

No. 736,541.

PATENTED AUG. 18, 1903.

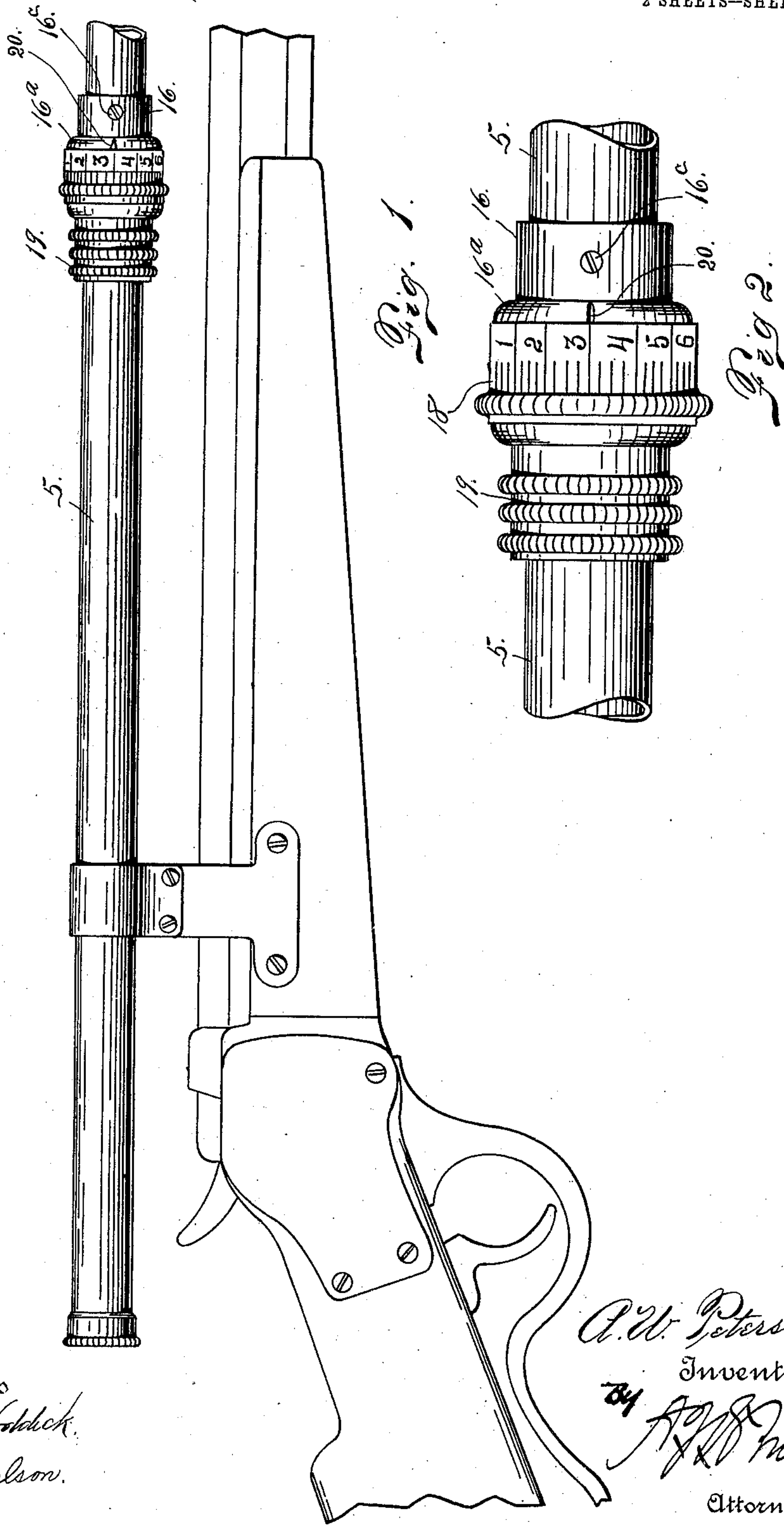
A. W. PETERSON.

MEANS FOR ADJUSTING CROSS HAIRS OF TELESCOPIC SIGHTS.

