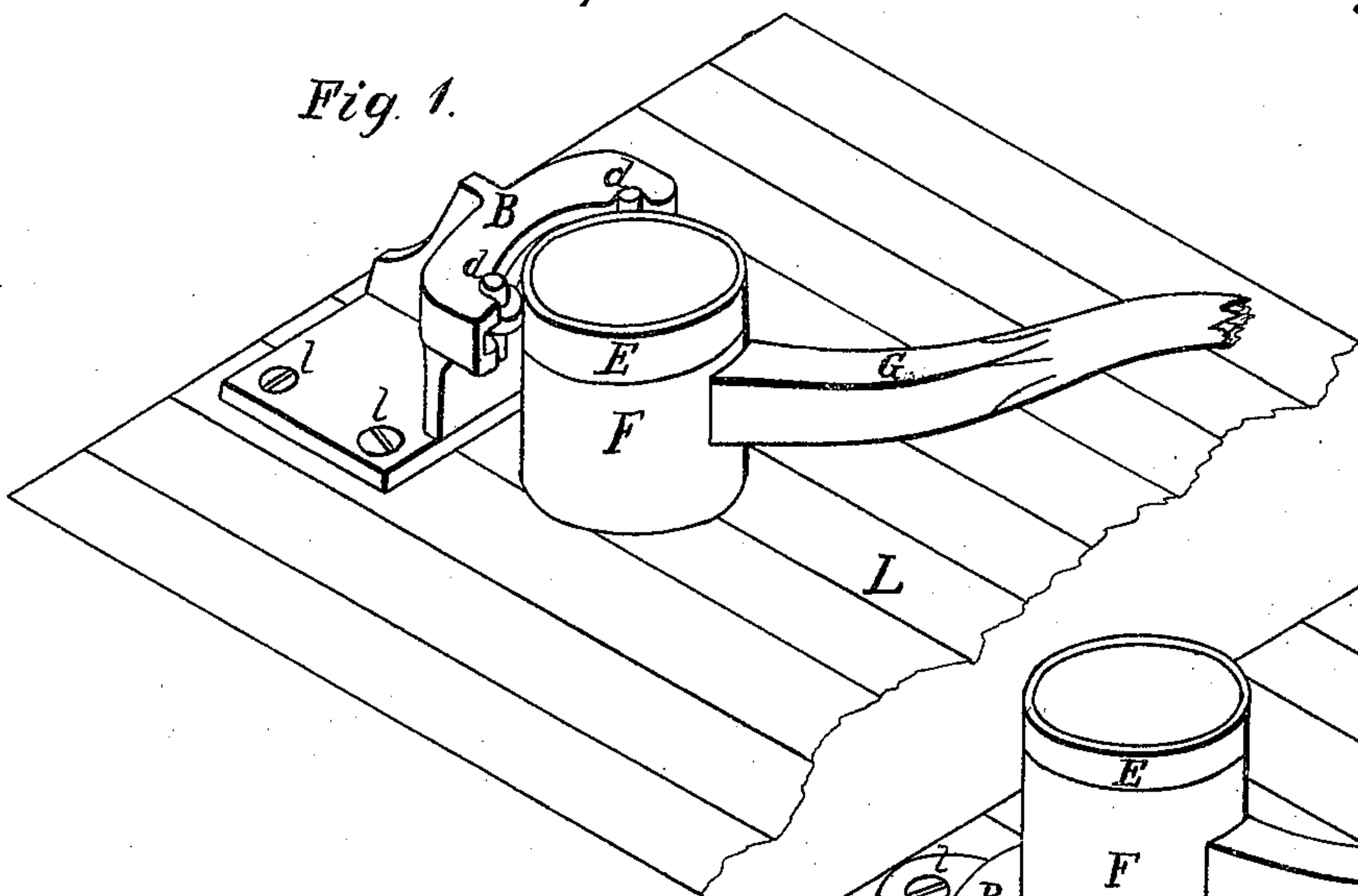
