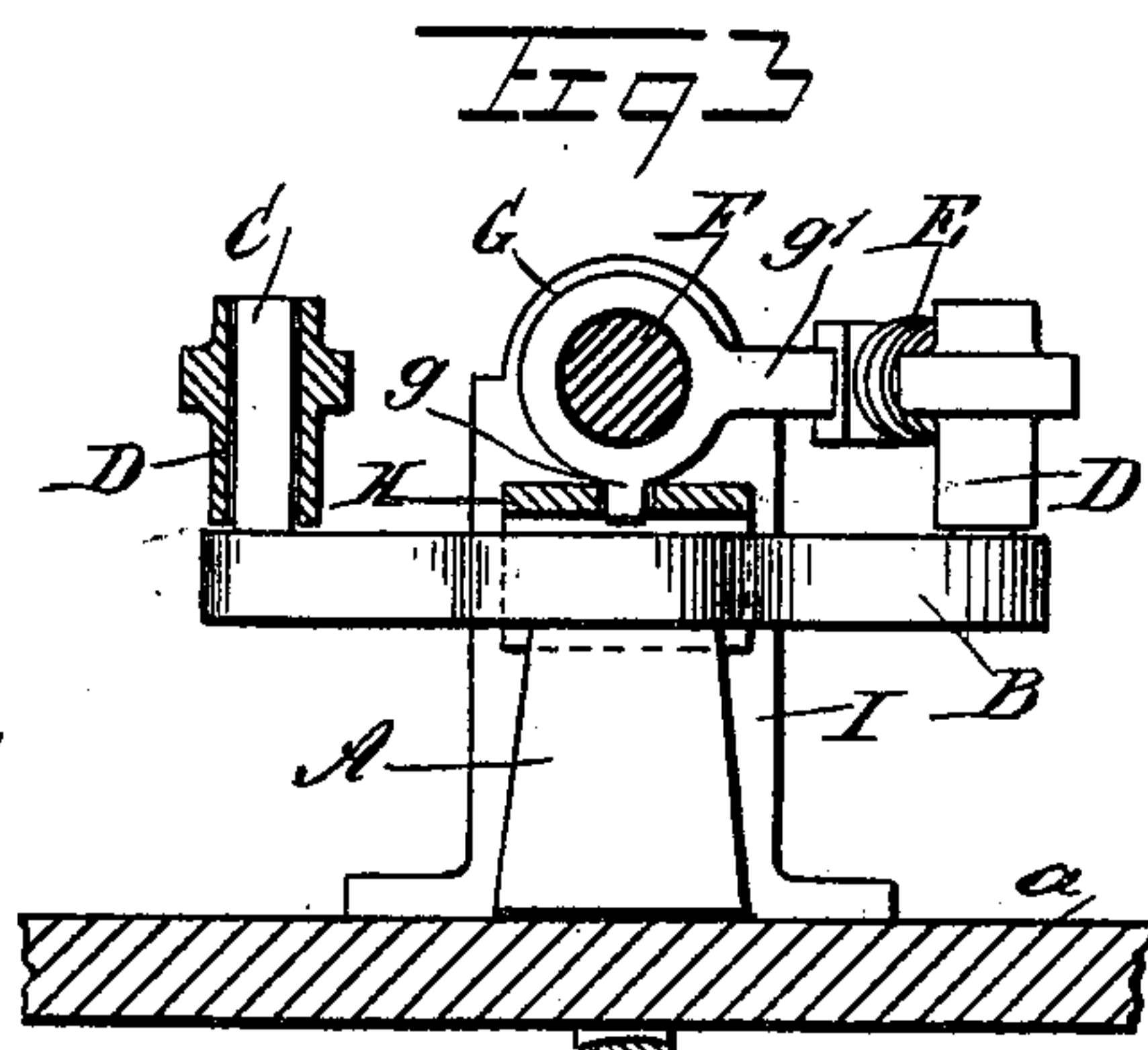
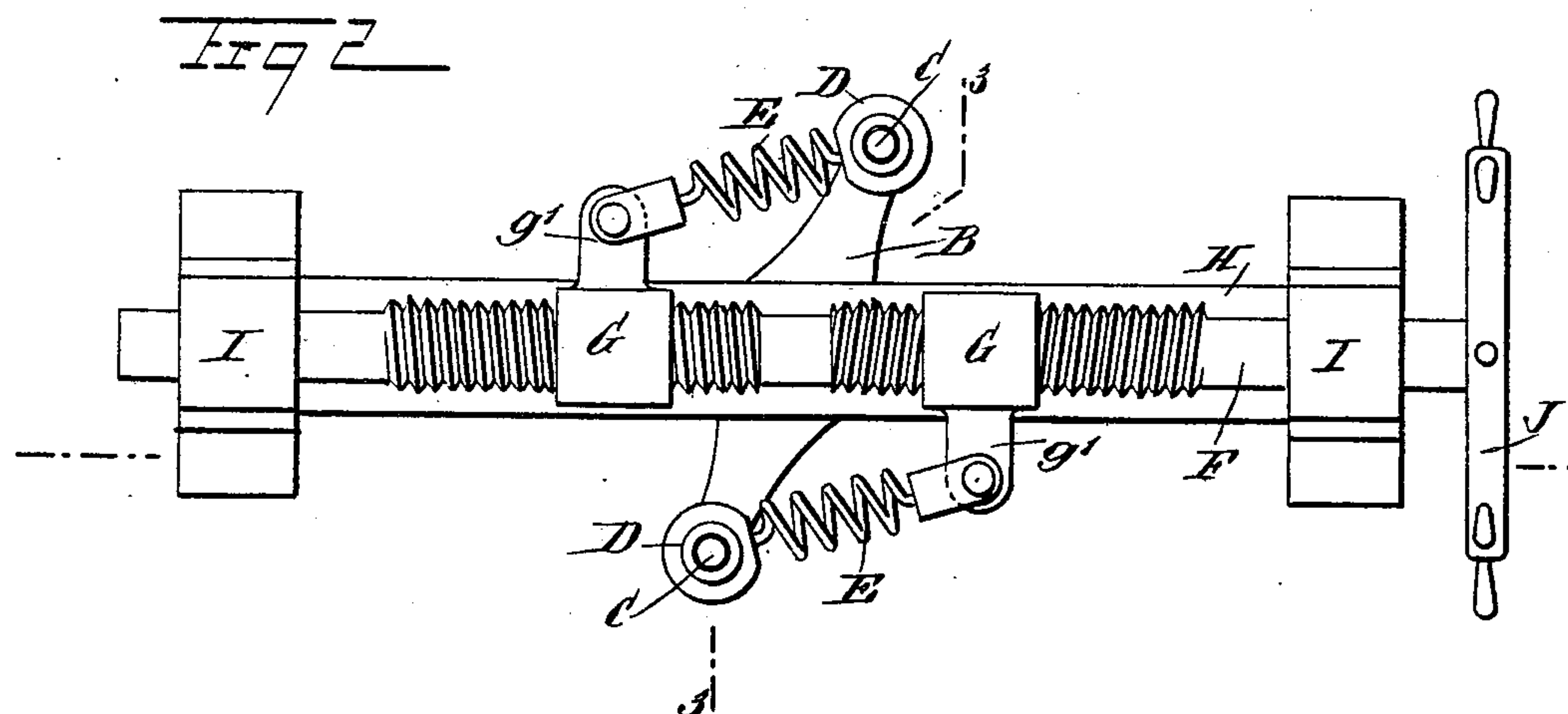