APPLICATION FILED NOV. 21, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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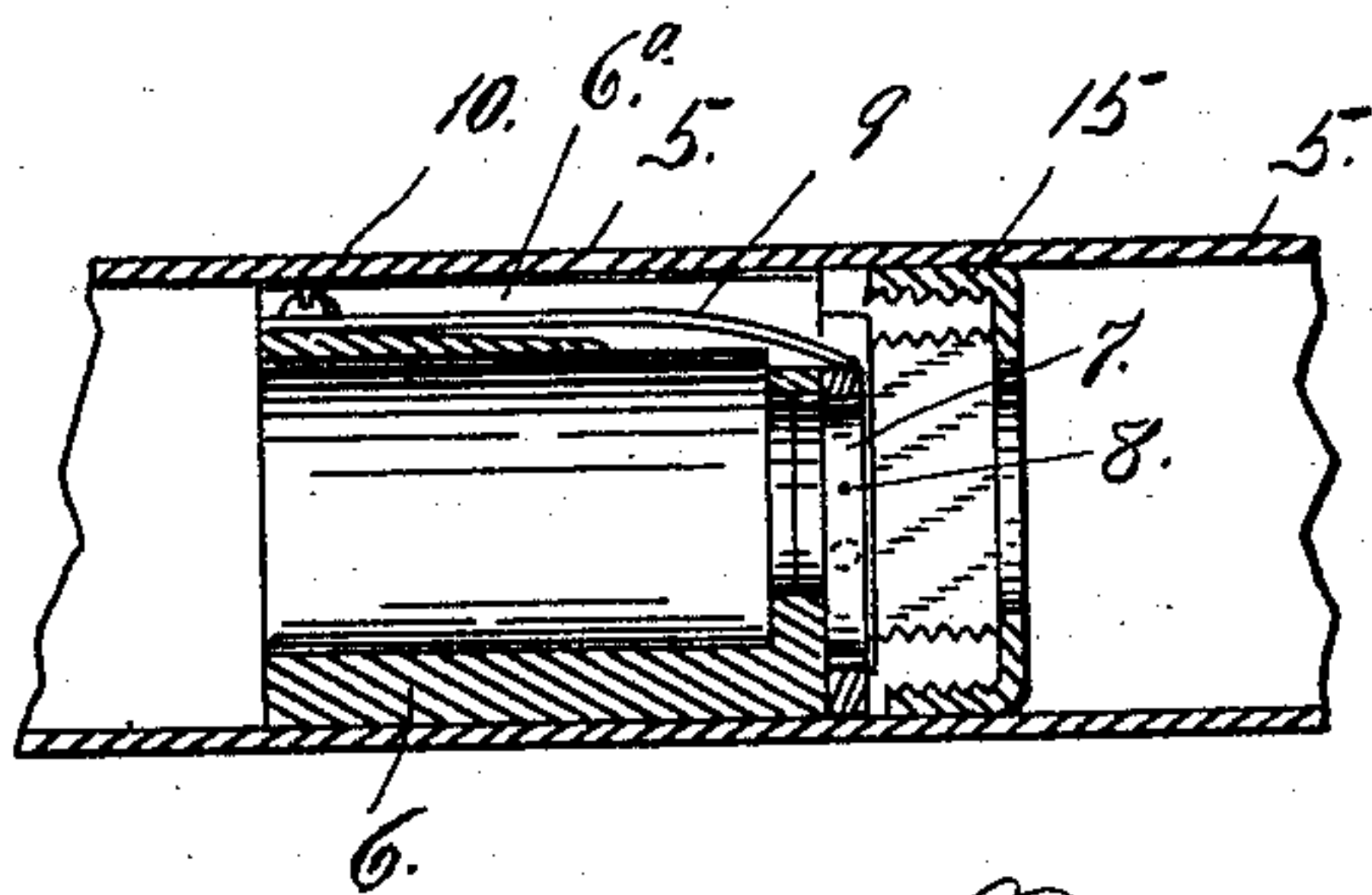


Fig. 3.

