

No. 688,122.

Patented Dec. 3, 1901.

C. J. REYNOLDS.  
DENTAL DISK MANDREL.

(Application filed Jan. 28, 1901.)

(No Model.)

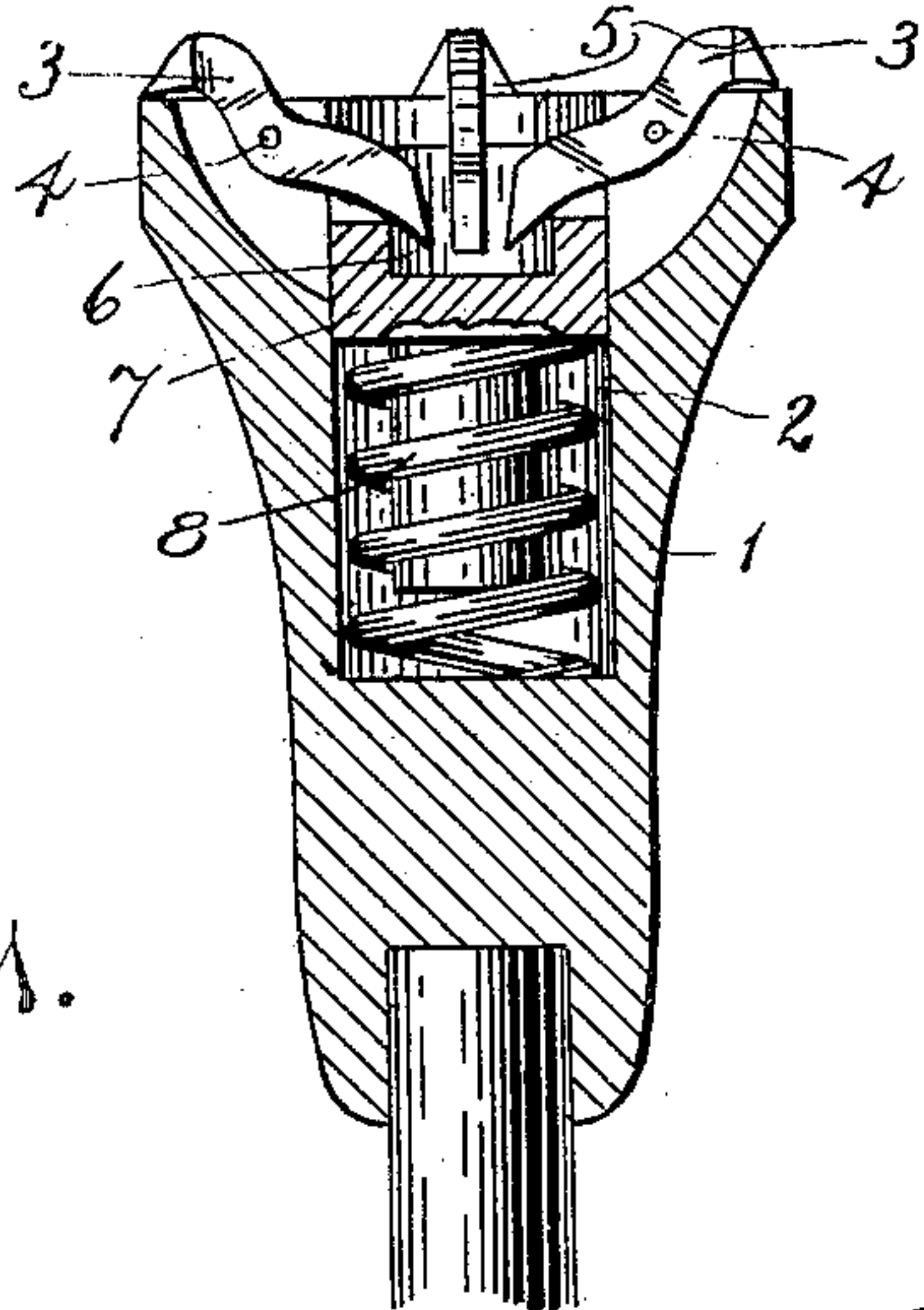


Fig. 1.

