

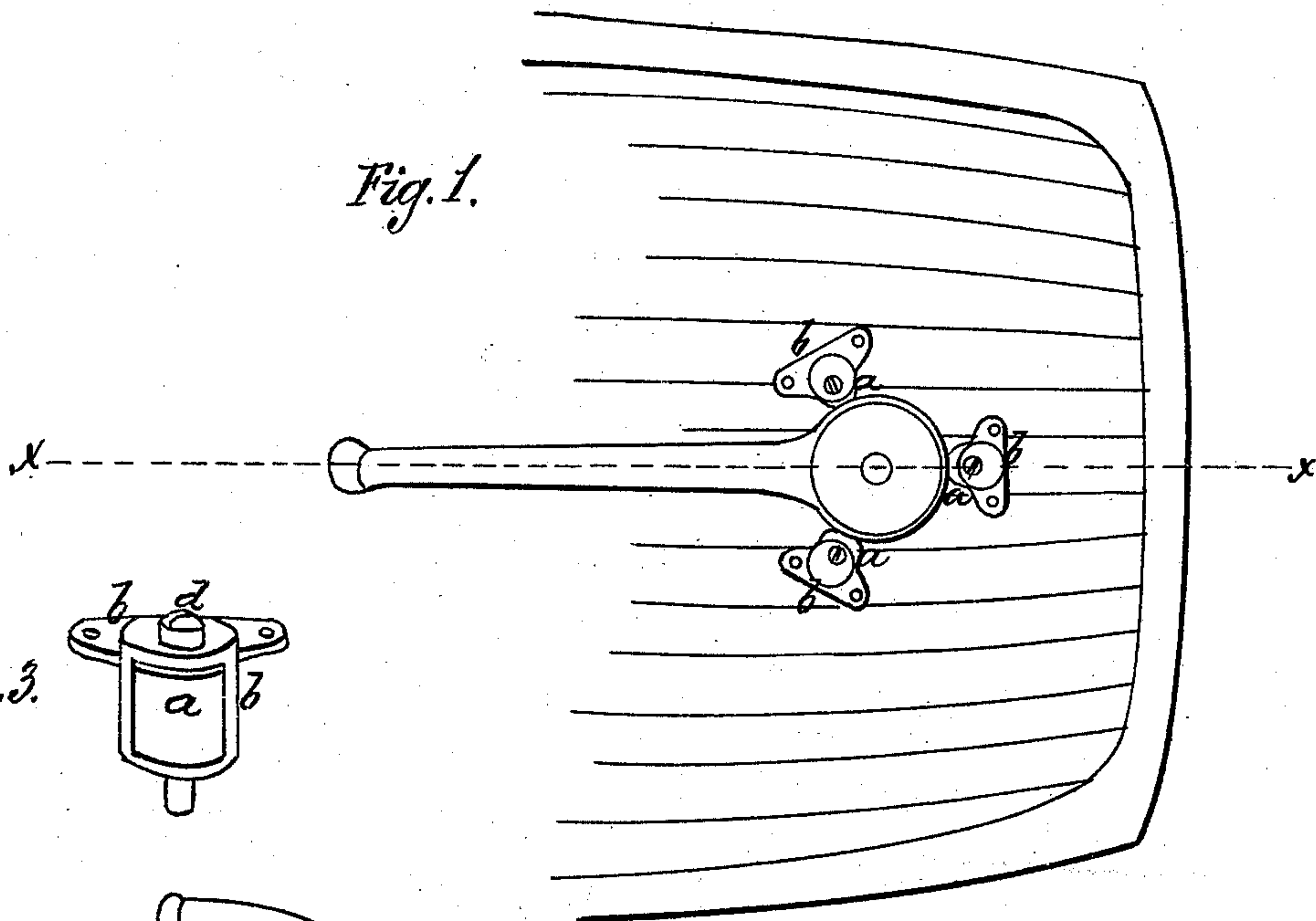
*R. C. Sturges.*

*Steering.*

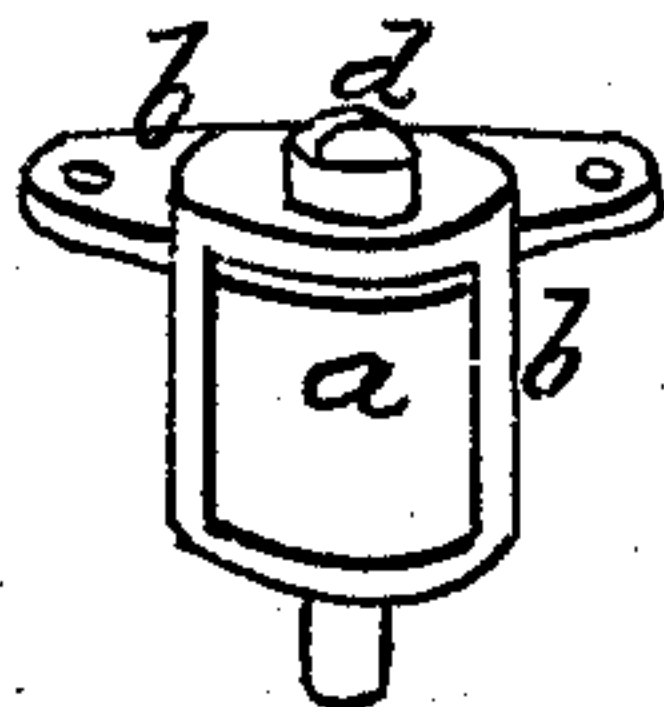
*N<sup>o</sup> 98,719.*