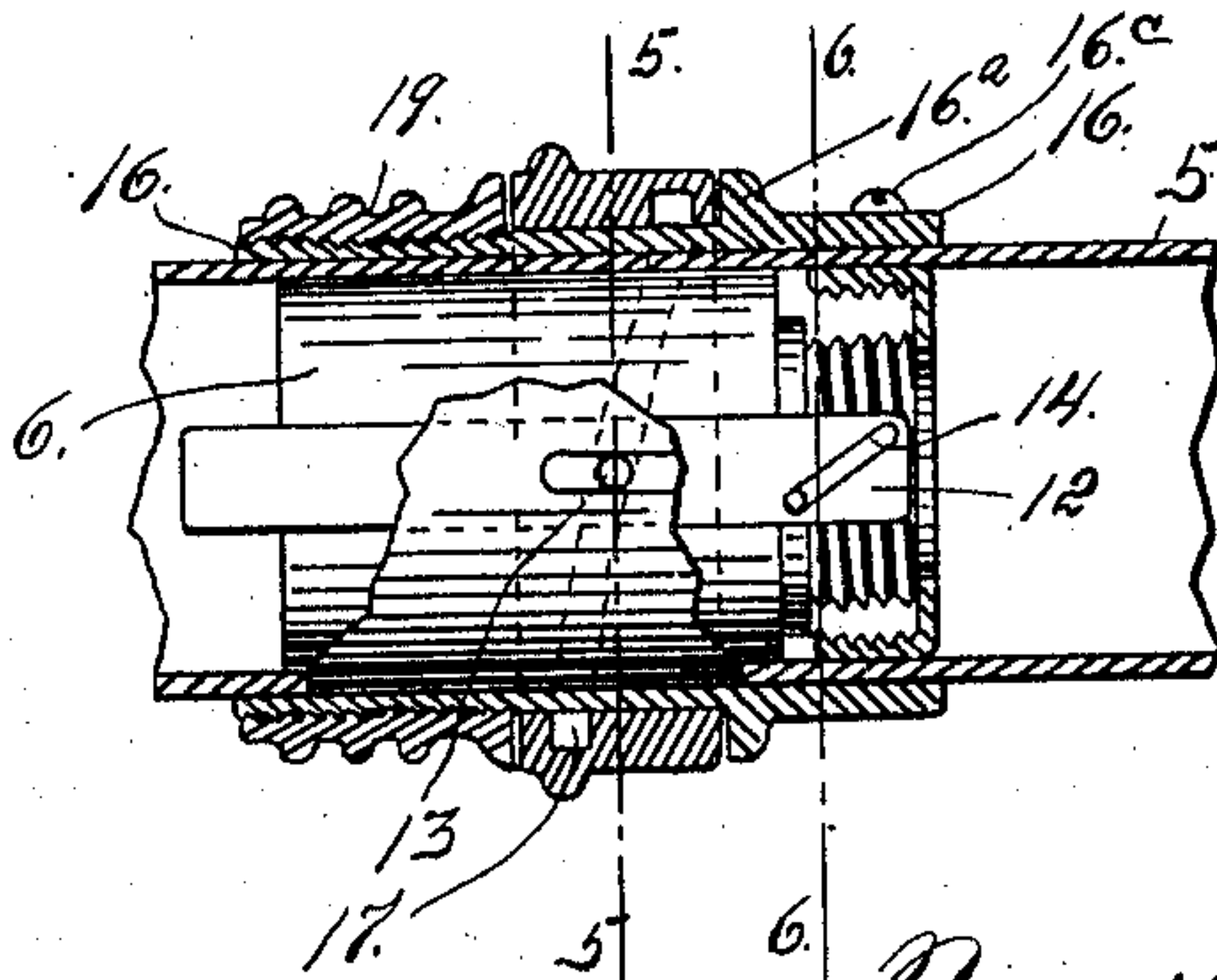


Fig. 4.

