

No. 876,219.

PATENTED JAN. 7, 1908.

J. A. MUSGROVE, JR.  
OAR OPERATING DEVICE.  
APPLICATION FILED SEPT. 26, 1905.

Fig. 1.

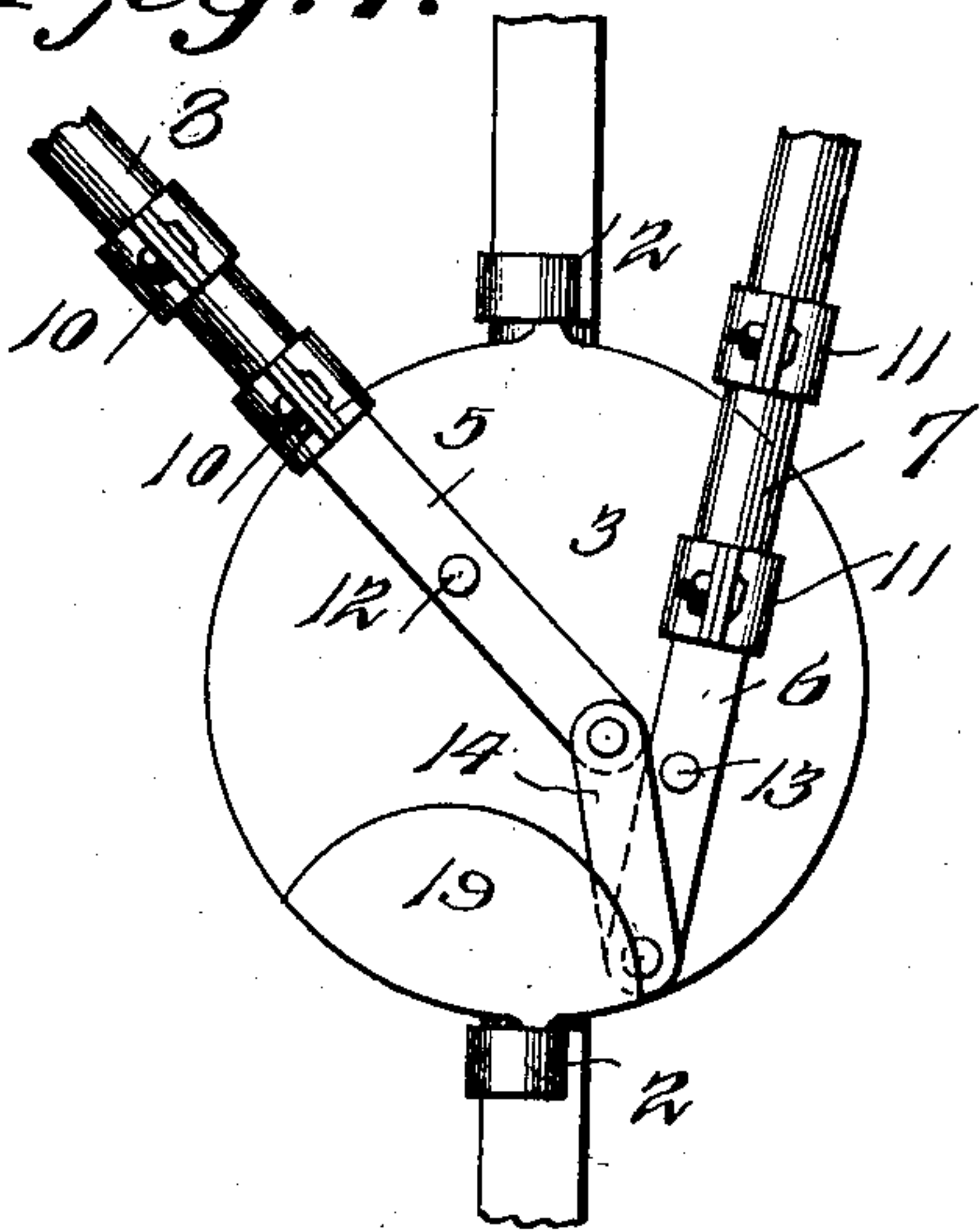


Fig. 2.

