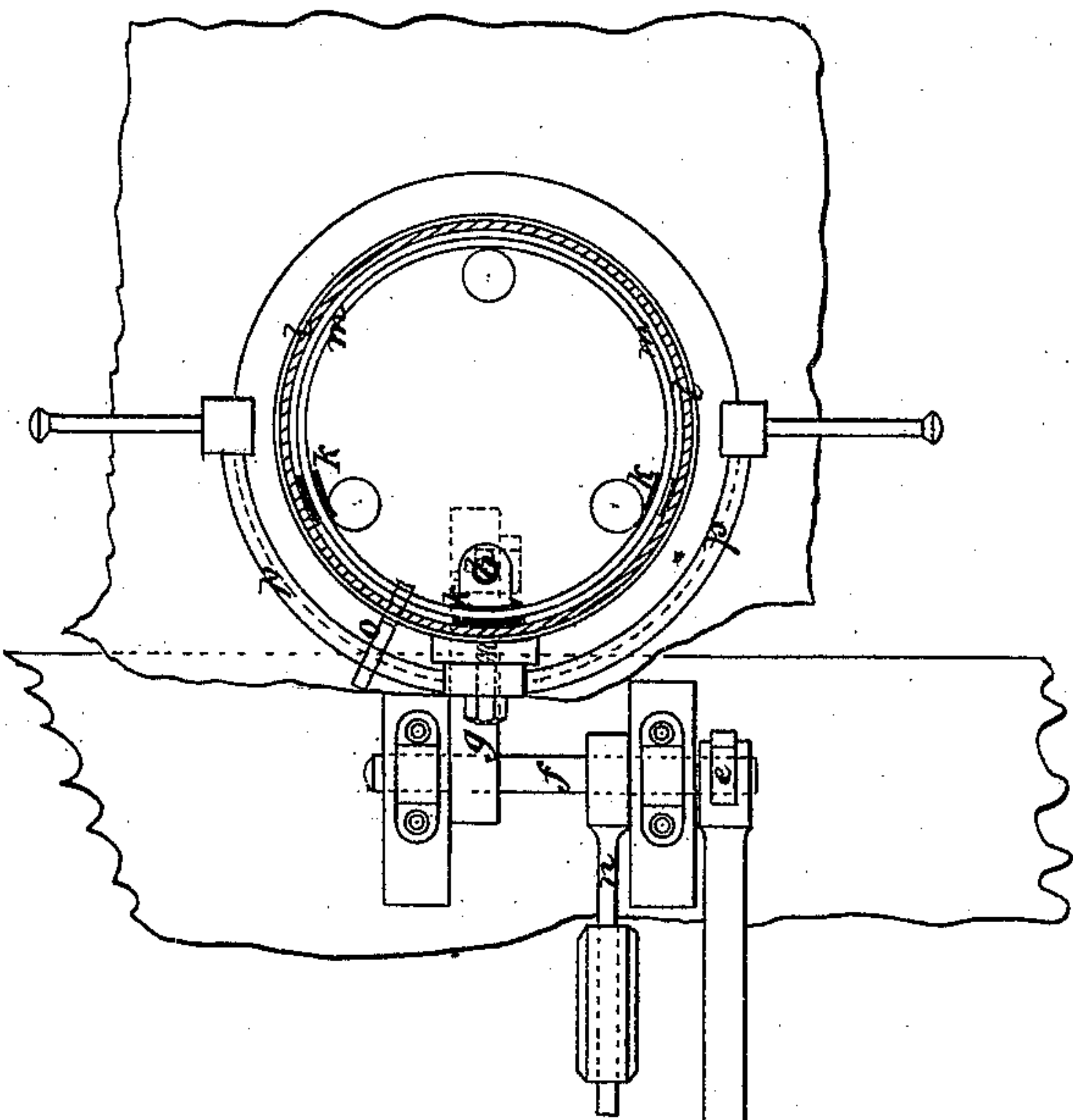


Fig. 2.