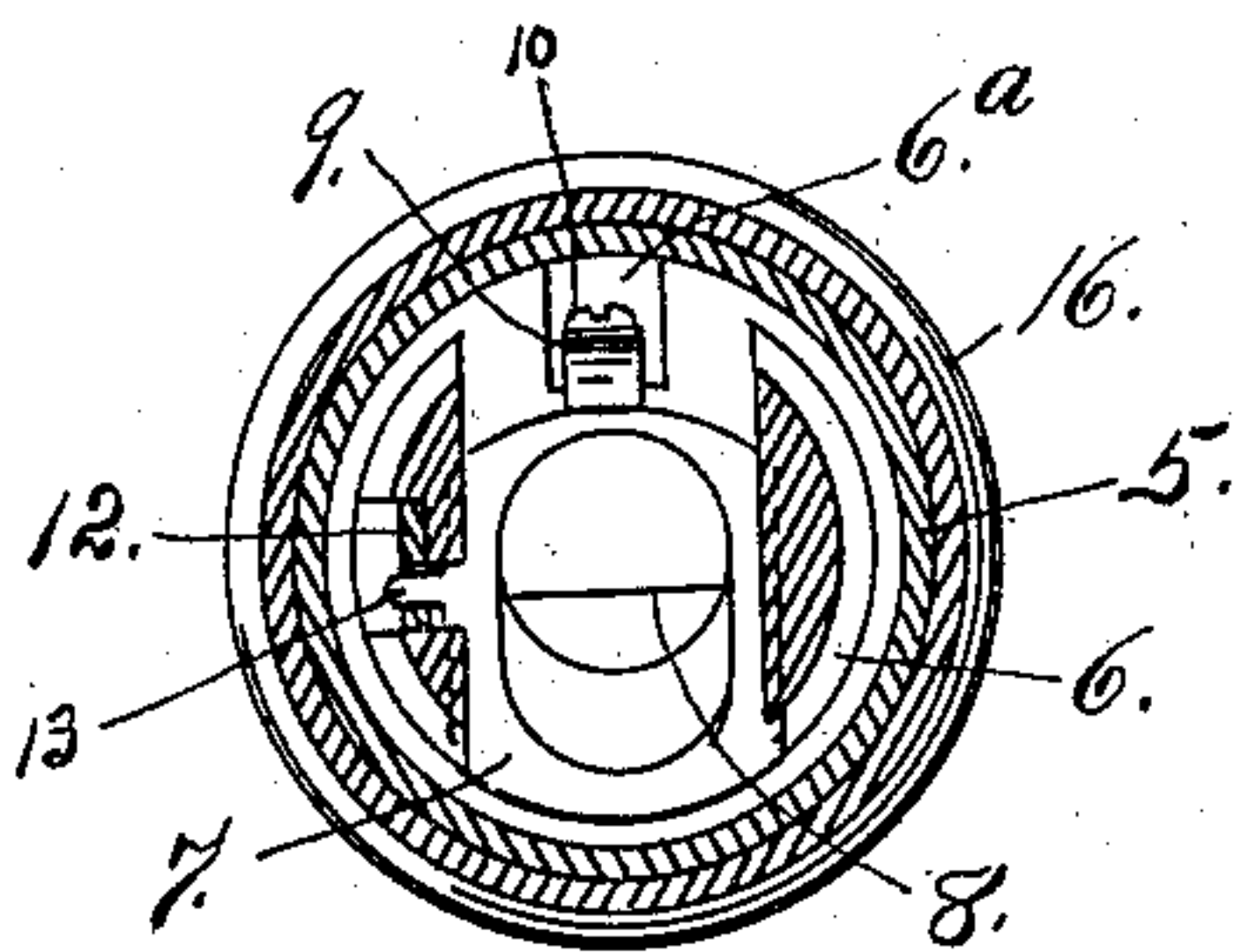


Fig. 6.

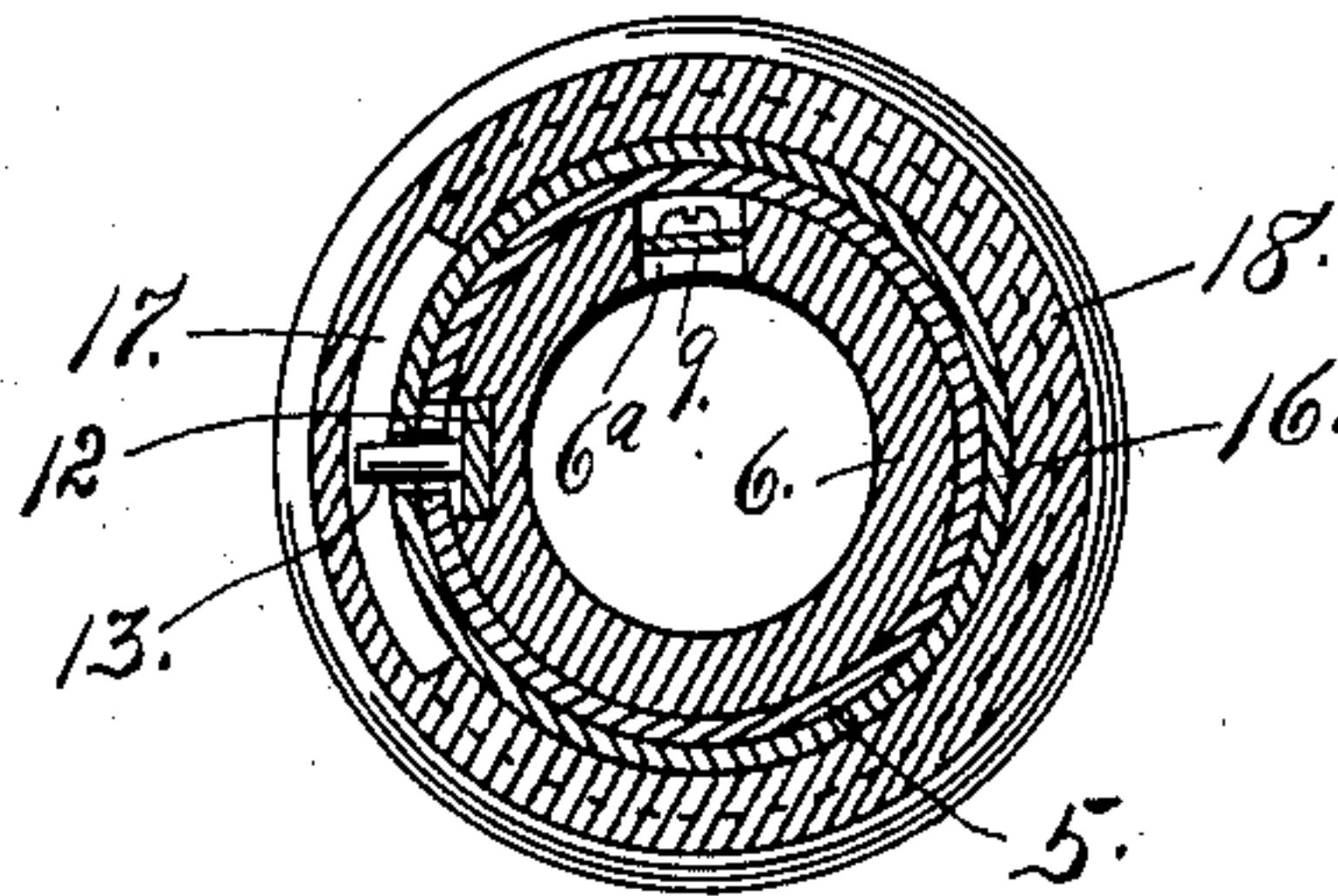


Fig. 5.

