A. H. MURPHY.

Rudders for Vessels.

No. 133,382. Patented Nov. 26, 1872.

Fig. 1.

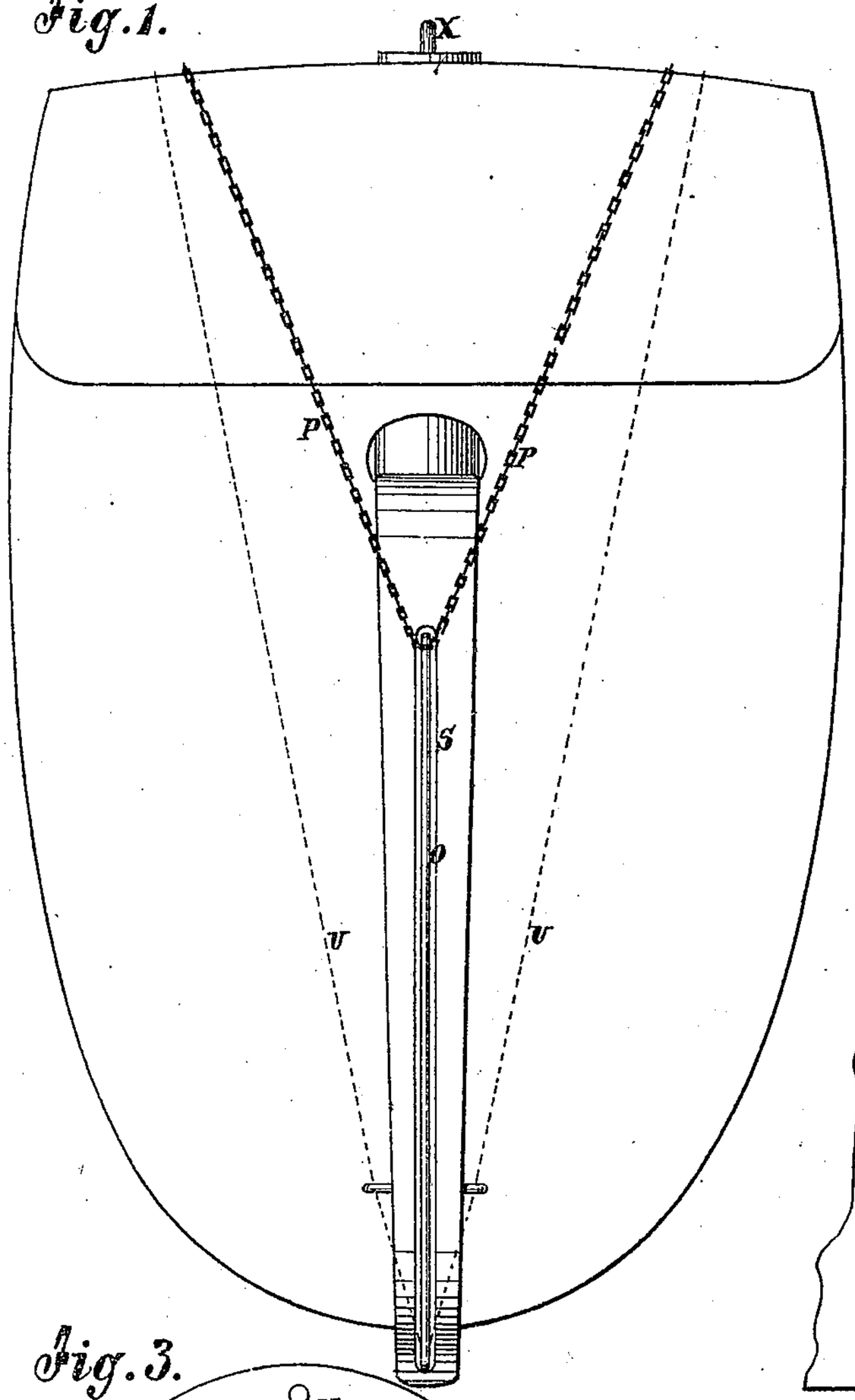


Fig. 2.