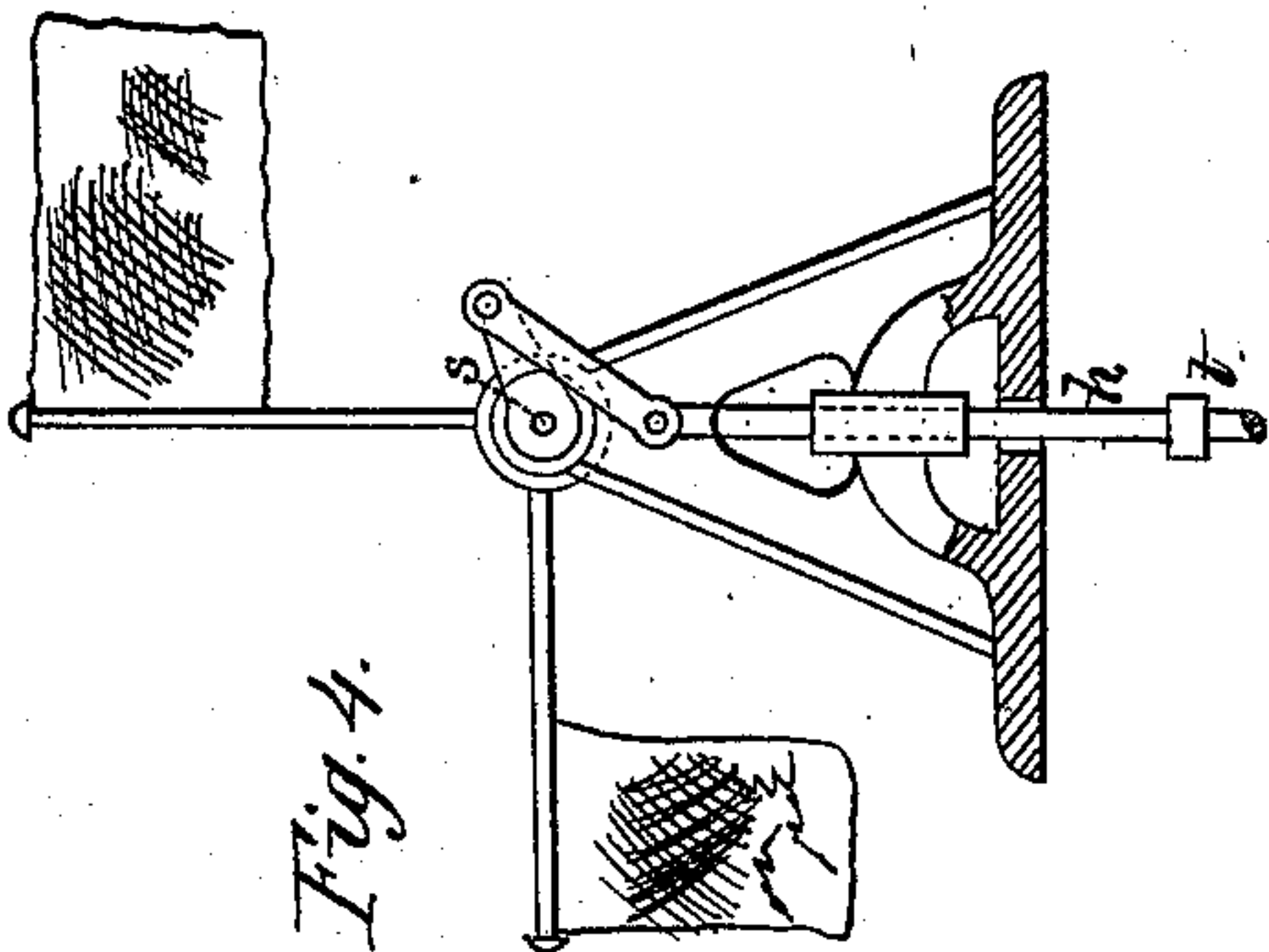
