

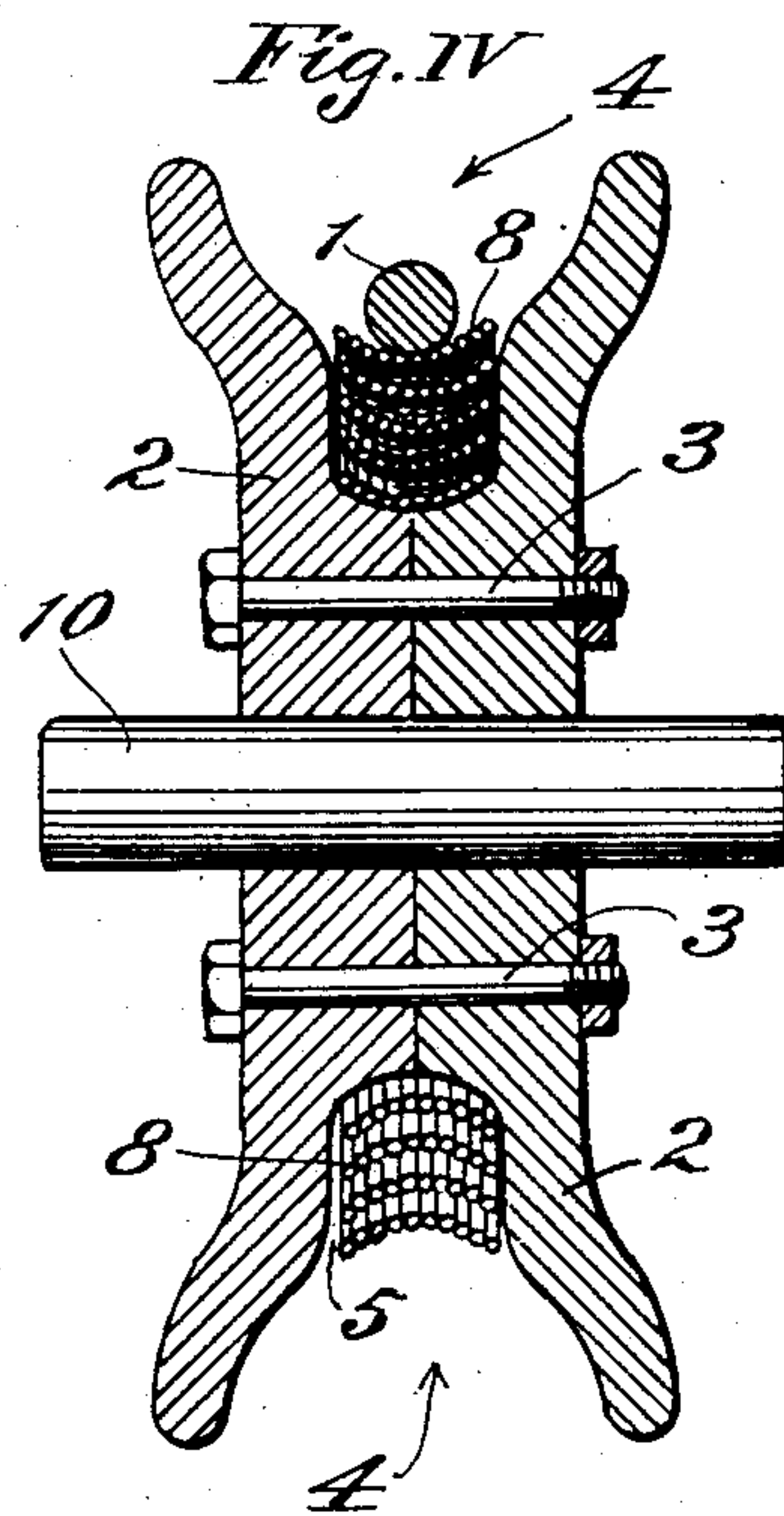
