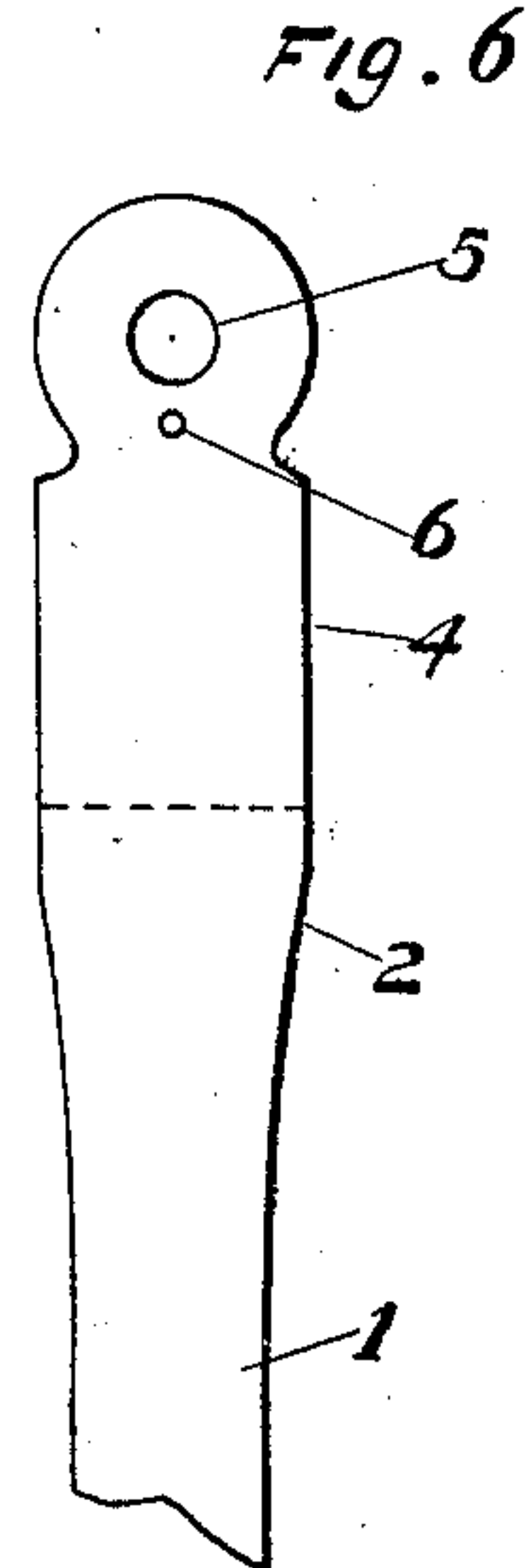