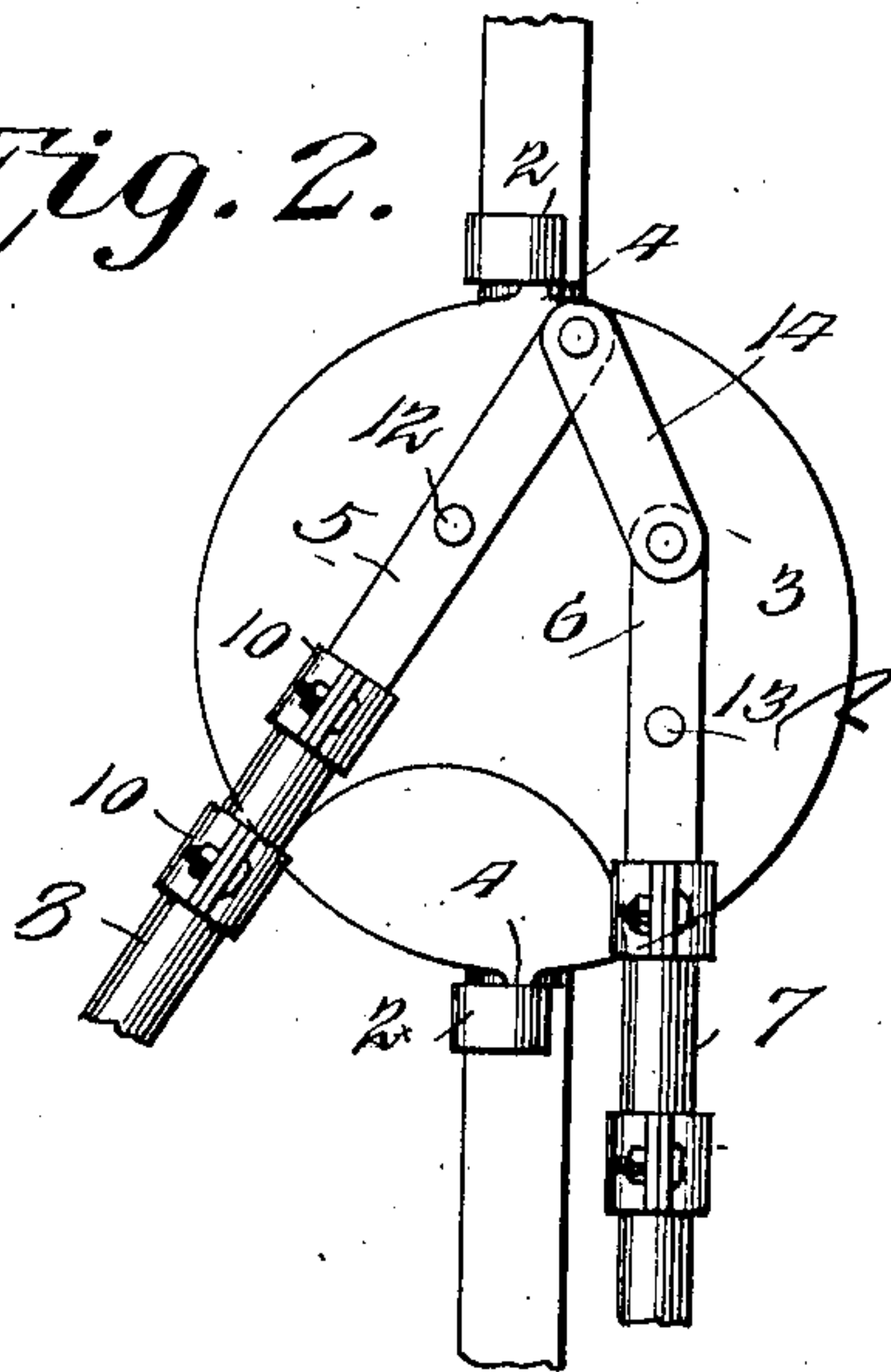


Fig. 3.