*Patented Jan. 11, 1870.*

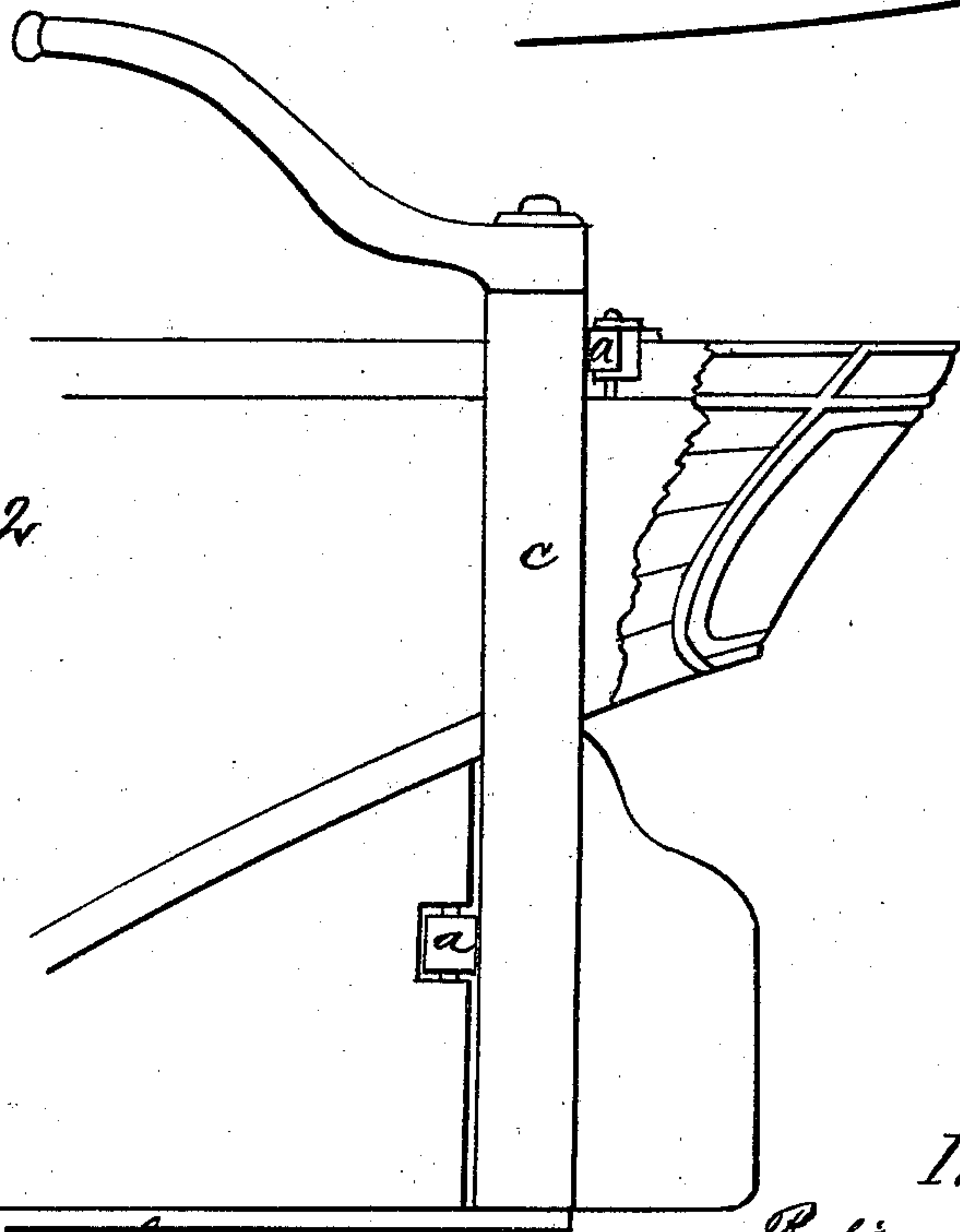
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