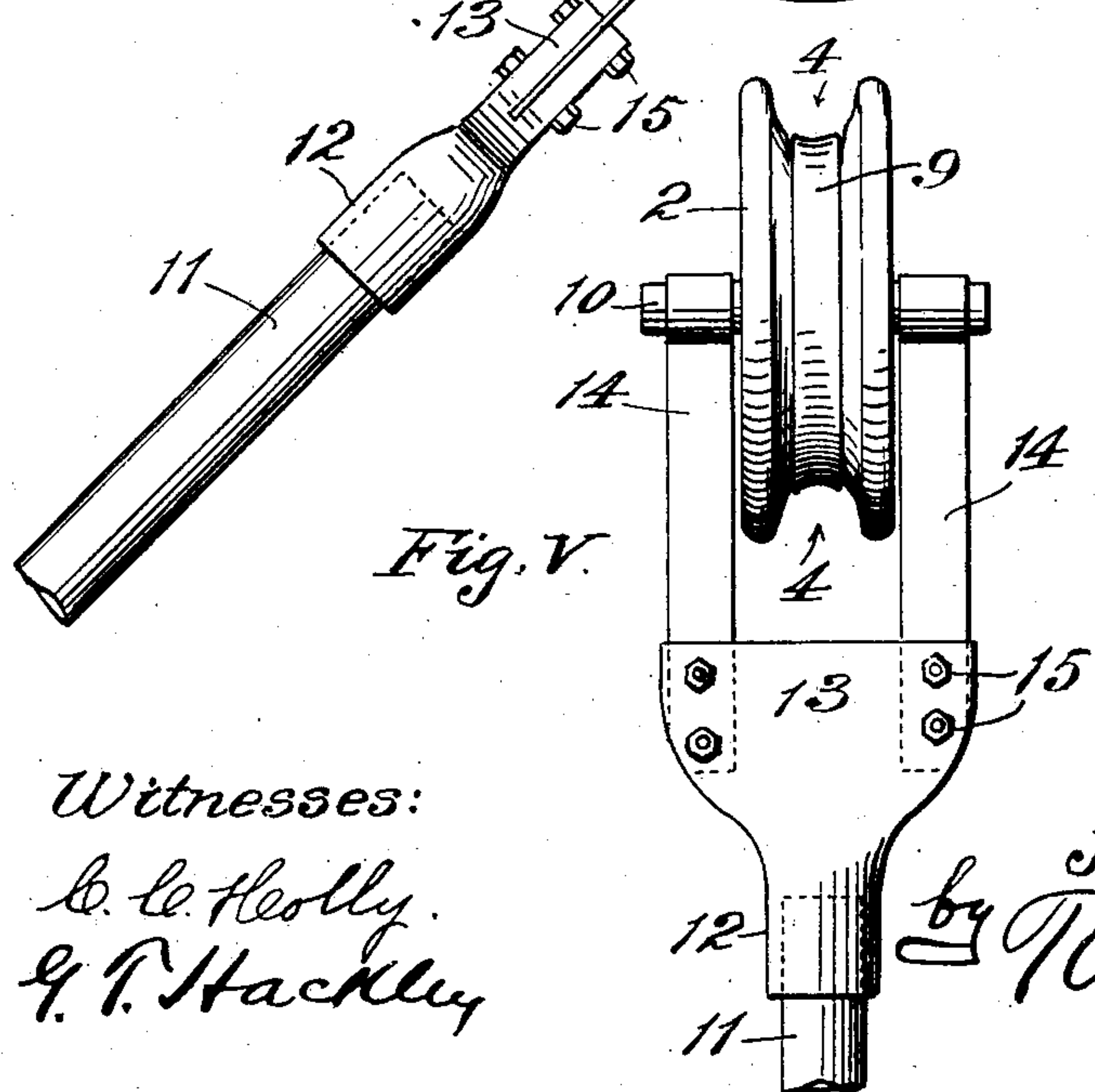
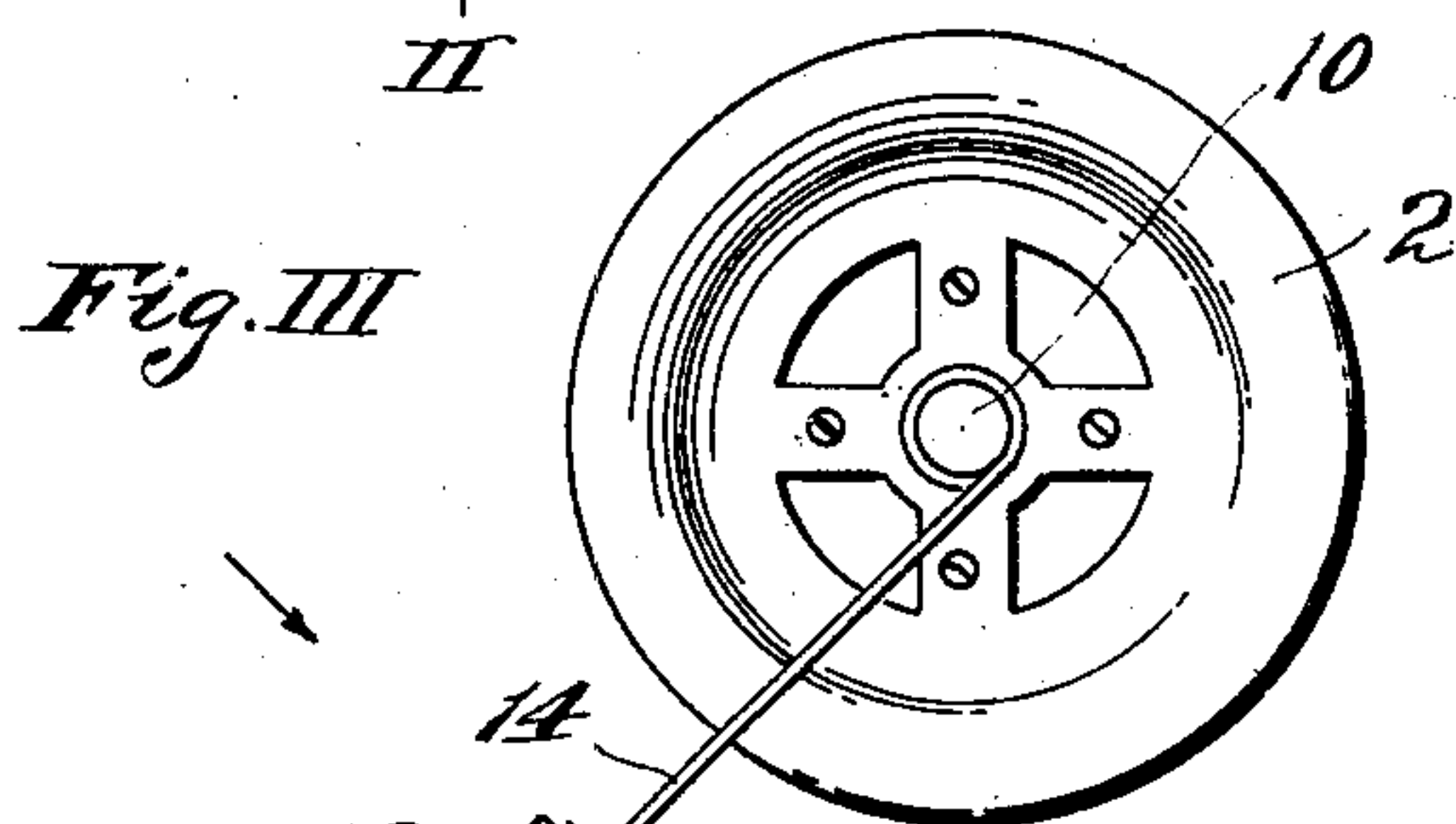