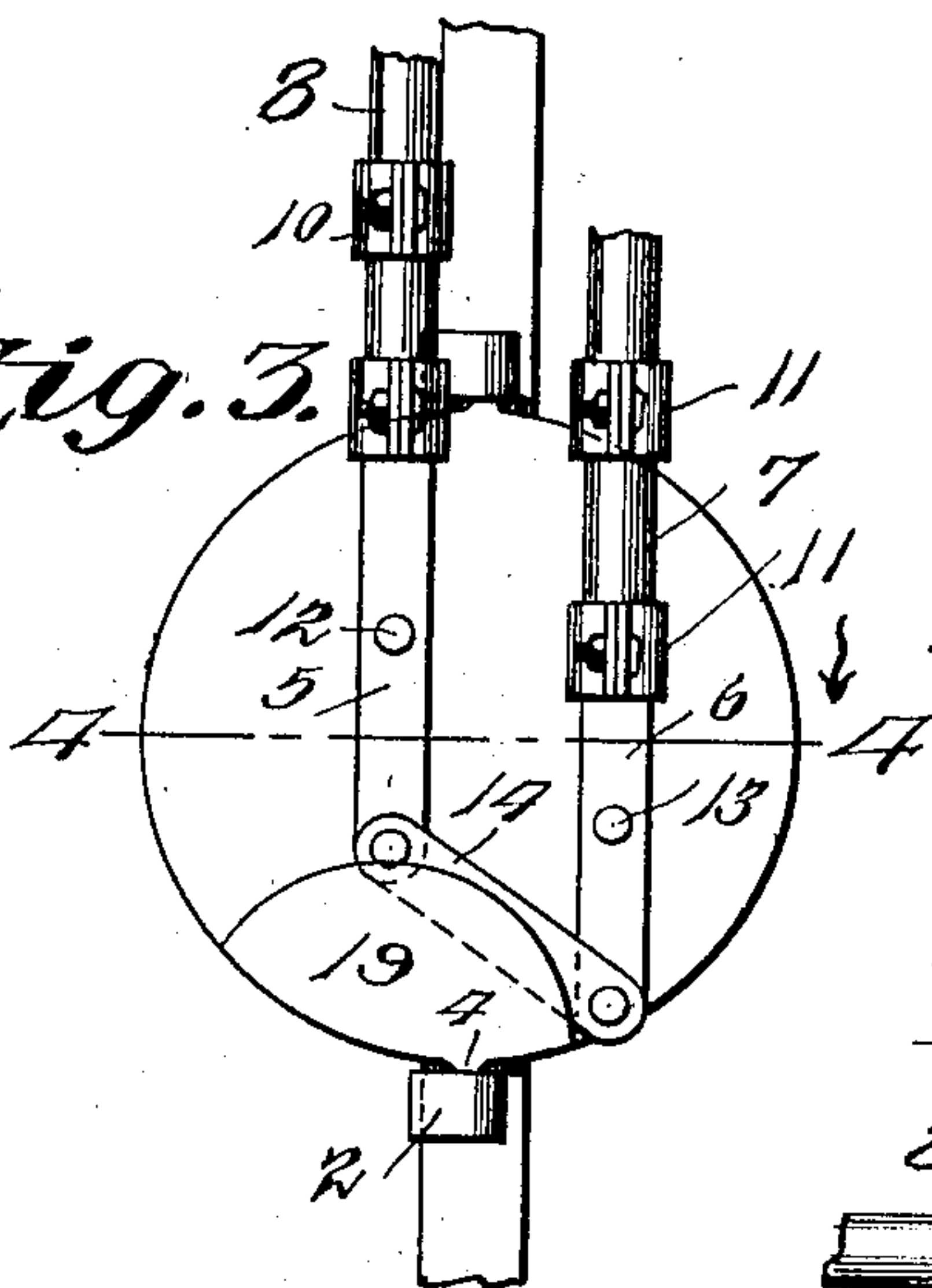


Fig. 4.