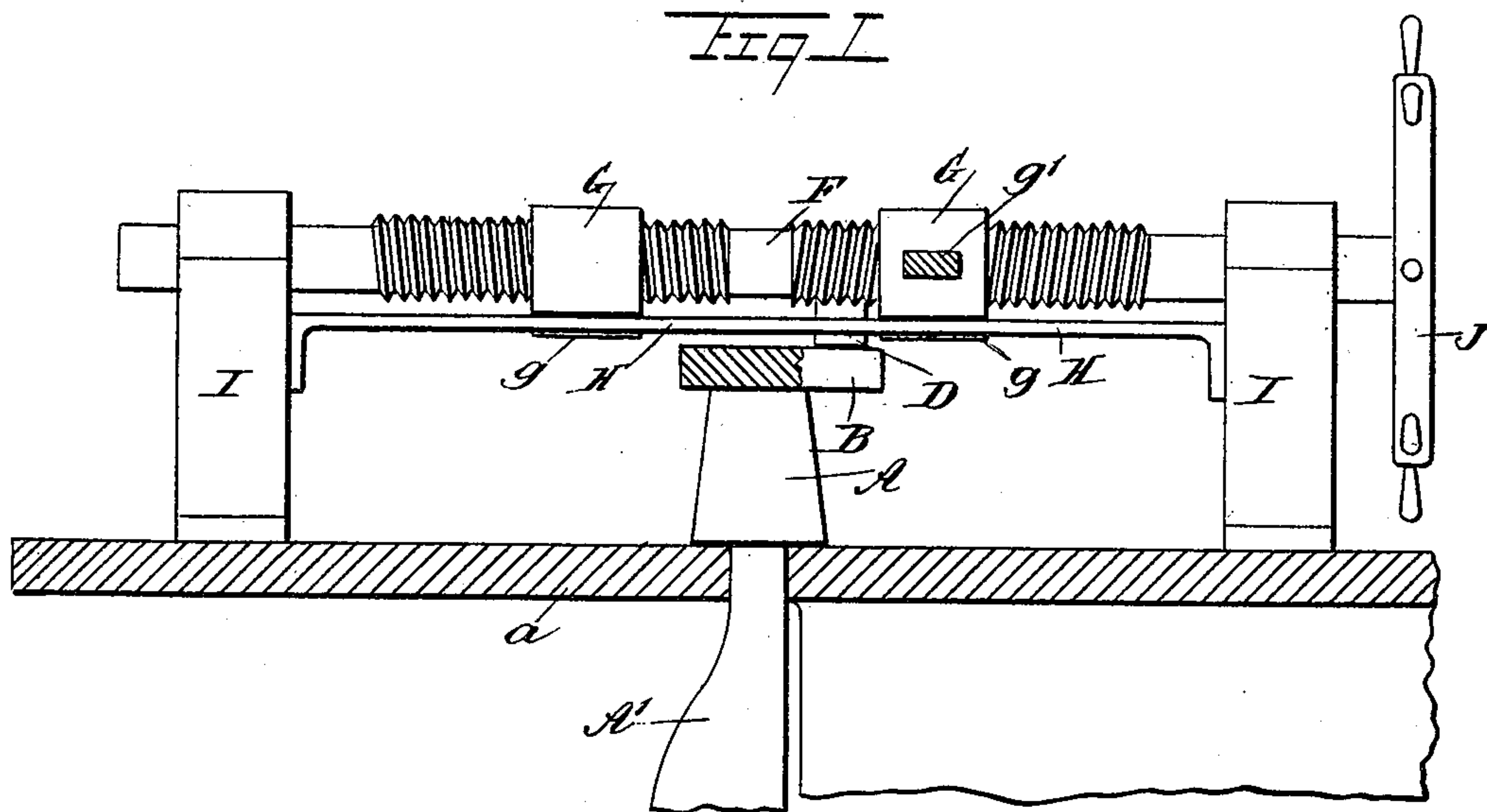