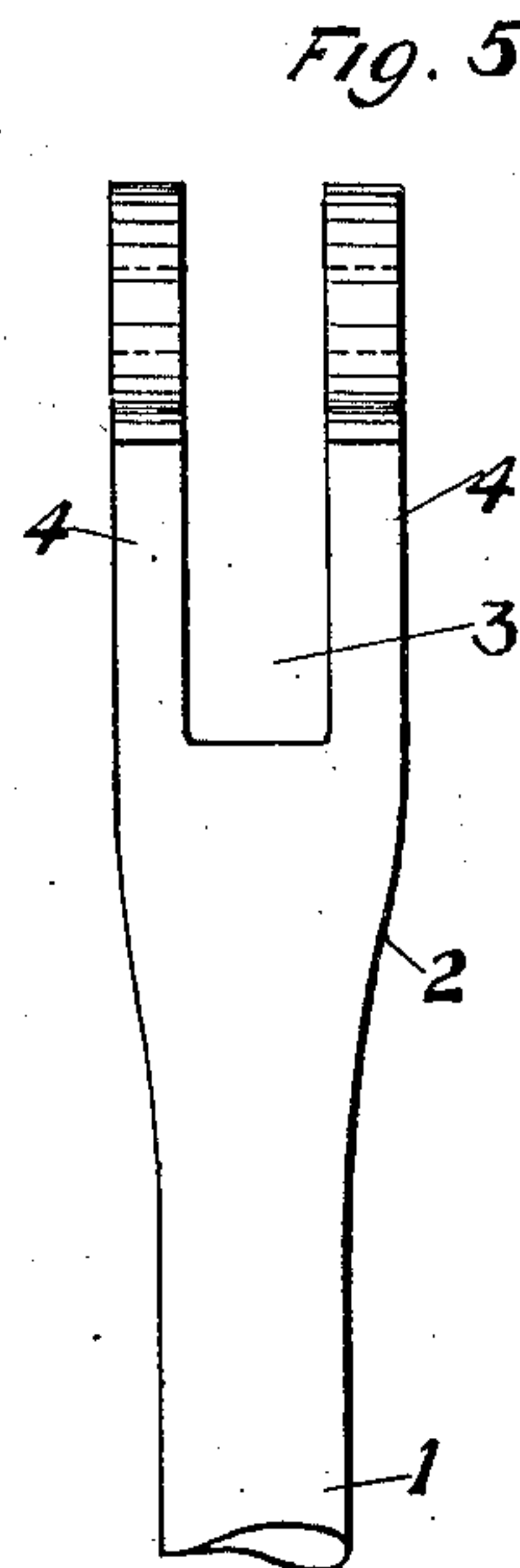