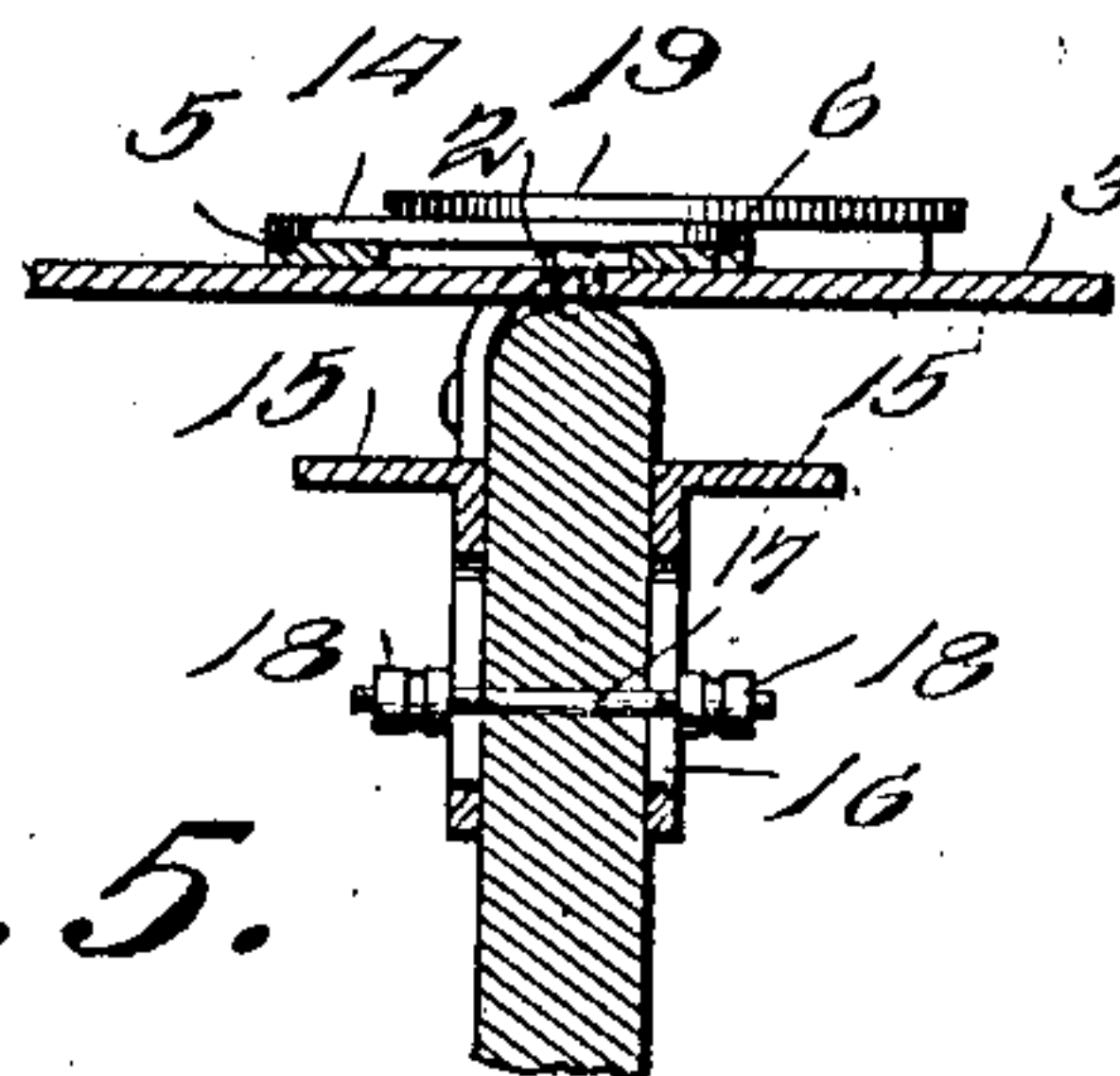


Fig. 5.