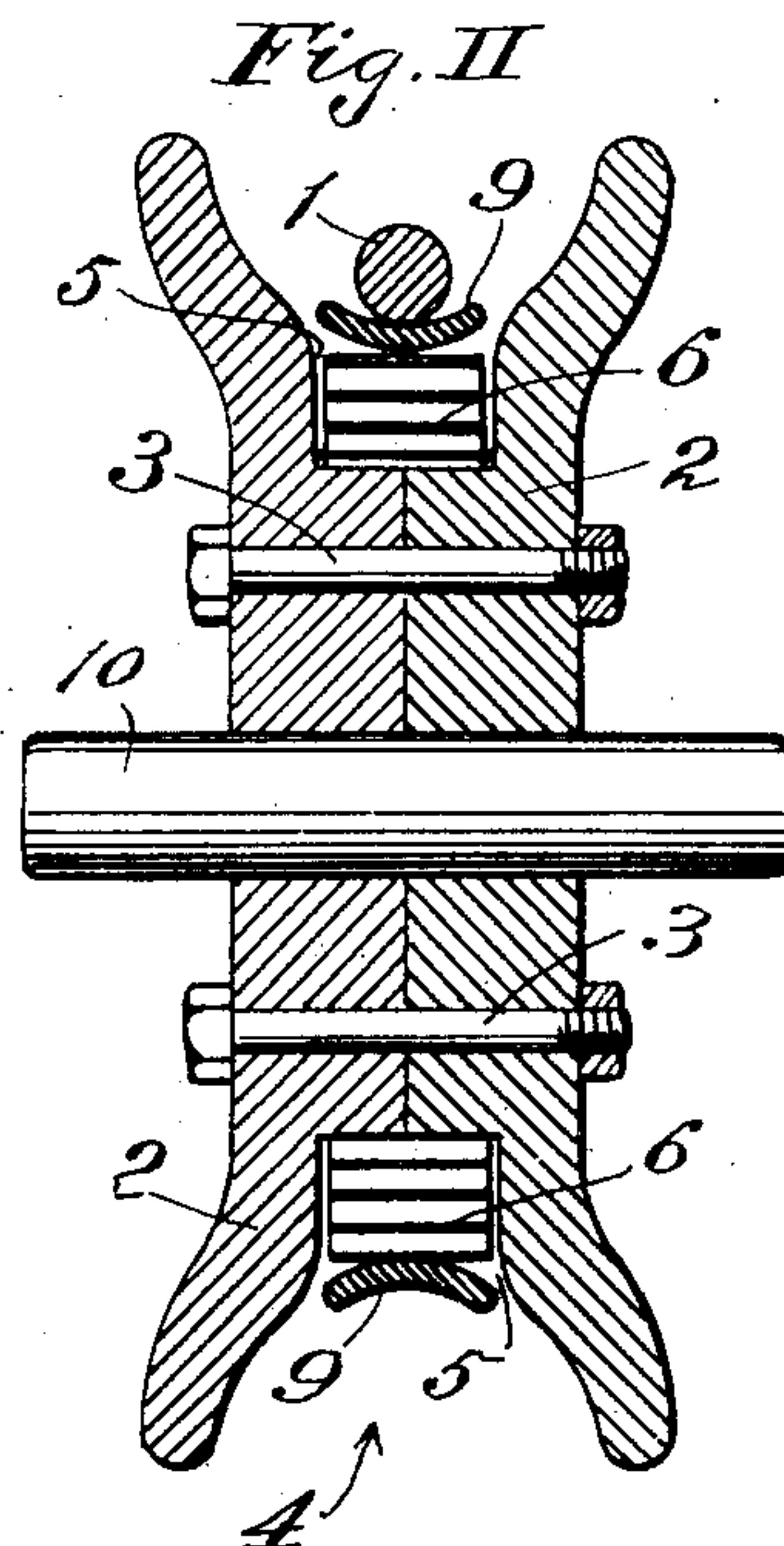