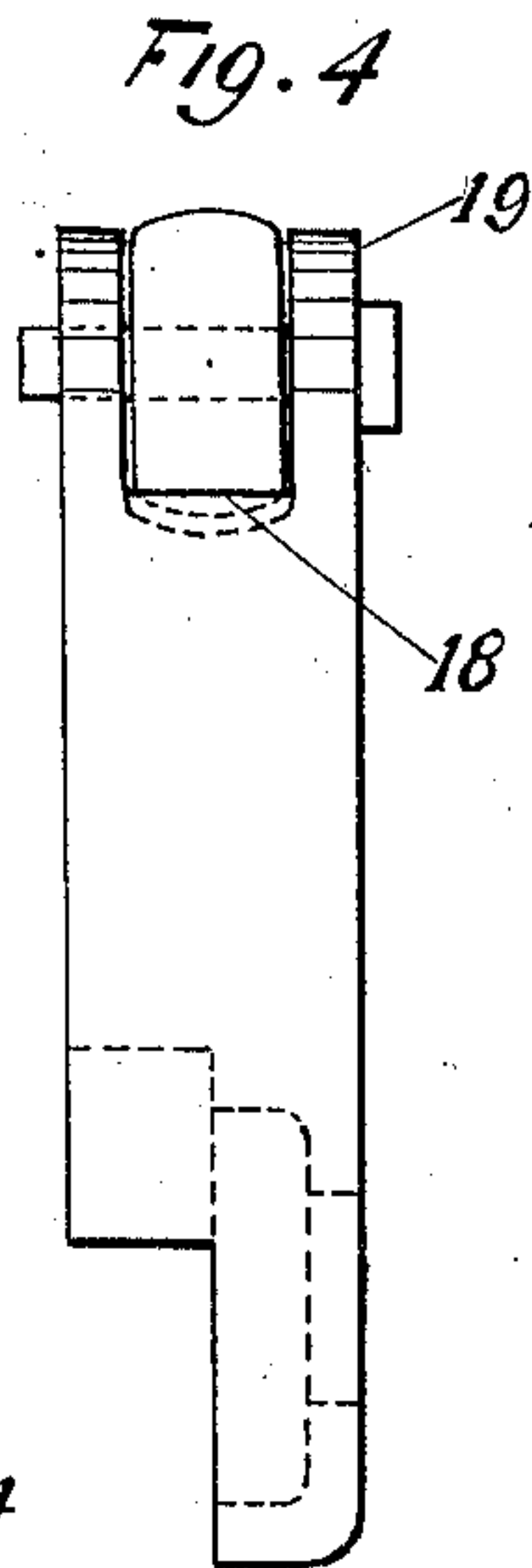
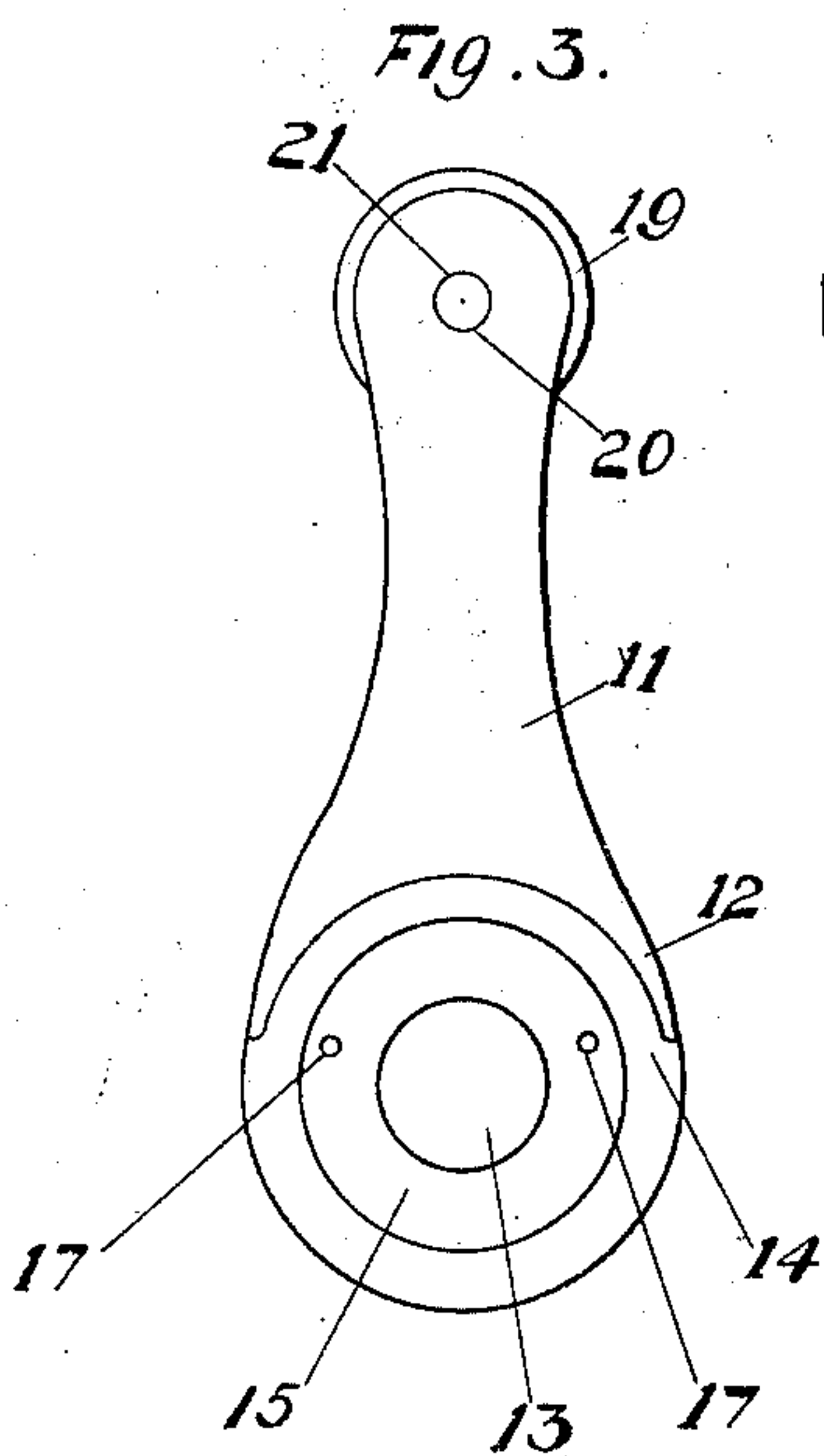