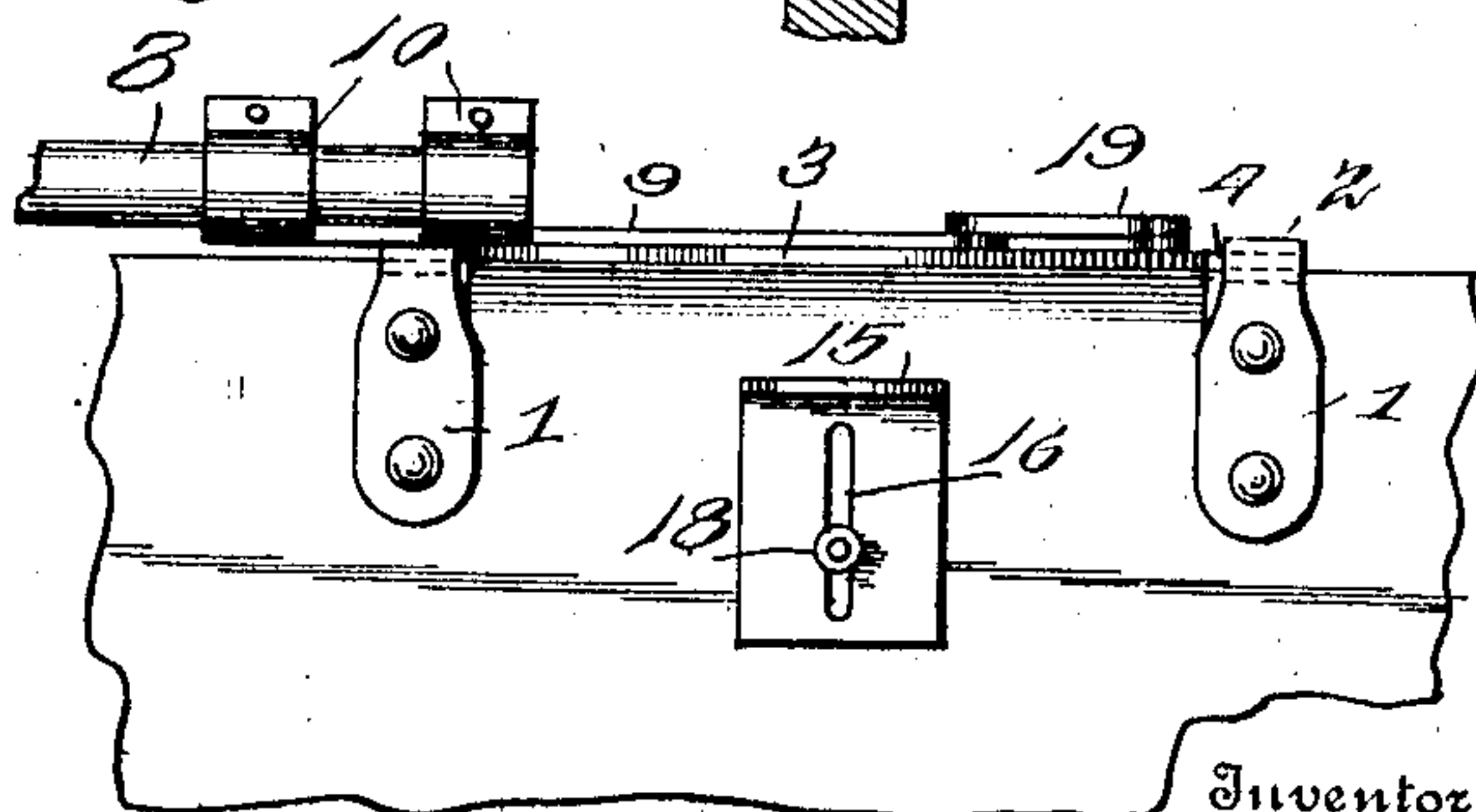
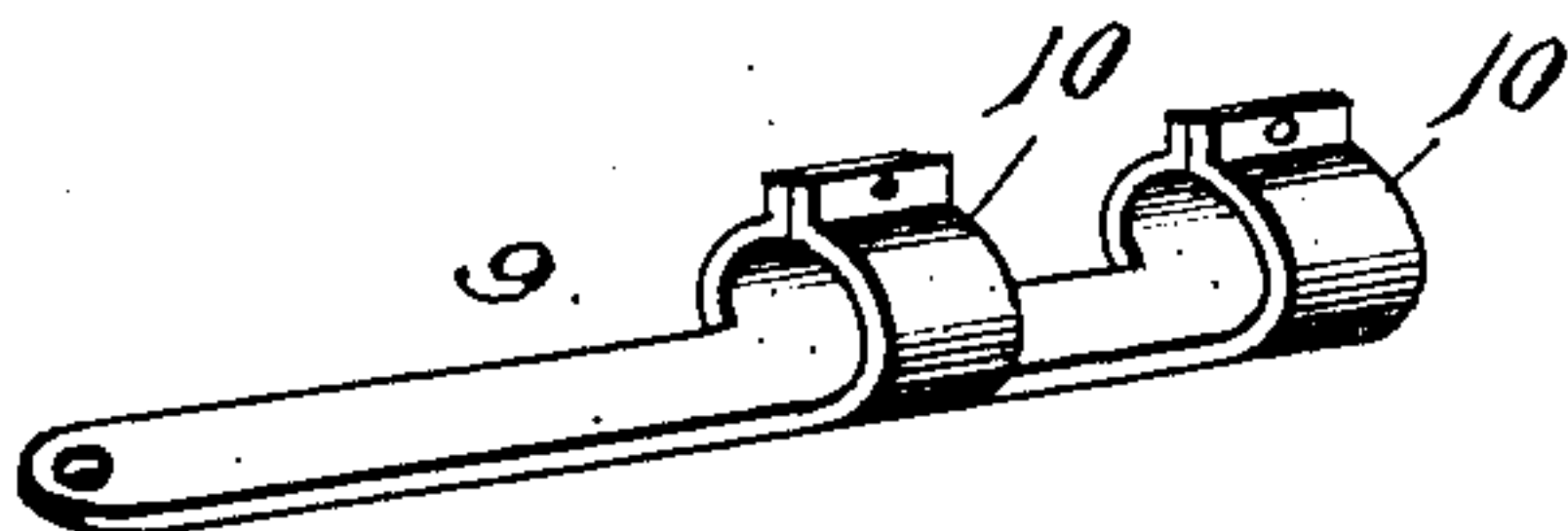


