

E. SWEET.
DENTAL ARTICULATOR.
APPLICATION FILED JULY 1, 1910.

989,540.

Patented Apr. 11, 1911.

2 SHEETS—SHEET 1.

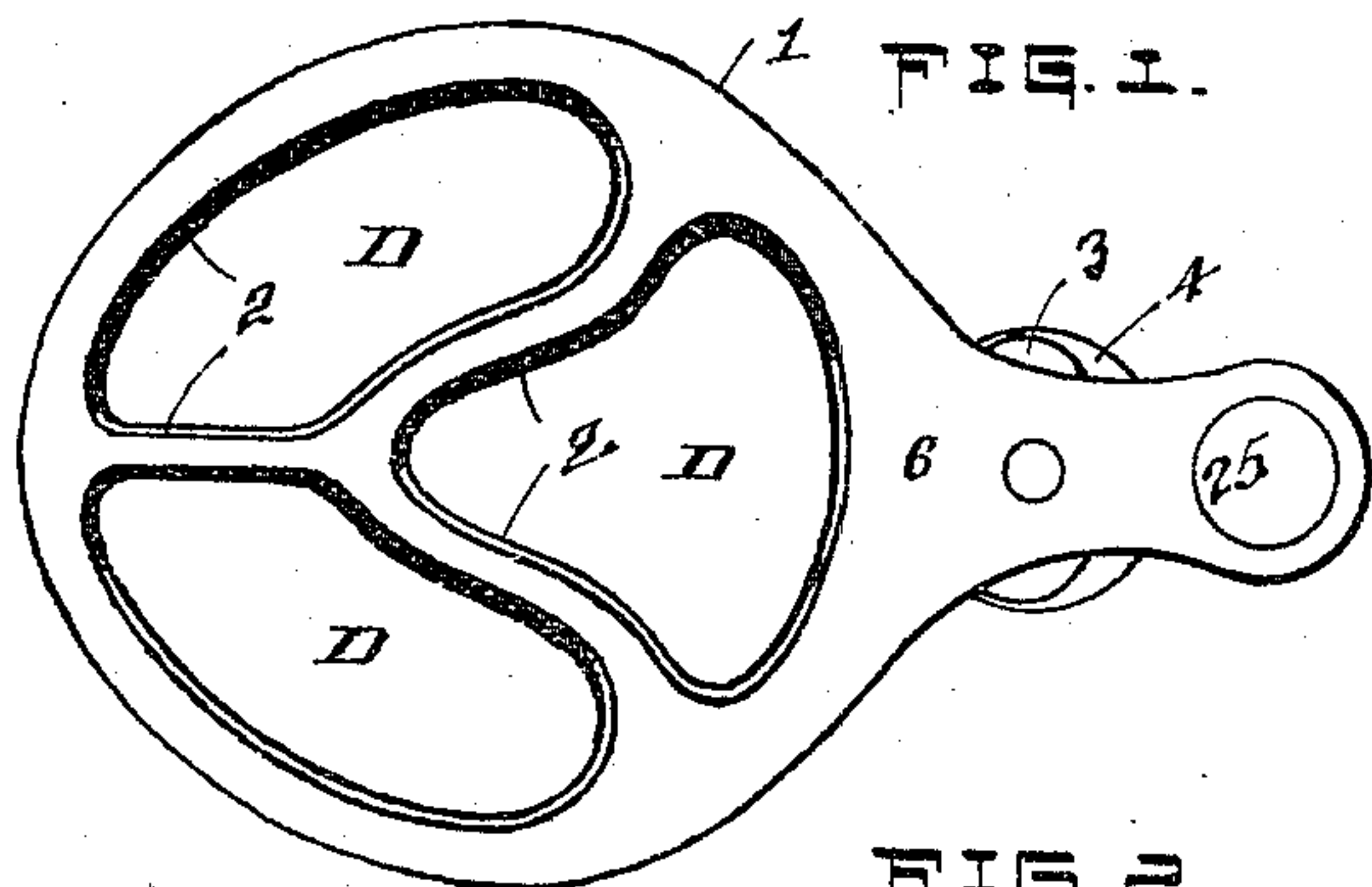


FIG. 2.