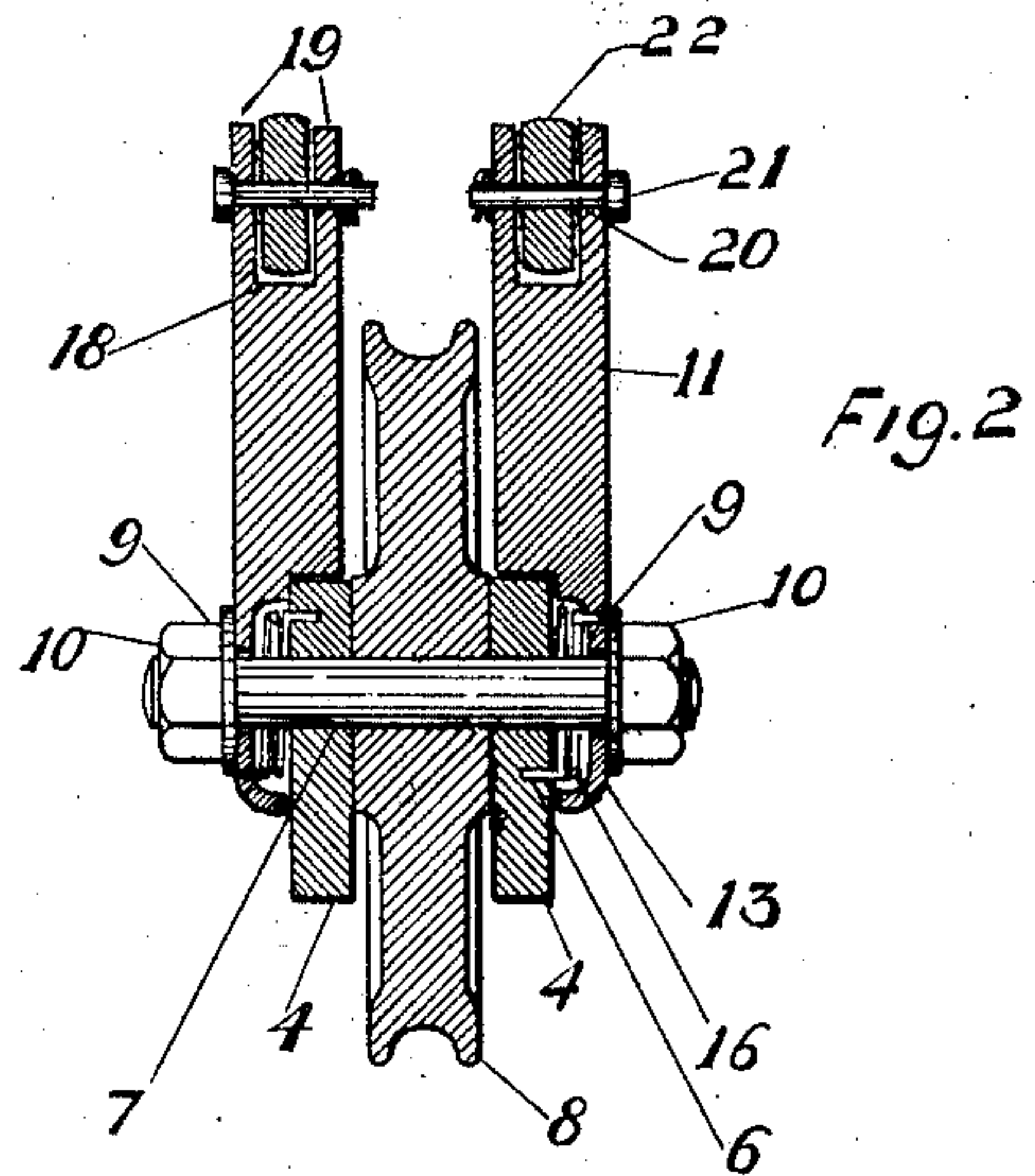