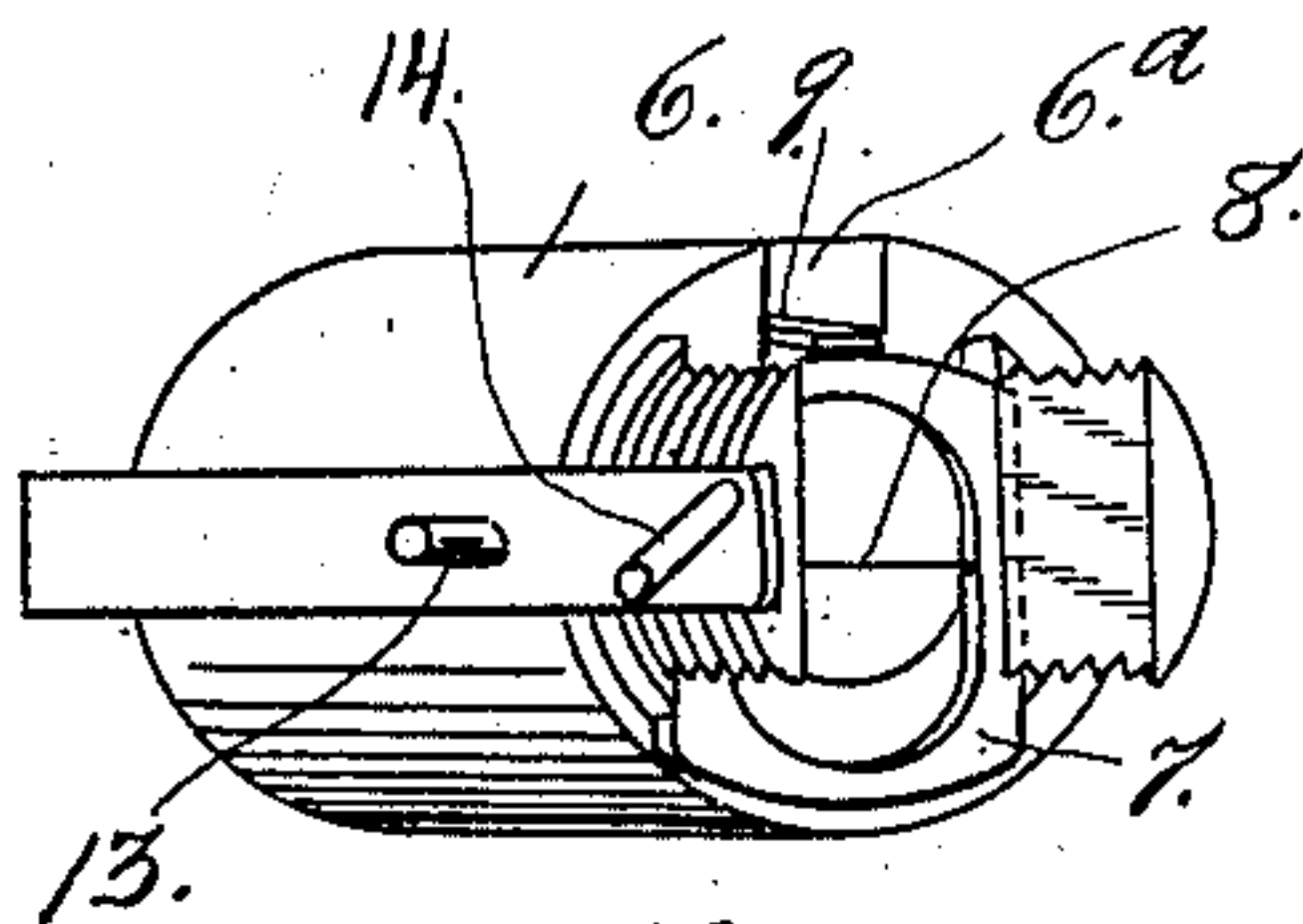


Fig. 7.