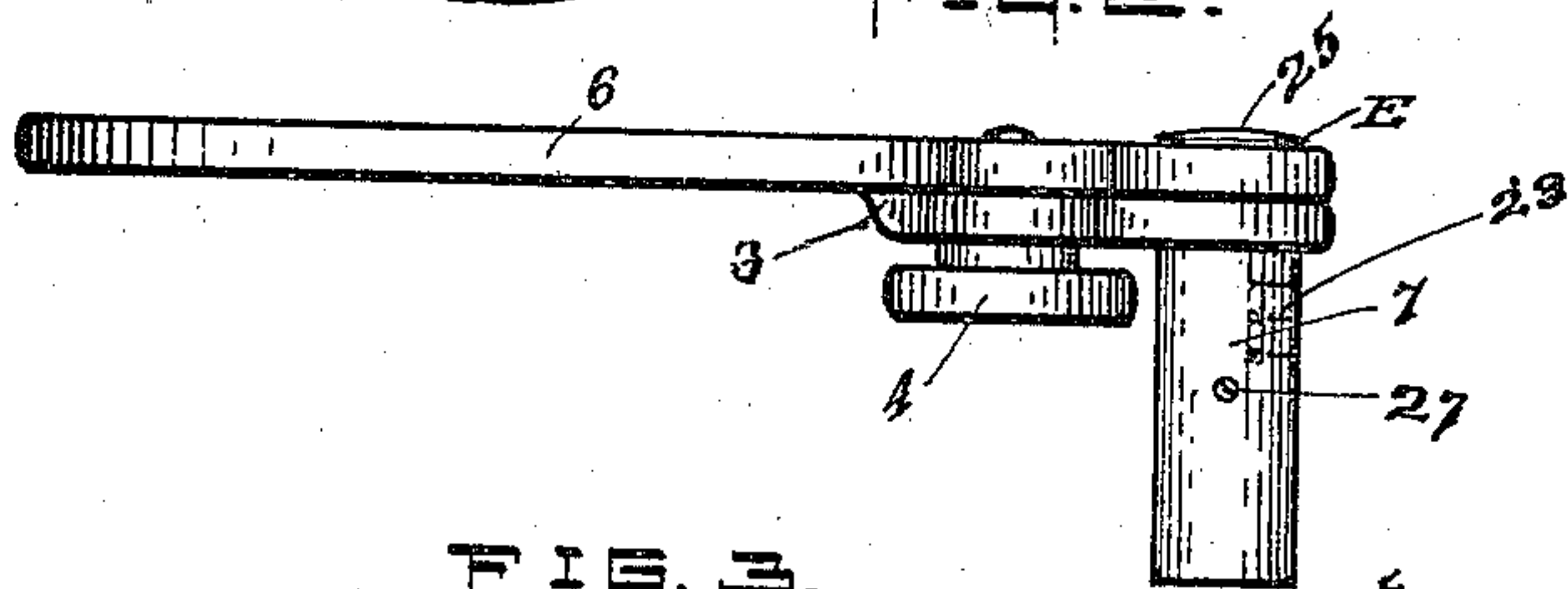


FIG. 3.