Fig. 6.



Witnesses

Frank B. Hoffman.  
John F. Byrne

James A. Musgrove Jr.

By

Victor J. Evans.

Attorney



# UNITED STATES PATENT OFFICE.

JAMES A. MUSGROVE, JR., OF KILSYTH, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO CHARLES FENWICK, OF KILSYTH, WEST VIRGINIA.

## OAR-OPERATING DEVICE.

No. 876,219.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed September 26, 1905. Serial No. 280,207.

*To all whom it may concern:*

Be it known that I, JAMES A. MUSGROVE, Jr., a citizen of the United States, residing at Kilsyth, in the county of Fayette and State of West Virginia, have invented new and useful Improvements in Oar-Operating Devices, of which the following is a specification.

The invention relates to an improvement in oar operating devices, in the use of which the operator is enabled to face in the direction in which the boat is moving and propel the same by the ordinary pulling strain upon the oar handles.

The main object of the present invention is to so arrange the fulcrums of the handles and blades of the oars as to afford the greatest leverage in operation.

Another object is provision of means for pivotally supporting the parts, whereby the blade may be elevated or lowered at the will of the operator, the said supporting means being adapted for coöperation with an adjustable stop to enable the operator to limit, as desired, the lowering of the blades.

The invention will first be described with relation to its essential details of construction in the following specification, wherein reference is had particularly to the accompanying drawings, in which:

Figure 1 is a plan illustrating my improved oar operating mechanism, the parts being shown in the position occupied when the blade is at its forward limit of movement. Fig. 2 is a similar view illustrating the reverse condition of the parts. Fig. 3 is a similar view showing the oar blade and handle folded longitudinally of the gunwale. Fig. 4 is a section on line 4—4 of Fig. 3. Fig. 5 is a side elevation of a portion of a boat gunwale, illustrating the application thereto of my improved oar operating mechanism. Fig. 6 is a perspective view of one of the sockets for supporting the blade or handle.

Referring to the drawings, wherein like reference numerals indicate like parts throughout the several views, my improved oar operating mechanism is designed for application to the upper edge of the boat gunwale forward of the rower's seat, the mechanism being, of course, duplicated on each gunwale.

The operating mechanism proper is supported on the gunwale by the medium of straps 1 secured on the outer side of the boat,

with their upper ends projecting above the edge of the gunwale and bent to form gudgeons 2. The straps are positioned at the proper points relative to the position of the seat, and the gudgeons 2 are so formed as to directly overlie the longitudinal center of the gunwale, thereby providing the maximum resistance against the strain incident to operation.