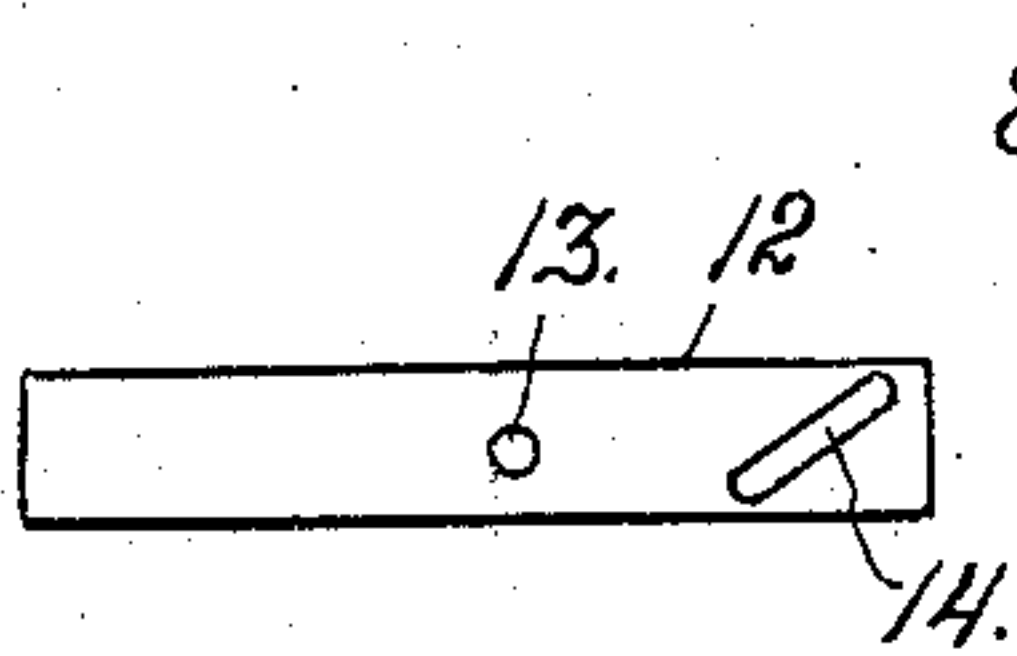


Fig. 8.

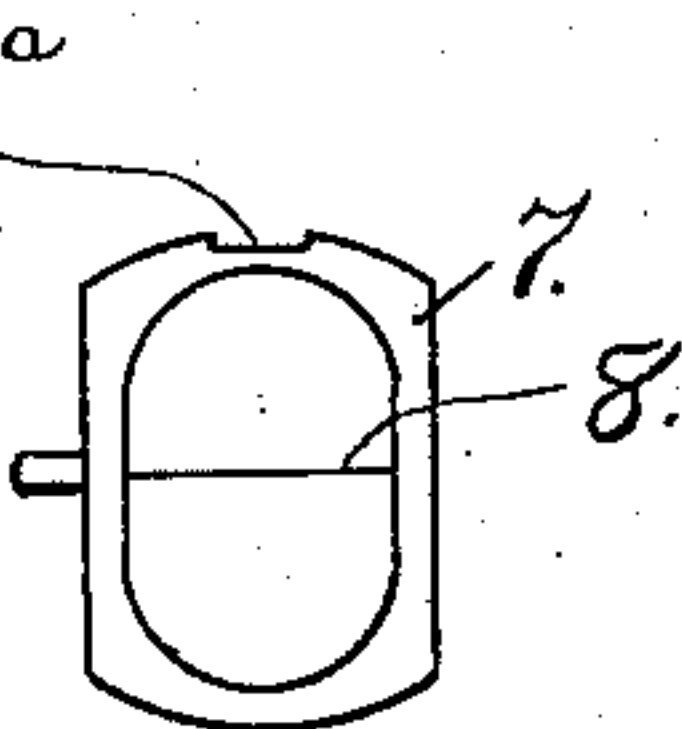


Fig. 9.