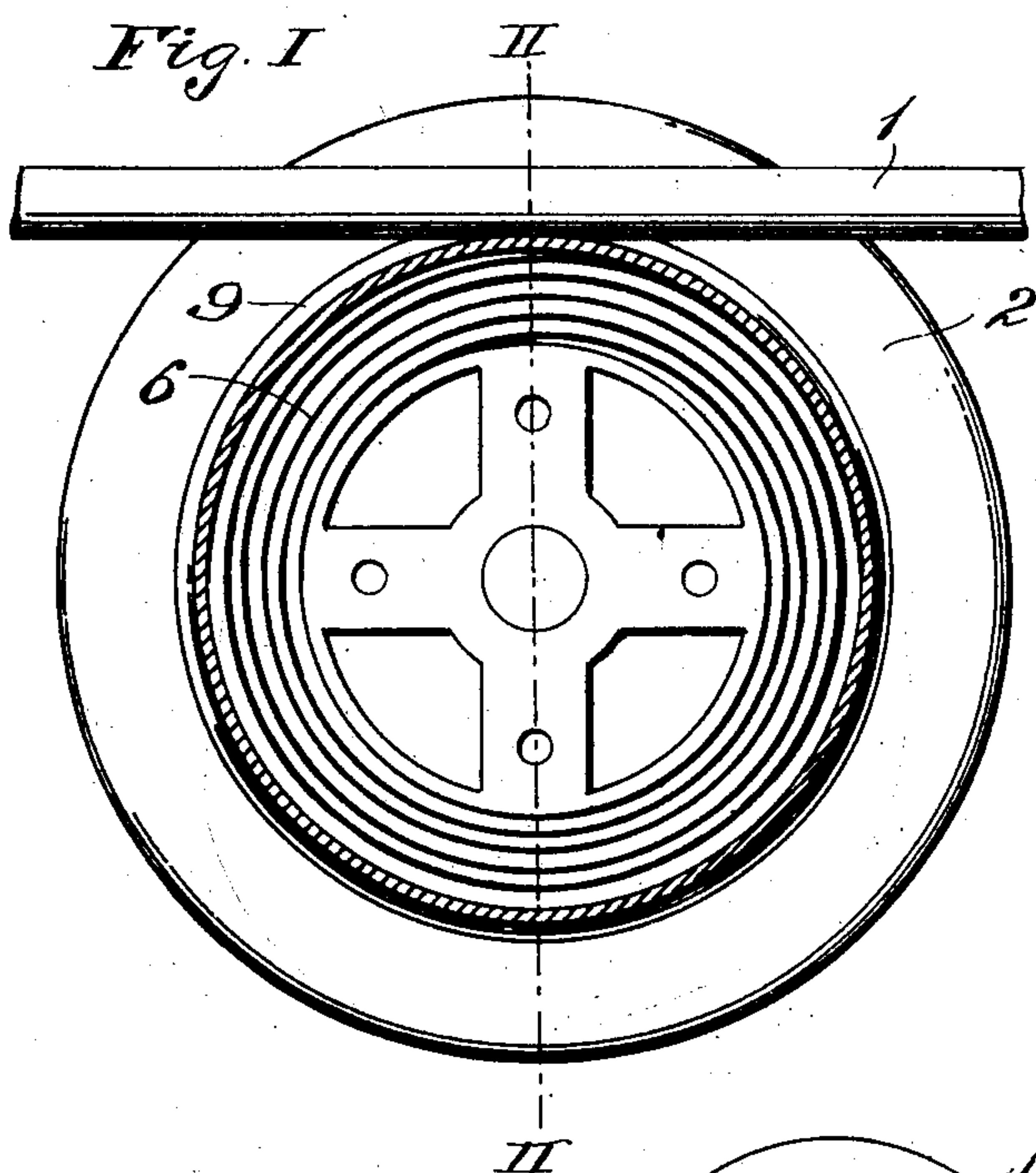
No. 762,379.