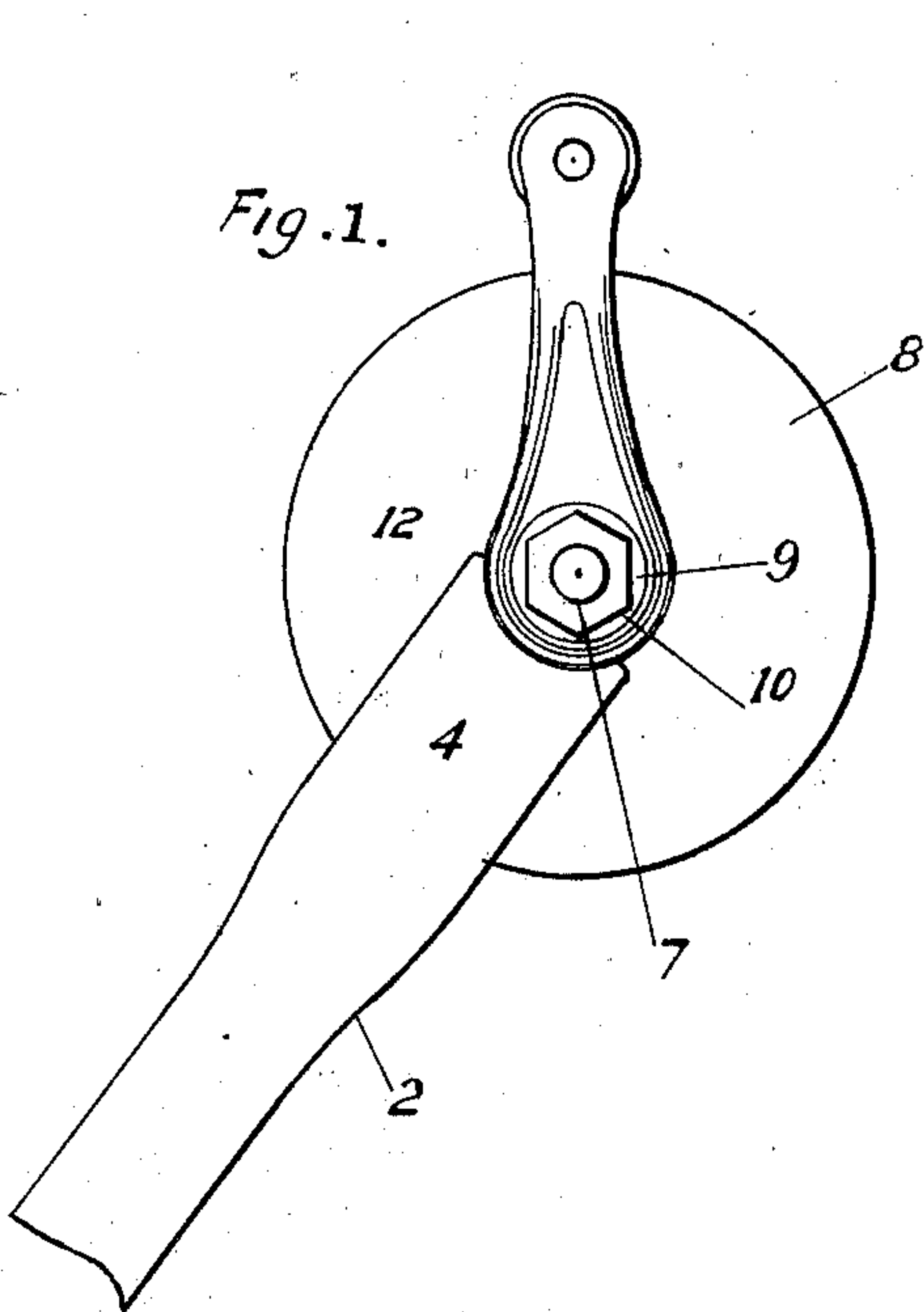