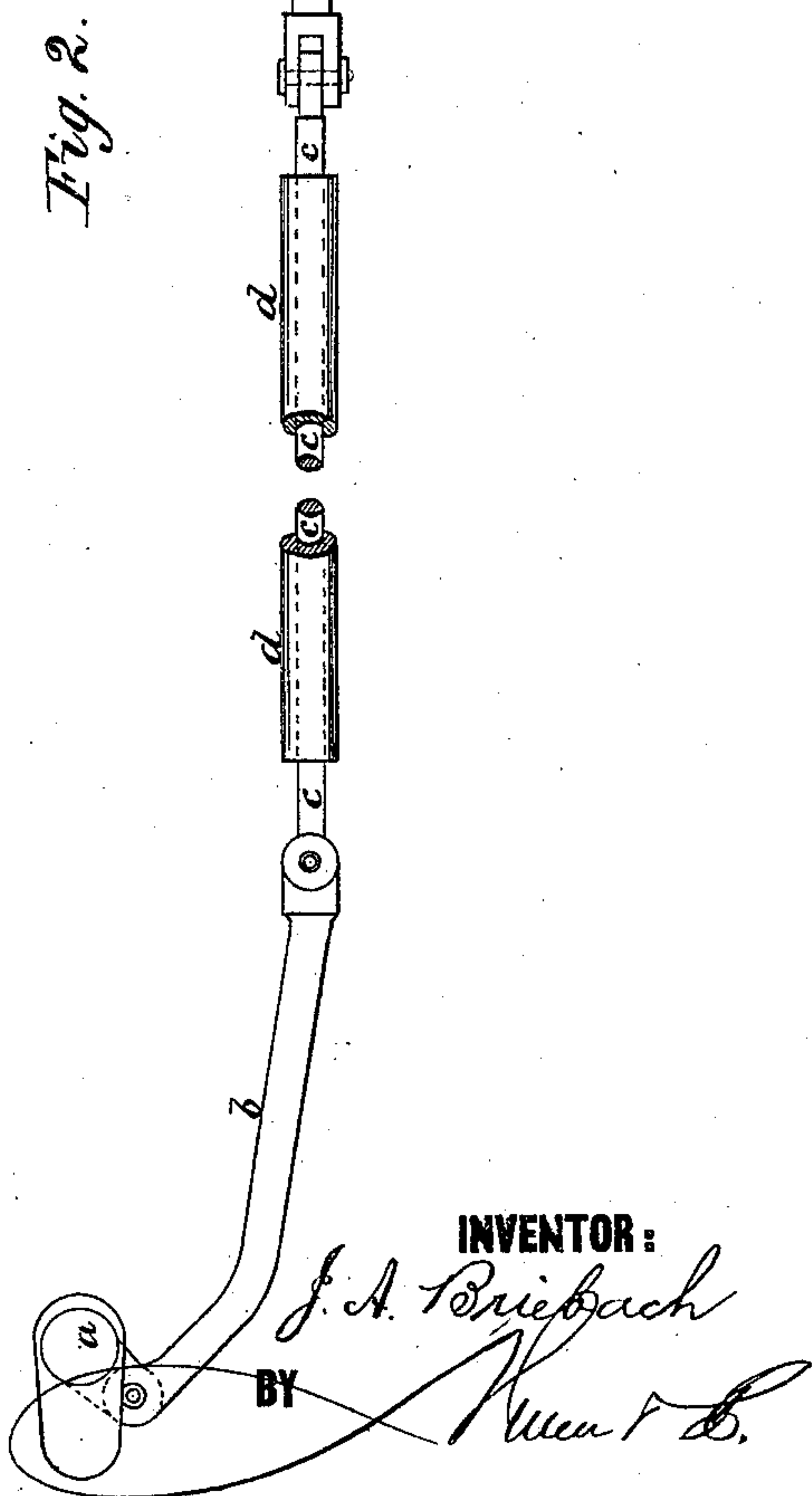