PATENTED JUNE 14, 1904.

J. S. BRIGGS.  
TROLLEY WHEEL.

APPLICATION FILED APR. 25, 1903.

NO MODEL.



Witnesses:  
C. C. Holly.  
G. P. Hackley

Inventor:  
John Smith Briggs.  
by Townsend Bros.  
his Atty.



## UNITED STATES PATENT OFFICE.

JOHN SMITH BRIGGS, OF LOS ANGELES, CALIFORNIA.

## TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 762,379, dated June 14, 1904.

Application filed April 25, 1903. Serial No. 154,250. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SMITH BRIGGS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Trolley-Wheel, of which the following is a specification.

One object of my invention is to provide a trolley-wheel which will maintain contact with the wire even though the trolley-pole should oscillate and pull the body of the trolley-wheel away from the wire.

When the trolley-wire is uneven or when the trolley-wheel strikes an obstruction on the wire or when the trolley-pole and wheel together are jerked in a direction which brings the trolley away from the wire slightly, which might be due to sudden stoppage or uneven rate of movement of the car, the ordinary trolley-wheel breaks contact with the wire, which causes sparking or cuts off the flow of current to the motors.

An object of the present invention is to provide means whereby when such unavoidable impulses are imparted to the trolley-wheel the contact of the same with the wire will be maintained.

Another object of my invention is to attain the foregoing with a construction which is extremely simple, strong, durable, and economical.

Another object is to provide improved means for attaching the trolley-wheel to the trolley-pole.

The accompanying drawings illustrate the invention, and referring thereto—

Figure I is a transverse sectional view taken through the center of the trolley-wheel. Fig. II is a sectional view taken on line II II, Fig. I. Fig. III is a side elevation of the upper end of the trolley-pole, showing the trolley-wheel attached thereto. Fig. IV is a view similar to Fig. II, showing a different construction. Fig. V is a front elevation looking at Fig. III in the direction of the arrow.

The invention comprises a circular body, the periphery of which is provided with a groove, and within the groove are means for contacting with the trolley-wire and resili-

ently supporting with respect to the circular body.