*Witnesses*

*W. Morris Smith*  
*Sydney C. Smith.*

*Inventor.*

*Retire C. Sturges*  
*By his attorney*

*J. C. Robbing*

# United States Patent Office.

RETIRE C. STURGES, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 98,719, dated January 11, 1870.*

## IMPROVEMENT IN BEARINGS FOR RUDDER-HEADS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern :*

Be it known that I, RETIRE C. STURGES, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in the Lateral Bearings of the Rudder-Posts of Ships and other Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form a portion of this specification,

Figure 1 being a top view of a portion of the stern of a vessel which has my said improvement combined therewith;

Figure 2, a vertical section in the line *x x* of fig. 1; and

Figure 3 is a view of one of the said rudder-post lateral bearings detached.

The same letters indicate the same parts in each of the drawings.

Where rudder-posts have the usual amount of lateral play in their bearings, the severe action of the waves thereupon causes a sharp and continuous pounding of the rudder-posts against said bearings, which pounding action adds greatly to the labor of the steersman, whilst it steadily wears upon the rudder-post and its bearings.

All of the aforementioned imperfections I remedy by the use of roller-bearings, *a a*, made of vulcanized rubber, or some other suitable elastic substance,

placed in metallic holders, *b b*, and secured to the deck and other portions of a vessel, in such positions as to act and react against the rudder-post and each other, in such a manner as to prevent all concussive vibrations of the rudder-post against its bearings, and by so doing enabling it to be smoothly and more easily turned upon its axis by the steersman, whilst engaged in guiding the vessel along its destined way.

Having thus fully described my invention, I wish it understood that I do not claim the principle of elastically-acting rudder-bearings; but

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

The combination of a series of removable rollers of vulcanized rubber, or gutta-percha, with the deck of a vessel, in such positions, with relation to each other and to the rudder of the same, as to furnish the requisite lateral bearings for said rudder, substantially as herein set forth.

In testimony that the foregoing is a full and clear specification of my improvement in the lateral bearings of the rudder-posts of ships and other vessels, I hereunto subscribe my name.

R. C. STURGES. [L. S.]

Witnesses:

K. W. BAKER,  
CEPHAS I. AMES.