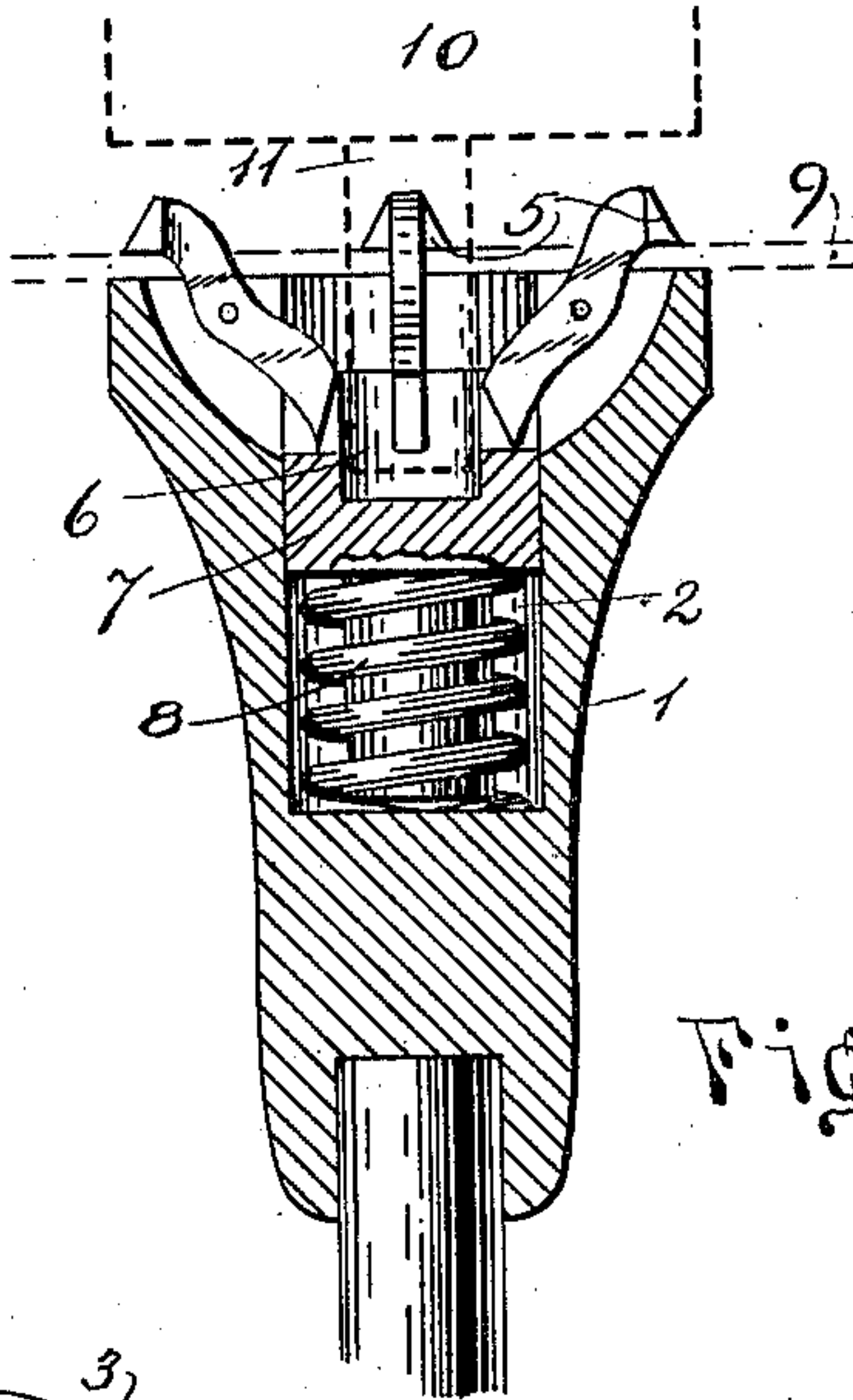


Fig. 2.