A plate 3, hereinafter termed the supporting plate, of disk form, is provided at diametrically opposite points with pintles 4, so positioned as to seat in the gudgeons 2 of the straps and thereby pivotally support the plate 3, as will be evident. Socket pieces 5 and 6 are provided for the reception of the handles 7 and blades 8 of the oars. These socket pieces are practically identical in construction, each including a metallic strip 9 provided at spaced intervals with split rings or collars 10, within which the appropriate end of the handle or blade is to be inserted, a fastening means such as a set screw 11 being arranged for coöperation with the meeting edges of each collar whereby to bind said collars tightly upon their respective handle or blade, and secure the latter firmly to the socket. Both socket pieces are similar in construction with the exception that the strip 9 of the handle socket piece 5 is of somewhat greater length than the strip 9 of the blade socket piece 6, whereby to provide the increased leverage in operation, as hereinafter described.

The socket pieces 5 and 6 are pivotally supported at 12 and 13 respectively, on the supporting plate 3. The respective pivot pins are secured upon said plate at equidistant points in opposite directions from a line joining the pintle 4 of the plate and from a line diametric of the plate and at right angles to said first line, the handle socket pivot being secured forward of the second line and inward from the first line with relation to the longitudinal center of the boat, while the blade socket pivot is secured rearward from the second line and outward from the first line. The openings in the respective socket pieces for the reception of the pivot pins 12 and 13 are located exactly midway of the strip 9 of each socket. The free ends of the strip 9 of the respective socket pieces are pivotally connected by a link 14, whereby movement of the handle socket piece will impart movement to the blade socket piece.



The operation in rowing the boat will be fully apparent from the above description taken in connection with the drawings, it being understood that the increased length 5 of the handle socket piece gives the operator an increased leverage on the blade socket piece, whereby to increase the effect of the power applied on the handles, as will be obvious.

10 The supporting plate 3 is pivotally mounted in the straps 1, whereby to provide for the necessary dip of the oars, and in order to limit this movement of the plate as may be desired I provide stops 15 comprising right 15 angled plates formed with longitudinal slots 16 for the reception of a pin 17 passed transversely through the gunwale and terminally provided beyond the stops with set screws 18, whereby the position of the stops with 20 relation to the supporting plate may be adjusted as desired.

It is to be understood, of course, that the ledge or right angled portion of the stop extends outward from the side of the boat 25 beneath the supporting plate, so that in the dip of said plate it will contact with the stop and be limited in movement. By preference I provide a stop 15 for each side of the boat wall immediately beneath the supporting 30 plate, whereby to limit the dip of said plate in both directions.

The link 14 is preferably of a length approximately equal to the distance between the pivot pins 12 and 13, so that, when de- 35 sired, the socket pieces 5 and 6, and thereby the oar handles and blades may be moved into a position approximately parallel with and longitudinally of the boat gunwale, so that said blades and handles in this position 40 will not project laterally of the gunwale to any material extent, as will be found desirable when the oars are not in use or when the boat is to be passed through a narrow passage.

A housing strip 19 is preferably secured to 45 the supporting plate in order to partially protect the operating parts.

The mechanism described comprises few parts, any of which may be readily renewed when desired, and in its use in connection 50 with propelling a boat, any of the necessary movements of the oars may be gained.

Having thus described the invention, what I claim is:

1. In a rowing gear, a pivoted supporting 55 plate, an oar handle connected to the plate, an oar blade connected to the plate, a connection between the handle and blade, and rigid adjustable stops secured to opposite sides of the boat gunwale and beneath the 60 pivoted supporting plate, to positively limit the downward movement of the oar handle, and blade during the operation of rowing.

2. In a rowing gear, a pivoted supporting 65 plate, an oar handle connected to the plate, an oar blade connected to the plate, a connection between the handle and blade, and a rigid adjustable stop secured to the inside of the gunwale of the boat, beneath the pivot- 70 ed plate, to positively limit the downward movement of the oar handle during the operation of rowing.

3. In a rowing gear, a pivoted supporting 75 plate, an oar handle connected to the plate, an oar blade connected to the plate, a connection between the handle and the blade, and a rigid adjustable stop secured to the outside of the gunwale of the boat beneath the pivoted plate to positively limit the 80 downward movement of the oar blade during the operation of rowing.

In testimony whereof, I affix my signature in presence of two witnesses.

JAMES A. MUSGROVE, JR.

Witnesses:

H. H. GWINN,  
T. FENWICK.