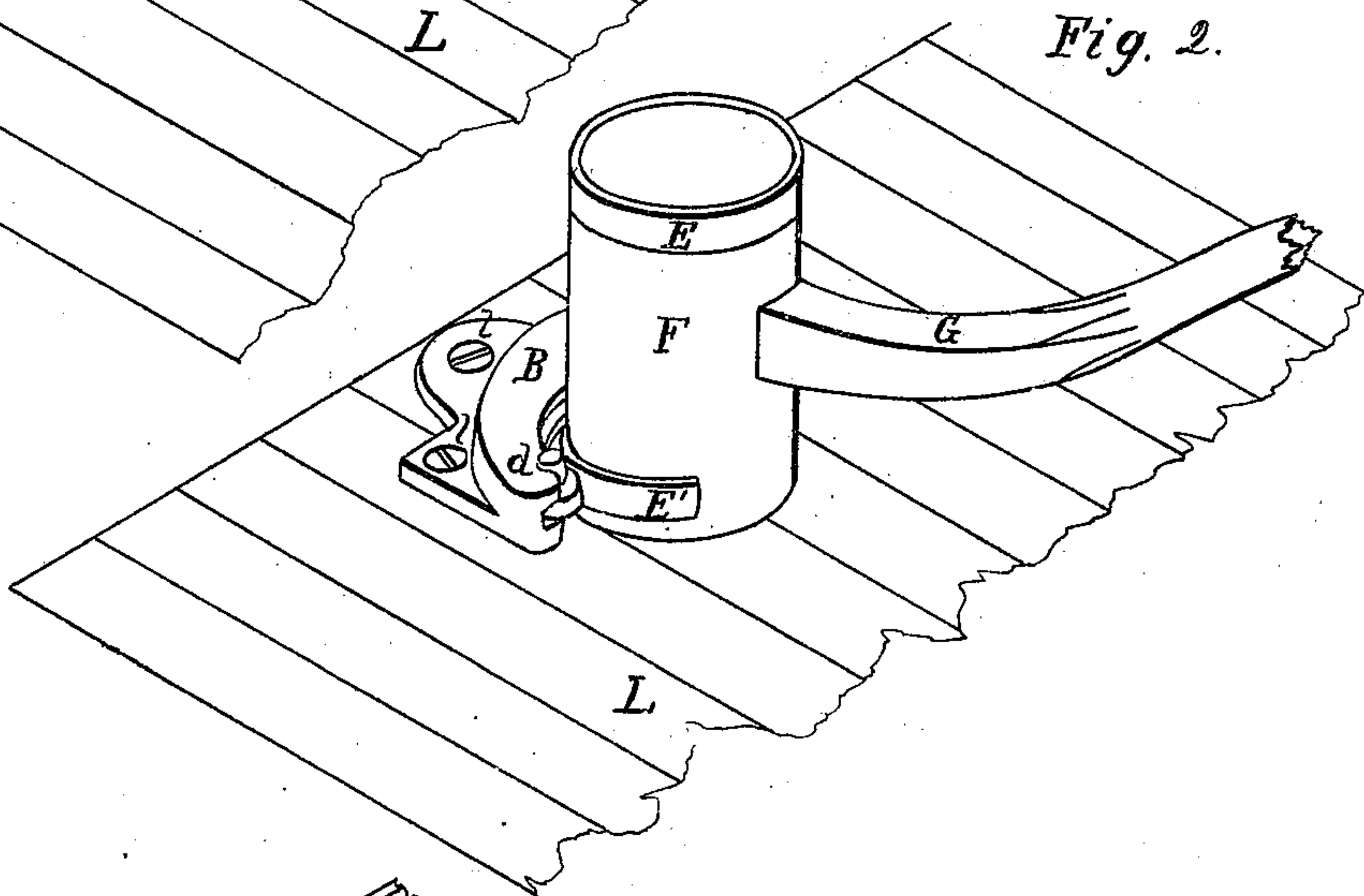