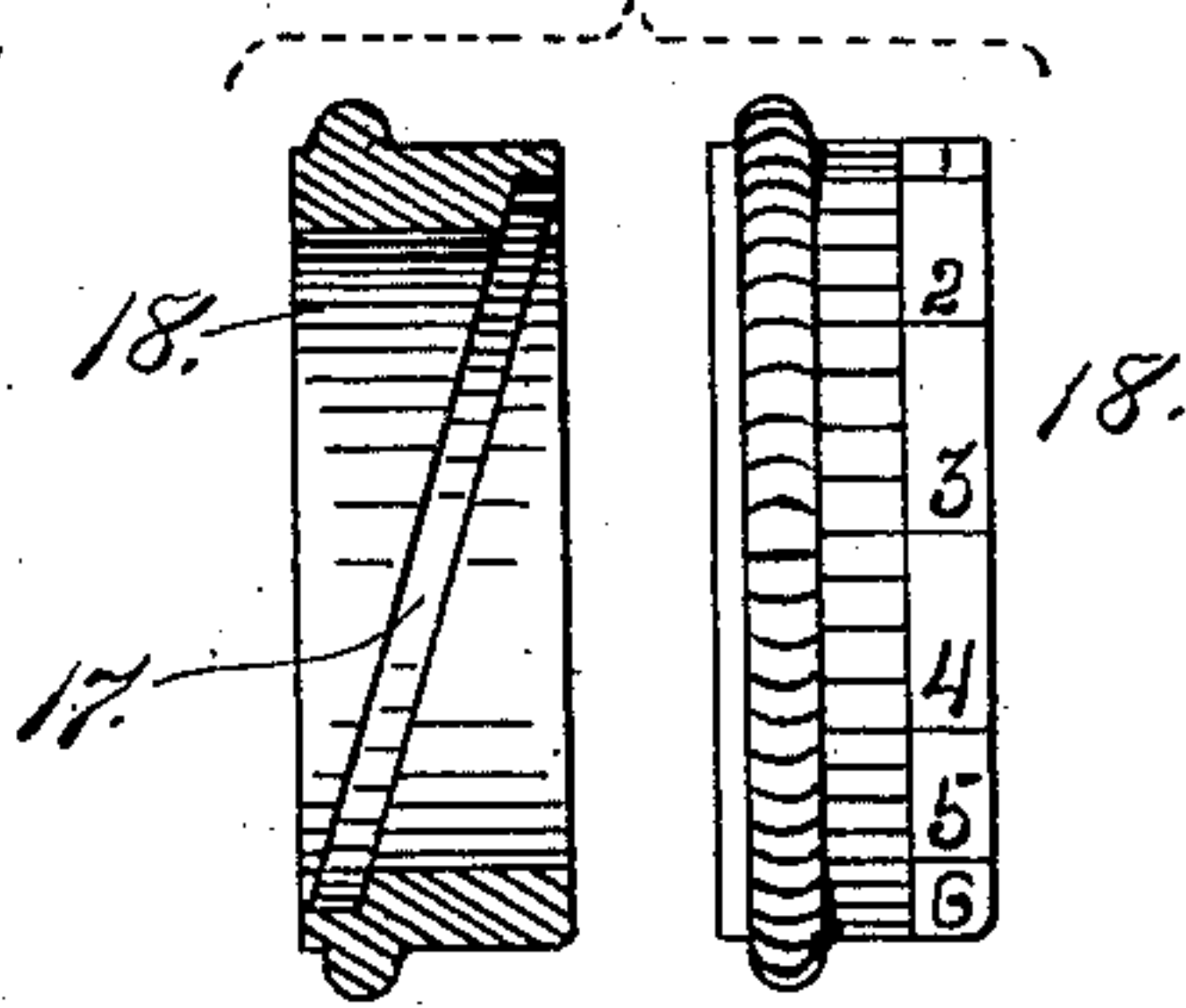


Fig. 10.

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UNITED STATES PATENT OFFICE.

AXEL W. PETERSON, OF DENVER, COLORADO.

MEANS FOR ADJUSTING CROSS-HAIRS OF TELESCOPIC SIGHTS.

SPECIFICATION forming part of Letters Patent No. 736,541, dated August 18, 1903.

Application filed November 21, 1902. Serial No. 132,338. (No model.)

To all whom it may concern:

Be it known that I, AXEL W. PETERSON, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Means for Adjusting the Cross-Hairs of Gun-Telescopes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in means for adjusting cross-hairs of gun-telescopes to correspond or harmonize with the range or distance of the target or other object aimed at by the user of the gun.

My object is to provide a device of this class which shall be readily adjustable, whereby the horizontal cross-hair may be quickly and accurately changed for varying ranges, and whose manipulation or adjustment shall require no special skill on the part of the user.

My further object is to provide a device which when applied to the telescope shall be symmetrical and ornamental rather than unsightly or cumbersome.

Briefly stated, my improved device consists of a short barrel or sleeve inserted in the telescope-tube, in which barrel is vertically slidable a small frame carrying the horizontal cross-hair of the telescope, the said frame being normally spring-held in a predetermined position. This frame is provided with a short projection entering an inclined slot formed in a slide engaging a recess formed in the outer surface of the barrel, the said slide having a projection passing through a straight slot in the telescope-tube and engaging a spiral groove formed in an external ring which is graduated for varying range or distance. This ring engages a stationary shoulder at one end and an adjustable set-ring at the opposite end, whereby it is journaled on the telescope and has no movement back and

forth when in the regular performance of its function.

Having briefly outlined my improved construction, as well as the function it is intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 shows a gun with the telescope mounted thereon and equipped with my improvements. Fig. 2 is a fragmentary view of a telescope, showing the device on a larger scale. Fig. 3 is a section taken through the telescope-tube and the barrel mounted therein and carrying a spring-held slidable cross-hair frame. Fig. 4 is a view, partly in section and partly broken away, illustrating the complete device. Fig. 5 is a cross-section taken on the line 5 5, Fig. 4. Fig. 6 is a section taken on the line 6 6, Fig. 4. Fig. 7 is a perspective detail view showing the barrel carrying the cross-hair frame and the spring-held slide for adjusting said frame. Figs. 8 and 9 show the said slide and frame in detail. Fig. 10 illustrates the adjusting-ring, shown in elevation and section.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the telescope-tube, within which is located a short barrel 6, provided with a frame 7, carrying the horizontal cross-hair 8. This frame is provided with an elliptical opening vertically elongated or having its greater axis in a vertical position, so that the frame may be adjusted within the required limits without obstructing in any degree the necessary sight-opening of the telescope. In this barrel is formed a longitudinal recess 6^a, in which is located a leaf-spring 9, held in place by a screw 10. The extremity of this spring remote from the screw 10 bears against the upper extremity of the frame 8, which is provided with a shallow recess 8^a to receive the end of the spring which normally holds the said frame in its lowest position. In one side of the barrel is formed another longitudinal recess, in which is located a slide 12, provided with a