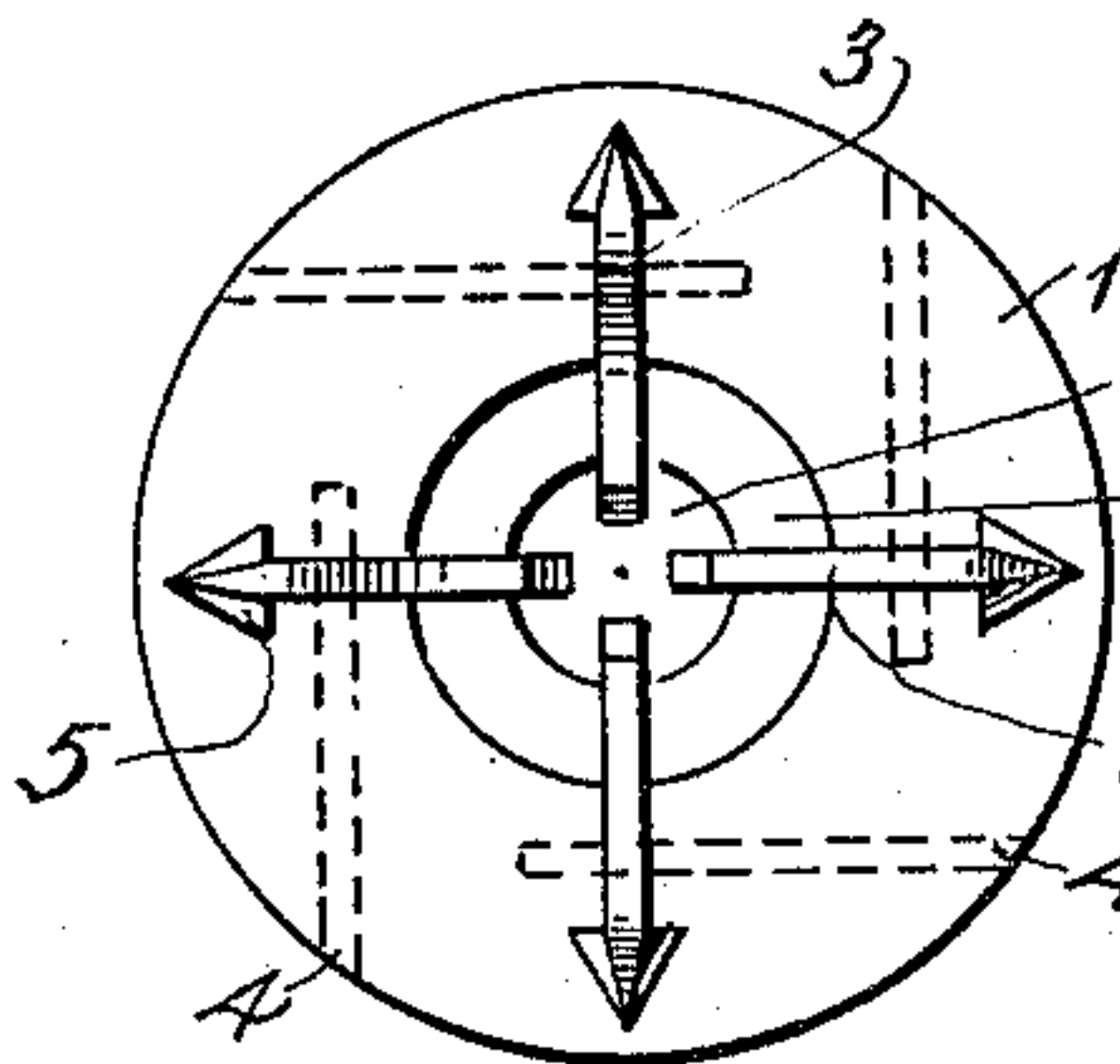


Fig. 3.

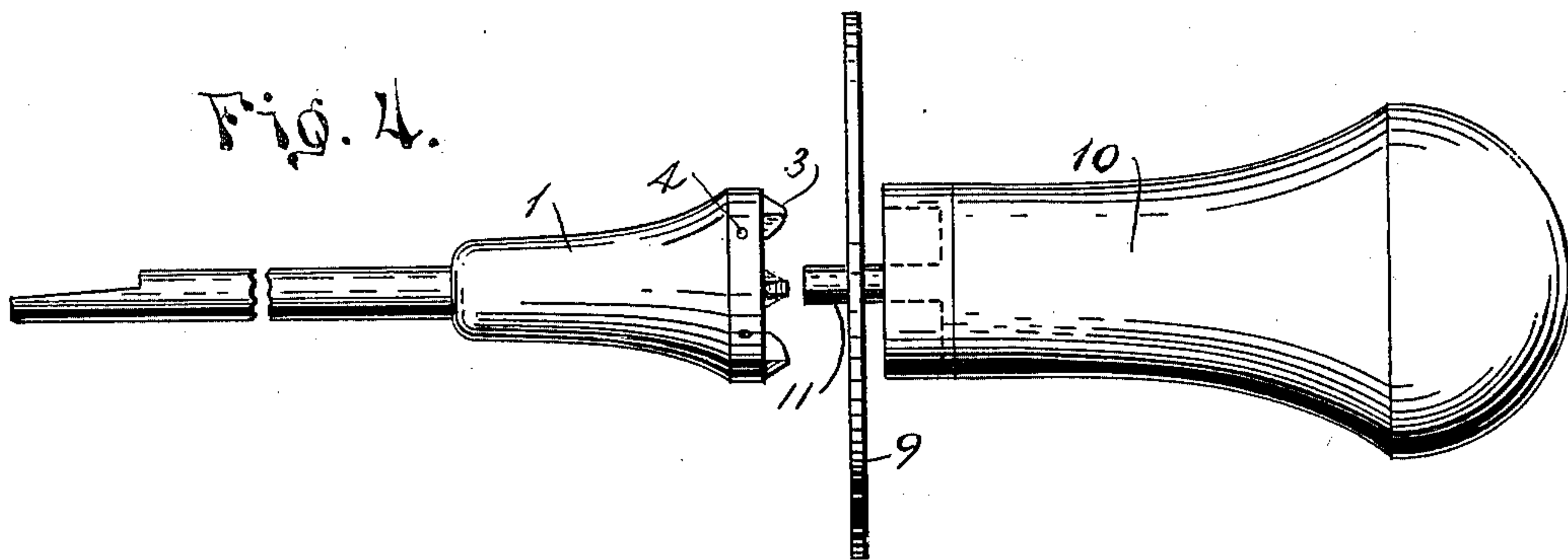


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## DENTAL DISK-MANDREL.