*A. H. Manchester*  
*Steering Apparatus.*  
*N<sup>o</sup> 24,037. Patented May 17, 1859.*

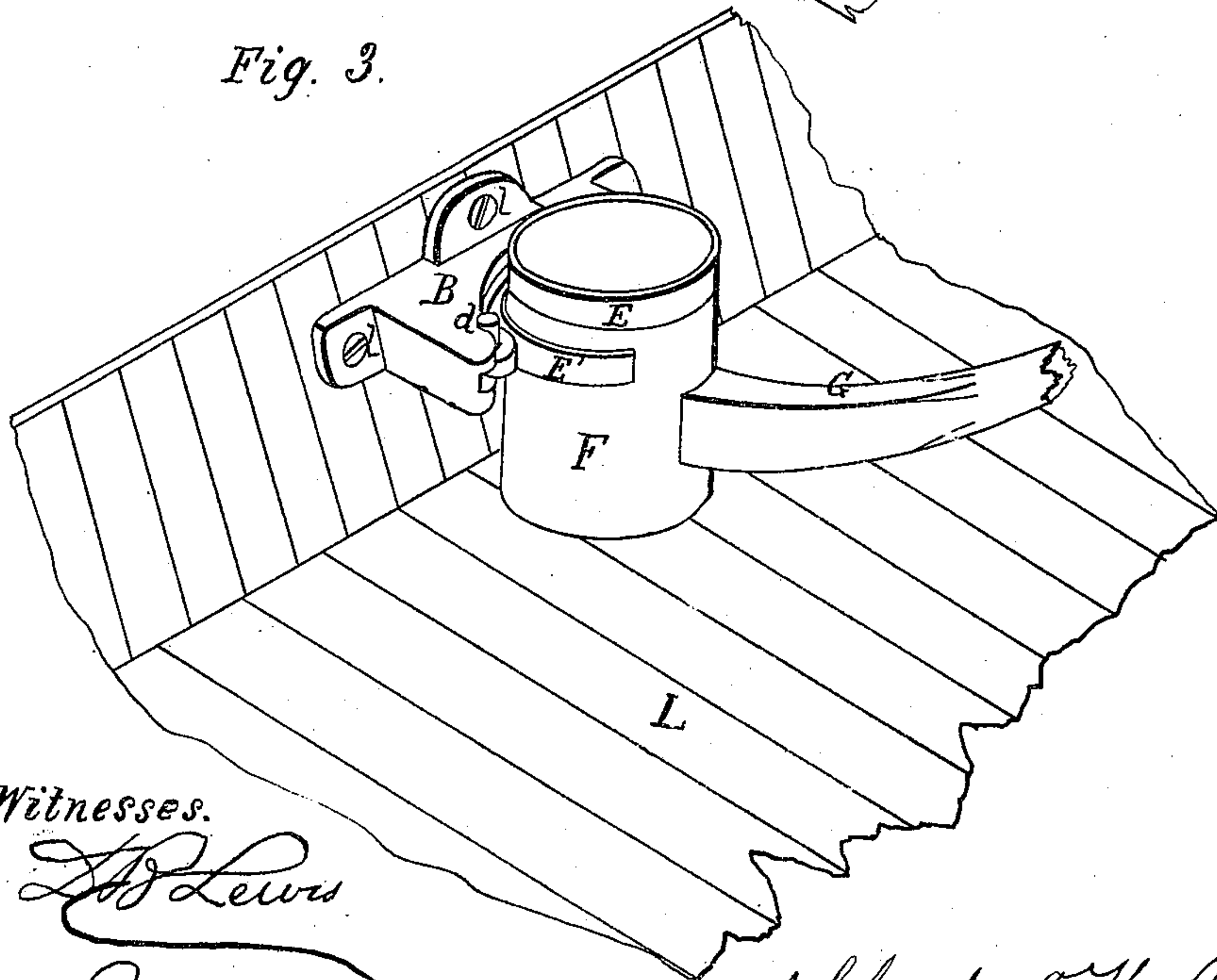
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*

*J. D. Lewis*

*J. S. Ottman*

*Inventor.*

*Albert H. Manchester*



# UNITED STATES PATENT OFFICE.

ALBERT H. MANCHESTER, OF PROVIDENCE, RHODE ISLAND.