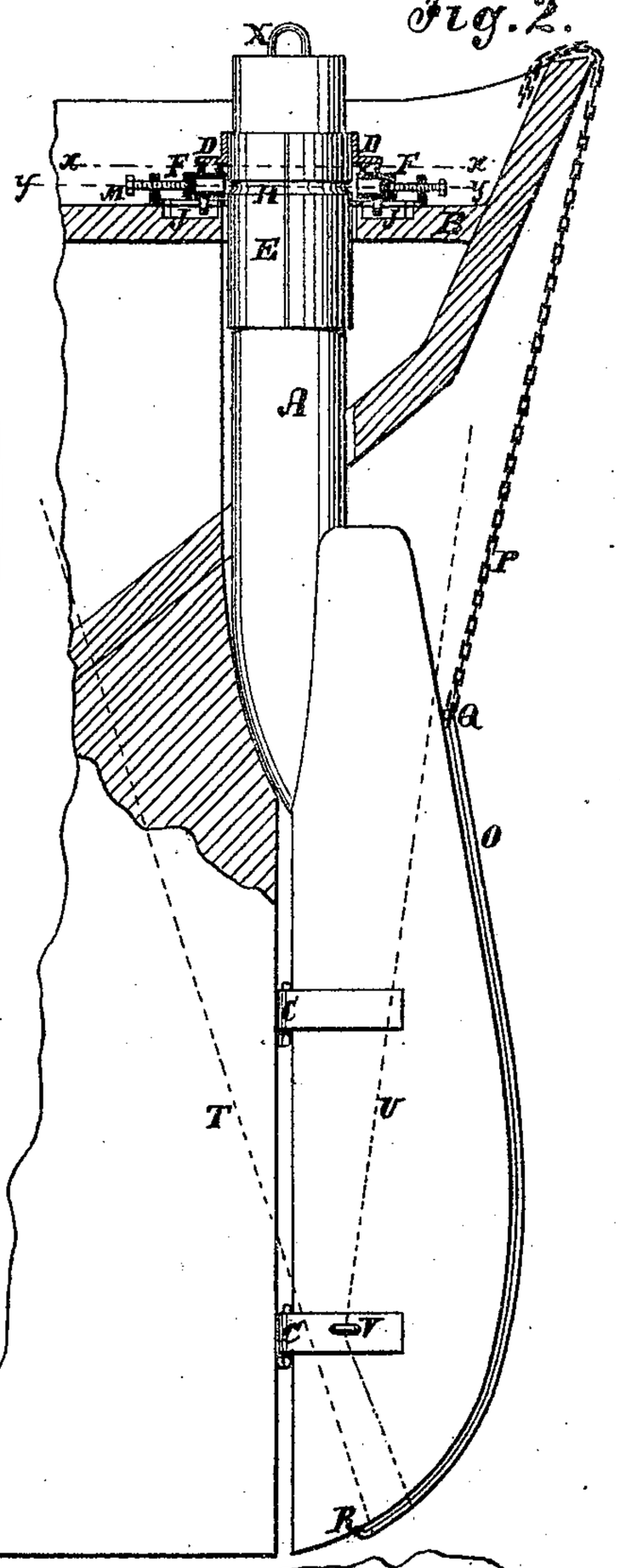


Fig. 3.