SPECIFICATION forming part of Letters Patent No. 688,122, dated December 3, 1901.

Application filed January 26, 1901. Serial No. 44,940. (No model.)

*To all whom it may concern:*

Be it known that I, CLAYTON J. REYNOLDS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Disk-Mandrels, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a new and improved disk-mandrel to be used in connection with a dental engine; and to this end my invention consists of a new and improved disk-mandrel particularly adapted for firmly holding a paper disk and in the construction and combination of parts, all as fully hereinafter described and claimed.

In the accompanying drawings, which illustrate an application of my invention, Figure 1 is an enlarged central vertical sectional view of a mandrel embodying my invention; Fig. 2, a similar view showing a disk in dotted lines and the movable parts in a different position than that shown by Fig. 1; Fig. 3, a top plan, and Fig. 4 a side elevational view showing an adjusting-handle and method of mounting the disk.

Heretofore with the old style of mandrels a great deal of annoyance has been occasioned by reason of the disk becoming disengaged from the mandrel. This is particularly the case in the use of paper disks. The present invention is designed to obviate this trouble and to provide a simple and efficient mandrel.

Referring to the drawings, the casing 1 is provided with a chamber 2, in which the movable parts of the mandrel are located. Arms 3—four in number are shown by the drawings—are hung on pivots 4, which latter have their bearings in the casing 1. The outer ends of the arms are provided with pointed disk-engaging heads 5, and the inner ends extend through slots and terminate in a cut-out portion 6 of a movable plug 7. A spring 8, bearing against the under side of the plug 7, is located in the lower part of chamber 2 and designed to exert a pressure against the plug in the direction of the pivoted arms and maintain the parts in the position shown by Fig. 1. In Fig. 2 I have shown a disk 9, held in position on the mandrel. An adjusting-handle 10, having a pin 11, is shown by Fig. 4.

In mounting the disk on the mandrel the pin 11 of the adjusting-handle is passed through the center of the disk to be mounted, after which the pin is inserted in the space 6 of the plug 7. The inner ends of the pivoted arms 3, which project into the space 6, are in the path of the descending pin and come in contact therewith. The pin is also met by the plug 7, and the plug, together with the inner ends of said arms, is caused to move downwardly. This movement of the inner ends of the arms and the plug causes the pointed engaging heads of the arms to be moved upwardly and inwardly and to puncture the disk. A withdrawal of the pin permits the plug to exert an upward pressure caused by the spring 8 against the inner ends of the arms. This upward pressure against the inner ends of the arms moves the arms on their pivots and brings the pointed and engaging heads 5 in close contact with the outer face of the disk. By the construction shown I am enabled to securely lock the disk to the mandrel, thereby preventing the disk from becoming disengaged from the mandrel during an operation. The disk may be readily removed from the mandrel in the usual manner.

Having thus described my invention, what I claim is—

1. A disk-mandrel, comprising, a plurality of movable disk-engaging arms pointed at their outer ends for puncturing a disk, and means for moving the arms, substantially as set forth.

2. A disk-mandrel, having movable pivoted disk-engaging arms designed to puncture a disk, and a spring for moving the arms in one direction, substantially as set forth.

3. A disk-mandrel comprising, a casing, movable disk-engaging arms designed to puncture a disk, and a spring for exerting pressure against the arms, substantially as set forth.

4. A disk-mandrel, comprising a casing, pivoted arms provided with disk-engaging heads, a movable plug within the casing in contact with the inner ends of the arms, and means for moving the plug, substantially as set forth.

5. A disk-mandrel, comprising, a casing, pivoted arms provided with disk-engaging

heads, a movable plug, and a spring within the casing, substantially as set forth.

6. A disk-mandrel, comprising, a casing having a central bore, a movable plug and a  
5 spring within the bore, pivoted arms having disk-engaging heads and having their inner ends located in a cut-out portion of said plug, substantially as set forth.

7. In a disk-mandrel, the combination, with  
10 a disk, of disk-engaging arms designed to be moved in one direction to puncture the disk,

and means for exerting pressure against the arms in the opposite direction for holding the disk on the mandrel, substantially as set forth.

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

CLAYTON J. REYNOLDS.

Witnesses:

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