Referring to the drawings, 1 designates a trolley-wire. The trolley-wheel comprises a pair of symmetrical circular plates 2, which are detachably united, preferably, by means of bolts 3. The two plates have their outer faces somewhat dished, and when clamped together the two plates form a circular body with a concave groove 4. The groove 4 is deepened along its center and is formed in a groove 5, which is rectangular in cross-section. Lying within the groove 5 is a spiral spring 6. The spring may be a flat spring similar to a clock-spring, as shown in Fig. II, or it may consist of many turns of a spring-wire 8, as shown in Fig. IV, several parallel turns of the same wire being made in the same pitch to form a curved row, the width of which may be about the same as the width of the spring 6. Each coil section or row may consist of several turns and the coil or row may be curved, so that a concave face is presented toward the trolley-wire 1. As shown in Fig. IV, the outer coil of rows of wire 8 may bear directly against the trolley-wire 1, while in the construction shown in Fig. II in order to give the requisite contact it may be desirable to provide an annular ring 9, the outer periphery of which is concave and the inner periphery being convex. The ring 9 is supported by the spring 6.

The space between the rows of the spring 8 is sufficient to allow of the necessary action of the spring.

The spring 6 fits snugly within the ring 9. 10 designates the shaft of the trolley-wheel.

I have provided an improved means for attaching the same to the trolley-pole 11. 12 designates a trolley-pole cap, which fits over the end of the trolley-pole 11 and which is flared, as at 13, and provided with a deep slot, which receives the ends of a pair of flat springs 14, which are retained in place by means of bolts 15. The other ends of the springs 14 curve around the trolley-shaft 10 and hold the opposite ends of the shaft.

It is evident that various changes may be made in the herein-described embodiment



without departing from the spirit of my invention.

What I claim is—

1. A trolley-wheel comprising a circular  
5 body having a concave periphery, the center  
of the periphery having a groove, and resili-  
ent means guided by the groove and adapted  
to contact with the trolley-wire.
2. A trolley-wheel comprising a body com-  
10 posed of two symmetrical circular plates, said  
body having a concave periphery, the center  
of the periphery having a groove, and resili-  
ent means guided by the groove and adapted  
to contact with the trolley-wire.
3. A trolley-wheel comprising a circular  
15 body having a concave periphery the periph-  
ery having a deeper central groove and resili-  
ent means within the groove adapted to con-  
tact with the trolley-wire.
4. A trolley-wheel comprising a body com-  
20 posed of two circular plates, the body having  
a peripheral groove, and yielding means in  
the groove adapted to contact with the trolley-  
wire.
5. A trolley-wheel comprising a body com-  
25 posed of symmetrical circular plates detach-  
ably connected, the periphery of the body  
having a groove, and yielding means in the  
groove adapted to contact with the trolley-  
30 wire.
6. A trolley-wheel comprising a circular  
body having a grooved periphery, a ring in  
the groove adapted to contact with the trolley-  
wire and a spiral spring around the groove  
35 supporting said ring.
7. A trolley-wheel comprising a body com-  
posed of two symmetrical circular plates, the  
body having a peripheral groove, means in  
the groove adapted to contact with the trolley-  
40 wire, and a spiral spring circling the groove  
and supporting said means.

8. A trolley-wheel comprising a body com-  
posed of two symmetrical circular plates de-  
tachably connected, the body having a pe-  
ripheral groove, means in the groove adapted 45  
to contact with the trolley-wire, and a spiral  
spring circling the groove and supporting said  
means.

9. A trolley-wheel comprising a body com-  
posed of two symmetrical circular plates, the 50  
body having a peripheral groove, means in  
the groove adapted to contact with the trolley-  
wire, and a spiral spring circling the groove  
and supporting said means, and bolts connect-  
ing the two plates together. 55

10. In combination with a trolley-wheel  
shaft, a pole-cap having a flared portion which  
is slotted, and a pair of flat springs supporting  
opposite ends of the shaft with their ends lying  
in the slot. 60

11. In combination with a trolley-wheel  
shaft, a pole-cap having a flared portion which  
is slotted, and a pair of flat springs supporting  
opposite ends of the shaft with their ends lying  
in the slot, and bolts in the flared portion hold- 65  
ing the springs in place.

12. In combination with a trolley-wheel  
shaft, a pole-cap having a flared portion which  
is slotted, and a pair of flat springs supporting  
opposite ends of the shaft with their ends lying 70  
in the slot, the ends of the springs being curved  
around the shaft.

In testimony whereof I have signed my name  
to this specification, in the presence of two sub-  
scribing witnesses, at Los Angeles, in the 75  
county of Los Angeles and State of California,  
this 20th day of April, 1903.

JOHN SMITH BRIGGS.

Witnesses:

G. T. HACKLEY,  
JULIA TOWNSEND.