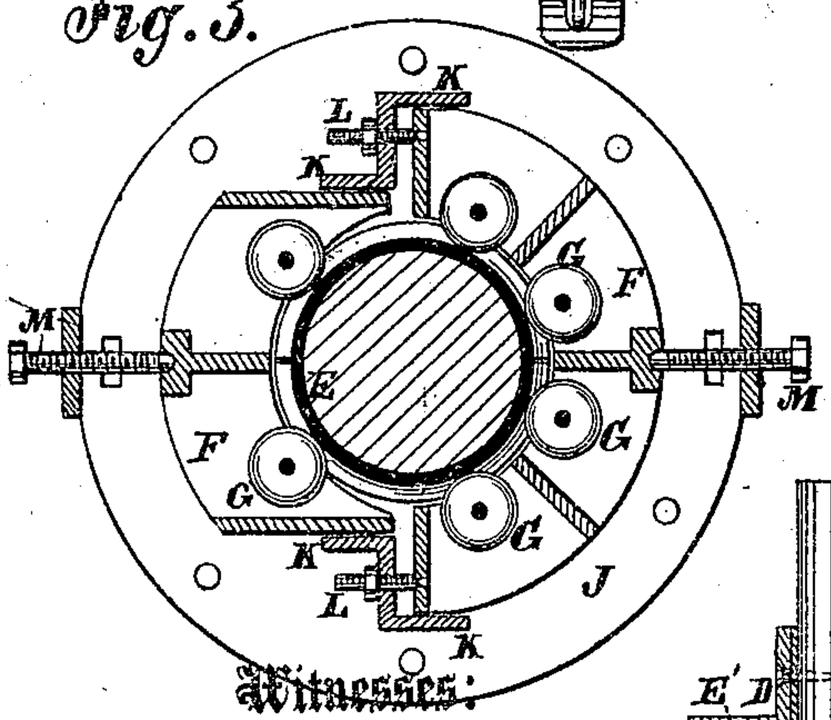


Fig. 4.

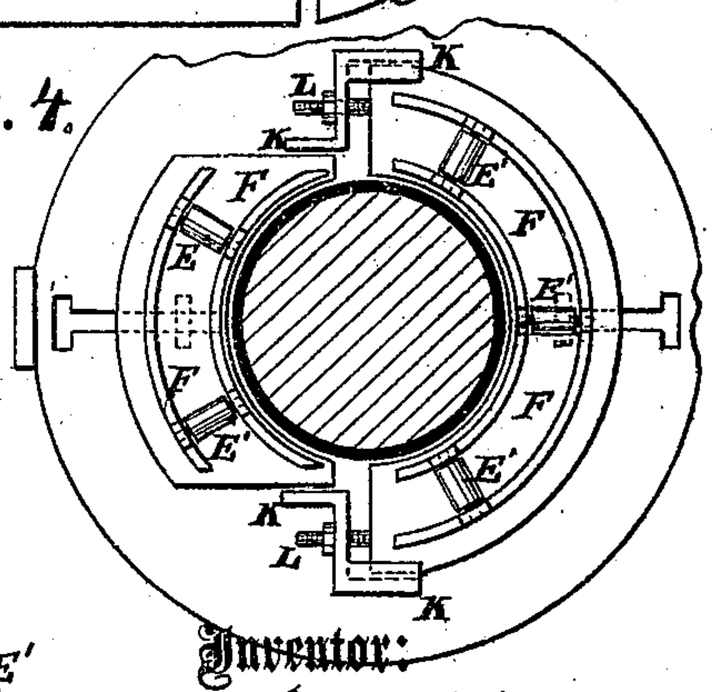
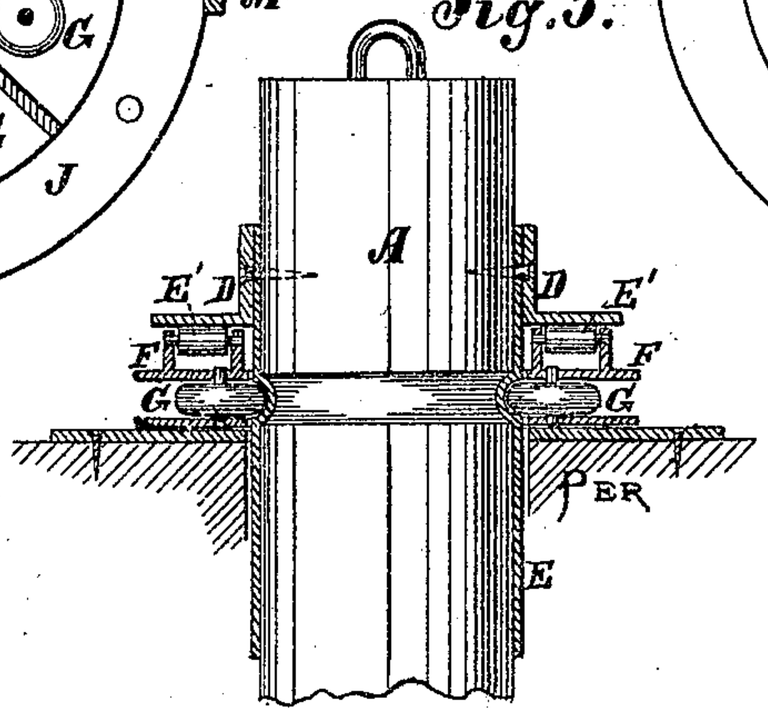


Fig. 5.