centrally-located pin 13 and having an inclined slot 14 formed in one extremity. The shell of the barrel at one end is cut away at the top and bottom (see Fig. 7) to permit the frame 9 to move up and down without obstruction. A cap 15 is screwed upon said cut-away extremity of the barrel, and its interiorly-projecting flange is provided with an opening to receive the slotted extremity of the said slide. The pin 13 of the slide passes through a straight slot formed in the telescope-tube and a registering slot formed in the sleeve 16, applied to the telescope exteriorly. This pin also projects beyond the sleeve 16 far enough to enter a spiral groove 17, formed in the inner surface of a ring 18, exteriorly graduated for convenience of adjustment in regulating the position of the horizontal cross-hair to correspond with the desired range. The figures shown on the graduated exterior surface of the ring 18 indicate hundreds of yards. This ring is regulated with reference to a mark 20, suitably placed on the stationary shoulder 16^a of the sleeve 16, against which shoulder the rear end of the adjusting-ring abuts and prevents rearward movement of the ring. The rearward extremity of the sleeve 16 is exteriorly threaded to receive a set-ring 19, adapted to abut against the ring 18 for the purpose of holding the latter tightly in place when adjusted; but it may be loosened when it is desired to change the position of the graduated range-ring.

From the foregoing description the use and operation of my improved device will be readily understood. Assuming that the cross-hair 8 is adjusted for a three-hundred-yard range or distance, the line adjacent the numeral 3 on the ring 18 will be located in line with the pointer-mark 20 on the shoulder 16^a. Then if it is desired to regulate the cross-hair for a greater range the ring 18 is turned in one direction and if for a less range the ring is turned in the opposite direction until the mark indicating the required range is brought into line with the pointer marked 20.

The ring 18 for use on guns of different trajectories will be differently graduated—that is to say, the distance between the hundred-yard marks will vary for use on guns of different trajectories.

In the foregoing description special reference has been made to the adjustment of the horizontal cross-hair of the telescope. It is evident that the vertical cross-hair may be operated by mechanism substantially the same as that herein described, and it is therefore the intention of this application to cover the adjustment of both cross-hairs of a telescope. The reason for adjusting the vertical cross-hair is to allow for the influence of the wind on the bullet or projectile. The shoul-

dered sleeve 16 is secured in place on the telescope-tube by means of a fastening-screw 16^c.

Having thus described my invention, what I claim is—

1. In means for adjusting the cross-hair of a telescope, the combination of a device movably mounted in the telescope-tube and carrying the cross-hair to be adjusted, a ring mounted exteriorly on the telescope, and a suitable connection between the ring and the movable cross-hair-carrying device, whereby as the ring is turned the cross-hair is adjusted.

2. In means for adjusting the cross hair or wire of a telescope, the combination of a device movable transversely in the telescope-tube and carrying the cross hair or wire to be adjusted, said device having a lateral projection, a longitudinally-movable slide mounted in the telescope and having an inclined slot into which the projection of the cross-hair-carrying device protrudes, the said slide having a pin passing through a straight slot in the tube of the telescope, a ring mounted exteriorly on the telescope and having a spiral groove or way which the pin of the slide engages, whereby as the ring is turned the slide and the cross-hair-carrying device are actuated.

3. The combination of an open cross-hair-carrying frame slidable transversely in the telescope, a spring engaging said frame, a slide longitudinally movable in the telescope-tube and provided with an inclined slot and an outwardly-projecting pin passing through a straight slot in the telescope, the said frame having a lateral projection engaging the inclined slot of the slide, and a ring journaled exteriorly on the telescope and having a spiral groove or way into which the said pin projects whereby as the ring is turned the slide is actuated to move the said frame against the holding tendency of the spring.

4. The combination of a barrel inserted in the telescope-tube, a cross-hair-carrying frame slidable transversely in said barrel and provided with a lateral projection, a spring carried by the barrel and engaging said frame, a part mounted to slide in a longitudinal recess formed in the barrel and having an inclined slot and an outwardly-projecting pin passing through a straight slot formed in the telescope-tube, the projection of the frame, engaging the inclined slot of the said sliding part, and a ring journaled exteriorly on the telescope and having a spiral groove or way into which the said pin of the sliding part protrudes.

5. The combination with a telescope, of a cross-hair-carrying device mounted to move transversely therein, a ring journaled exteriorly on the telescope, a suitable connection between the ring and the cross-hair-carrying

device whereby as the ring is actuated the said device is operated as described, the said ring being graduated to indicate range measurements, a shoulder against which the ring
5 abuts, and a set-ring screwed onto the telescope to hold the graduated ring in the adjusted position.

6. The combination with a telescope, of a cross-hair-carrying device movably mounted
10 therein, a slide also movably mounted therein, a ring journaled exteriorly on the telescope, and a suitable connection between the

ring and the slide and the cross-hair-carrying device, whereby as the ring is actuated the slide and cross-hair-carrying device are actu- 15
ated at right angles to each other, substantially as described.

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

AXEL W. PETERSON.

Witnesses:

DENA NELSON,
A. J. O'BRIEN.