No. 626,156.

Patented May 30, 1899.

R. H. FREEMAN.
STEERING MECHANISM.
(Application filed June 21, 1898.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

REUBEN H. FREEMAN, OF FERGUS FALLS, MINNESOTA.

STEERING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 626,156, dated May 30, 1899.

Application filed June 21, 1898. Serial No. 684,044. (No model.)

To all whom it may concern:

Be it known that I, REUBEN H. FREEMAN, of Fergus Falls, in the county of Ottertail and State of Minnesota, have invented a new and Improved Steering Device, of which the following is a full, clear, and exact description.

My invention relates to improvements in devices attached to rudders and by which their position is controlled.

My invention comprises the novel features hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an elevation of my device, showing the deck in section. Fig. 2 is a top plan view of the same, and Fig. 3 is a section taken upon the line 3 3 of Fig. 2.

The object of my invention is to produce a steering mechanism which shall be simple and cheap in construction and which shall obviate all possible strains upon the supporting-frame.

The rudder A' has a post A extending upwardly through the deck *a*, upon which post the rudder swings. To the upper end of this post is attached a cross-bar B, by which the rudder is engaged and swung. At each end of this cross-bar is a pin C, upon which is fitted a collar D. To each of these collars is attached a spirally-coiled spring E or other suitable yielding connection. The opposite ends of these springs are attached to arms *g'* upon sleeves G. These sleeves are mounted upon a shaft F, which extends horizontally and immediately over the pivot of the rudder.

The shaft F is provided with right and left threaded sections, and the sleeves G are correspondingly threaded to fit these sections. Beneath and parallel with the shaft F extends a plate H, having a central longitudinal slot which receives a downwardly-projecting flange *g* upon each of the sleeves G, and thus prevents the sleeve G from rotating upon the shaft F. The shaft F is mounted in bearings upon standards I, which are supported upon the deck. This shaft F is not held rigid longitudinally in its bearings, but may be left free to move in such direction.

The shaft F is connected by any suitable mechanism with the steering-wheel, so as to be rotated thereby. As shown in the drawings, the wheel is attached directly to the shaft. In practical use the method of attachment will, however, vary from this, as the steering-wheel will usually be located at a distance from the rudder. The exact form of connection by which the shaft is rotated not being essential to my invention is not shown in full detail. In the construction shown the sleeves G will be advanced toward each other if the shaft is rotated in one direction and separated if the shaft is rotated in the opposite direction. This will result in swinging the cross-bar B and the rudder which is connected therewith. The strains developed by such use will be confined entirely to the rod or shaft F and the connections from the same to the rudder and will not be transmitted to the supporting-frame or any portion of the controlling mechanism. The springs interposed between the collars G and the cross-bar B will allow for slight yielding of the rudder due to the impact of waves, and will thus relieve the strains upon the rudder and make it less liable to breakage.

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

A steering-gear for vessels consisting of a cross-bar connected to the rudder-post and extending a considerable distance beyond the sides thereof, a right and left threaded shaft journaled above and at right angles to the axis of the rudder-post, sleeves mounted upon the threaded portions of said shaft and formed with oppositely-extending arms, a pin and sleeve mounted on the said pin on each extreme end of said cross-bar and a yielding connection between the arm of each sleeve on the shaft and an adjacent sleeve on an end of the cross-bar as and for the purpose set forth.

REUBEN H. FREEMAN.

Witnesses:

W. P. BAYLEY,
GEO. F. COWING.