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JUSTUS A. BRIEBACH, OF CLAPTON, ENGLAND.

IMPROVEMENT IN RUDDER-INDICATING APPARATUS FOR VESSELS.

Specification forming part of Letters Patent No. 174,186, dated February 29, 1876; application filed December 21, 1875.

To all whom it may concern:

Be it known that I, JUSTUS ALBERT BRIEBACH, of Clapton, in the county of Middlesex, England, have invented a new and useful Improvement in Apparatus for Preventing Collisions at Sea; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to certain improvements in ship-signal apparatus for preventing collisions at sea; and it consists in the particular construction of devices connected to, and operated automatically by, the rudder or helm, for the purpose of showing, at a distance, the position of said rudder, and, consequently, the direction in which the vessel is steering.

Figure 1 represents a side view of the apparatus with the lantern for indicating the position of the rudder shown in section. Fig. 2 is a plan view of the apparatus, in this view the lantern being shown in section.

In these figures, *a* is the rudder-post; *b*, an arm thereon, to which is jointed a rod, *c*, which passes to the fore part of the vessel, being surrounded by a fixed stout tube, *d*, to prevent its being injured or impeded in its operation. For vessels of considerable length the friction upon the rod may be reduced by supporting it upon pulleys. The forward end of the rod is coupled to a lever-arm, *e*, or an axis, *f*. This arm may either project upward from the axis, as shown, or downward, so as to bring the rods *c* close down to the bed-plate of the frame by which the axis *f* is carried. On this axis is another arm, *g*, which, by a vertical rod, *h*, is connected to a slide, *k*, which can move up and down in the interior of the lamp-case *l*. This lamp-case has a circular opening, *v*, extending nearly all around, through which the light is to be exhibited. The slide *k* has an open-work frame in which are carried two colored glasses, *m*, red and green, one above the other.

When the rudder is in a line with the keel or midship, the slide carrying the colored glasses will be in its central position, and an equal amount of light of each color will be exhibited through the opening *v*; but when

the rudder is moved over in one or other direction the slide will be raised or lowered, and a greater amount of one or other color will be exhibited, so denoting the direction in which the rudder has been moved.

To counterbalance the weight of the slide *k* and glasses carried by it, the axis *f* has attached to it a weighted arm, *n*.

In order that the movement of the rudder may be denoted equally well at daytime as at night, the slide *k* is formed with an arm, *o*, standing out from it, which passes through a vertical slot in the lamp-casing.

To the back of the lamp-casing—that is, to the side away from the bow of the vessel—is jointed a lever, *p*, one arm of which carries a red flag and the other a green. The arm *o*, projecting from the lamp-slide, is jointed to one arm of this lever in such a manner that when the slide is raised or lowered the lever *p* will be turned on its axis, and either the red flag will be raised and the green lowered, or vice versa.

Another arrangement for raising and lowering flags of two different colors, in accordance with the movements of the rudder is shown at Fig. 3. In this case a lever, *p*, is jointed to the back of the lamp-casing, and is coupled by a link to the sliding rod *h*. Each end of the lever *p* is connected by a rod to the short arm of a lever, *r*, the larger arm of which carries a flag, as shown, so that, as the sliding rod *h* rises or falls, in accordance with the movement of the rudder, one flag will be raised and the other lowered.

Fig. 4 shows an arrangement in which the flag-signaling apparatus for indicating the position of the rudder at daytime is independent of the lamp, so that the lamp may be entirely removed when not required. In this arrangement, *h* is the upright sliding rod, which is raised or lowered, as in the former arrangements, by an arm on the axis *f*, and giving motion, by a link at its upper end, to an arm on the axis *f*, and giving motion, by a link on its upper end, to an arm on an axis, *s*, mounted in a suitable frame. On the axis are two longer arms carrying flags or colored disks, as shown. The rod *h* may also be formed with an arm standing out from it at *t*, and having at its end a socket, into which a rod, in con-

nection with the lamp-slide, may be dropped and secured by a pin, a suitable stand being provided for the lamp to rest upon. By this arrangement the lamp may be entirely removed, when the pin above mentioned is withdrawn.

Having thus described my invention, what I claim as new is—

1. The combination, with the rudder-stem and suitable connecting mechanism, of the axis *f*, arms *e g*, counter-balance *n*, slide-rod *h*, and slide *k*, carrying the two different signals, substantially as and for the purpose described.

2. The combination, with the lamp-case *l*, slide *k*, and slide-rod *h* of the arm *o* and lever *p*, pivoted to the lamp-case, and carrying upon its outer ends flags or signal-disks, as and for the purpose described.

The above specification of my invention signed by me this 26th day of October, 1875.

JUSTUS ALBERT BRIEBACH.

Witnesses:

WM. CLARK,

I. I. WILSON.