J. WDOWICKI.  
TROLLEY.  
APPLICATION FILED APR. 5, 1911.

997,165.

Patented July 4, 1911.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN WDOWICKI, OF JERSEY CITY, NEW JERSEY.

TROLLEY.

997,165.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed April 5, 1911. Serial No. 619,046.

*To all whom it may concern:*

Be it known that I, JOHN WDOWICKI, a subject of the Emperor of Austria-Hungary, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Trolleys, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to trolleys and the objects of my invention are, first, to furnish a trolley harp with novel means for guiding and retaining a trolley wheel upon a wire; second, to provide simple and effective means for preventing the displacement of a trolley wheel along irregular sections of a railway system; third, to provide a strong and durable trolley harp attachment that will not interfere with frogs, hangers, guard rails or other overhead construction, and to accomplish the above results by a trolley attachment that is durable, inexpensive to manufacture and highly efficient for the purposes for which it is intended.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of the trolley harp. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a side elevation of one of the attachments for the harp. Fig. 4 is a front elevation of the same. Fig. 5 is a front elevation of the trolley harp, and Fig. 6 is a side elevation of the same.

The reference numeral 1 denotes a portion of the trolley pole having the upper end thereof enlarged, as at 2 and bifurcated, as at 3 to provide arms 4. The arms have the upper ends thereof apertured, as at 5 and provided upon the outer sides with sockets 6.

7 denotes a pin mounted in the apertures 5 of the arms 4 and revolubly mounted upon said pin between the arms 4 is a conventional form of trolley wheel 8. The ends of

the pin 7 protrude some distance beyond the arms 4 and are provided with washers 9 and nuts 10.

11 denotes vertical members constituting a trolley harp attachment, these members having the lower ends thereof enlarged, as at 12 and provided with apertures 13. The inner faces of the members 11 are cut away, as at 14 to provide clearance for the upper ends of the arms 4 and the inner faces are also provided with recesses 15, for a purpose that will presently appear. The lower ends of the members 11 are mounted upon the ends of the pin 7 between the arms 4 and the washers 9, and said members are normally maintained in a vertical position by coiled springs 16 encircling the pin 7 within the recess 15. The inner ends of the springs 16 extend into the sockets 6 of the arms 4 and the outer ends of said springs extend into one of the sockets 17 provided therefor in the members 11. The upper ends of the members 11 are bifurcated, as at 18 to provide arms 19 and these arms are apertured, as at 20 to receive pins 21. Revolubly mounted upon the pins 21 are rollers 22. These rollers are adapted to prevent the members, when receding, from injuring the overhead work of an electric railway system. With the members normally maintained in a vertical position it is almost impossible for the trolley wheel to become displaced relatively to a trolley wire particularly when rounding a curved section, encountering irregularities in the trolley wire or when traveling at a high speed.

The attachment is made of strong and durable metal and can be applied to various types of trolleys by simply providing an additional journal pin for the trolleys, except when the journal pin is of a sufficient length to accommodate the attachment.

What I claim is:—

The combination with a trolley harp, a pin mounted in said harp, and a trolley wheel journaled upon said pin, of the members having the lower ends thereof movably mounted upon the ends of said pin, said



members having the inner faces thereof cut  
away to provide clearance for the upper  
ends of said harp, and recessed, coiled springs  
encircling said pin within the recesses of  
5 said members and having the inner ends  
thereof mounted in said harp and the outer  
ends mounted in said members, and rollers  
revolvably supported by the upper ends of

said members, substantially as, and for the  
purpose herein described. 10

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

JOHN WDOWICKI.

Witnesses:

CHARLES MULDOON,  
ABRAHAM L. CASSELL.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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