ANTIFRICTION-SUPPORT FOR THE BACKS OF RUDDERS.

Specification of Letters Patent No. 24,037, dated May 17, 1859.

*To all whom it may concern:*

Be it known that I, ALBERT H. MANCHESTER, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Antifriction Rudder-Backer for Rudders of Ships and other Vessels; and I do hereby declare that the following is a correct description of the same, reference being had to accompanying drawings, representing three different forms of the invention.

Figure 1 is a perspective view of a backer in which the rollers are applied directly to the hoop of the rudder head. Fig. 2 is a similar view of a backer where the rollers bear against a plate placed upon the rudder head for that purpose. Fig. 3, is a similar view of a backer the bracket of which is not attached to the deck, but to the taffrail or bulwarks of the stern of the vessel.

The nature of my invention consists in forming a bearing for the head of the rudder of a vessel by means of two or more antifriction rollers moving freely in a suitable casting or bracket of brass or other metal, and placed behind the rudder head upon deck, so that the rollers shall bear against the hoop upon the rudder head, or upon a plate placed for that purpose, in such a manner as to press it clear from, and allow it to move freely in the rudder port, thus relieving the head of all strain and friction in the rudder port in whatever position it may be placed, and under all circumstances. The advantages derived from this arrangement are, 1st, relief from the usual friction created by the rudder head turning in the rudder port through the deck. In consequence of this advantage a ship which, constructed according to the usual mode, requires two or even three men at the wheel in heavy weather, may with this improvement be managed with perfect ease by one man. 2d. The usual disagreeable noise caused by the friction in the rudder port is removed. 3d. There is no wearing or binding in the rudder or rudder-port, and consequently the strain and wear of the tiller ropes are greatly reduced. 4th. It is adapted to vessels of every class.

To enable others skilled in the art to make and use my improvement, I proceed to describe its construction and operation, referring to the drawings in which the same part is marked by the same letter of reference in all the figures.

F marks the rudder head; E, its hoop; G, the tiller; B the bracket; *d* the antifriction rollers; L, the deck; *l l* bolts. When the vessel and rudder are so constructed and placed as to make it inconvenient to place the backer so that the rollers shall bear on the hoop of the rudder head (as in Fig. 1), a circular plate E' is placed around the rudder head above or below the tiller upon which the rollers bear with the same effect. This arrangement is shown in Figs. 2 and 3. The upper part of the bracket is cast with cavities to receive the rollers and their axles, so that they will play freely. The lower part, or stand, of the bracket is secured to the deck L by bolts *l*.

I am aware that friction rollers have been applied to the rudder heads of vessels by placing such rollers in a ring let into and flush with the deck; but that arrangement is vastly inferior to mine inasmuch as it is difficult of removal in case of its getting out of order, and because water gets in around and under the ring and rots the timber.

My improved backer is little liable to get out of order; is easily removed in case of such an accident; and permits the ready removal and renewal of rollers or bands when injured or worn.

I do not therefore claim simply the application of antifriction rolls to the rudder head of vessels; but,

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

The device or apparatus before described, viz, supporting the rudder from behind by means of a backer or brace rising from the deck or attached above it, and having rollers in its face, constructed arranged and operating substantially as described.

ALBERT H. MANCHESTER.

Witnesses:

D. B. LEWIS,  
JOSEPH S. PITTMAN.