Witnesses:

A Bennemendorf.

C. Sedgwick

Inventor:

A. H. Murphy

Attorneys.

UNITED STATES PATENT OFFICE.

AUGUSTUS H. MURPHY, OF NEW YORK, N. Y.

IMPROVEMENT IN RUDDERS FOR VESSELS.

Specification forming part of Letters Patent No. **133,382**, dated November 26, 1872.

To all whom it may concern:

Be it known that I, AUGUSTUS H. MURPHY, of the city, county, and State of New York, have invented a new and useful Improvement in Rudders for Vessels, of which the following is a specification:

My invention consists of adjustable bearings, with friction-rollers for the rudder-post, placed on the deck and adjusted around it under a collar attached to it by screws, so as to make a close bearing that will prevent lateral play, and at the same time allow it to turn freely, also so as to support a portion of the weight by the collar, which said bearings and the collar being removed will allow the rudder to be unshipped and a new one to be shipped readily at sea, in case of necessity. My invention also consists of a rod so applied to the rear edge of the rudder in such manner that in case it becomes desirable to support the lower end of the rudder with brace-chains they can be attached above the water and afterward let down to the lower end, or, in case of shipping a new rudder, the chains, after doing service at the lower end, can be raised up to the surface of the water to be detached.

Figure 1 is a stern view of a vessel provided with my improvement. Fig. 2 is a partial longitudinal section. Fig. 3 is a horizontal section through the rudder-stem and the bearings for it on the line *x x* of Fig. 1. Fig. 4 is a section on the line *y y* of Fig. 2; and Fig. 5 represents a portion of the sectional Fig. 2, enlarged.

Similar letters of reference indicate corresponding parts.

A represents the rudder-stem, which rises up through the deck B in the ordinary way, but instead of being supported wholly on the rudder braces or hinges C, as in the ordinary way, it is in this case provided with a collar, D; also with the grooved sectional tube or collar E snugly confined to the post by the collar D, and a part of its weight is supported by the collar D resting upon the friction-rollers E′, which are mounted in adjustable bearing-blocks F, while it is snugly confined against lateral motion by the friction-rollers G; also mounted on the said bearing-blocks, and pressing in the groove H of the sectional collar E. These bearings F rest on a wide metal disk, J, surrounding the rudder-post, and move toward and from the post between guides K, being adjusted by screws L M, by which they can be adjusted so as to take up all slack and prevent the post from bounding from side to side and striking with great force, as it does in the common arrangement, sometimes to such extent as to cause, in part, the breaking of the rudder-blade, the braces C, or the rudder-post. These adjustable bearings also serve to "center" the post with the braces C, so as to turn on them truly and without binding or cramping. O represents the rod for attaching the brace-chains P to the rudder. It is formed on the same curvature as that of the edge of the rudder, and made fast to it at one end, Q, at or above the water-line, and at the other end R to the lower end of the rudder, and the rudder is grooved behind it, as shown at S, so that the brace-chains P may be hooked or otherwise securely connected to the rod at the upper end above the water-line, and then let fall to the lower end to be used for braces, as indicated by the dotted lines T, rising up over the side of the ship in case the rudder-braces are broken or are in danger; or they may be used for hoisting a rudder out or in, as indicated by the dotted lines U, by being caught on the hooks V to hold the chain from slipping back up the rod O again. Other hooks V may be arranged higher up on the sides of the rudder, if preferred, to assist in holding a rudder upright in shipping or unshipping it.

In hoisting a rudder in or out, the top will be suspended from a block and pulleys hooked into the eye X in the top of the rudder-post.

The groove S is intended to be deep enough for the rod to drop below the surface of the rudder, to protect it from being bent by objects coming against it.

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

1. The combination of the adjustable bearings F with the rudder-stem, the bearings being provided with the friction-rollers E and G and the stem with the collars D and E, substantially as specified.

2. The combination, with the rudder, of the attaching-rod O and hooks V, substantially as specified, whereby the stay-chains may be conveniently attached to the rudder, as required.

AUGUSTUS H. MURPHY.

Witnesses:
ANSON P. THAYER,
T. B. MOSHER.