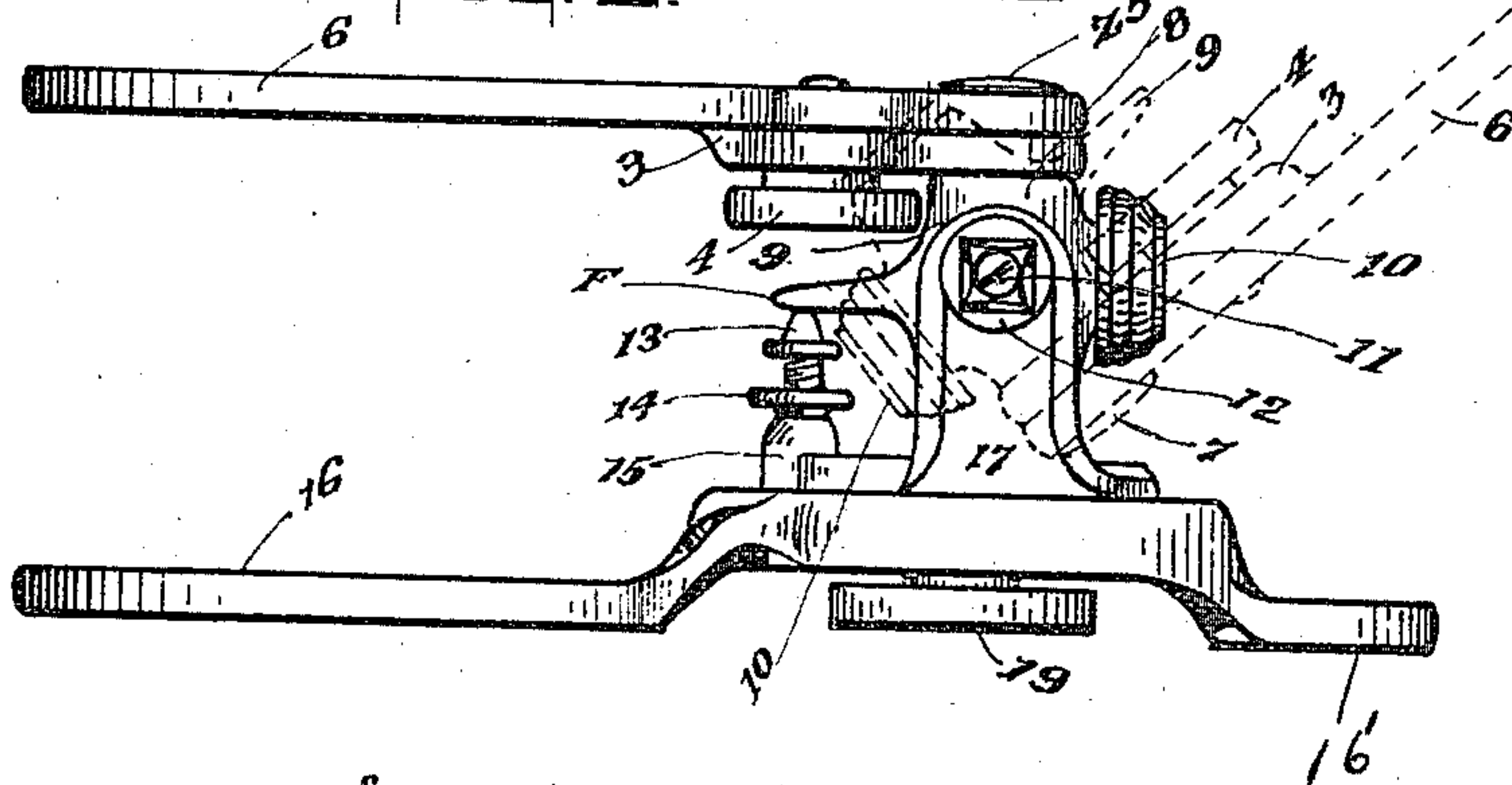
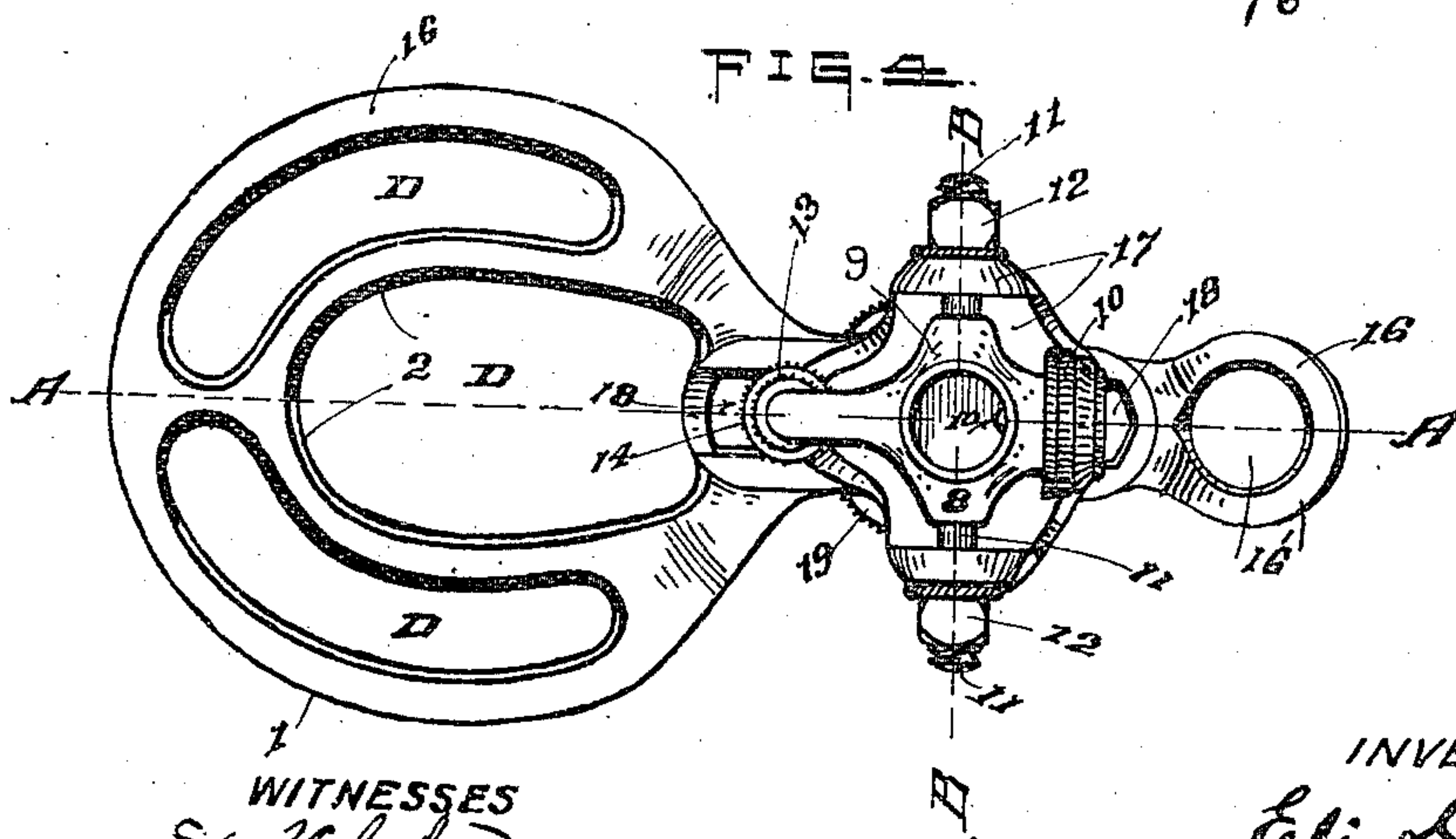


FIG. 4.



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FIG. 5.

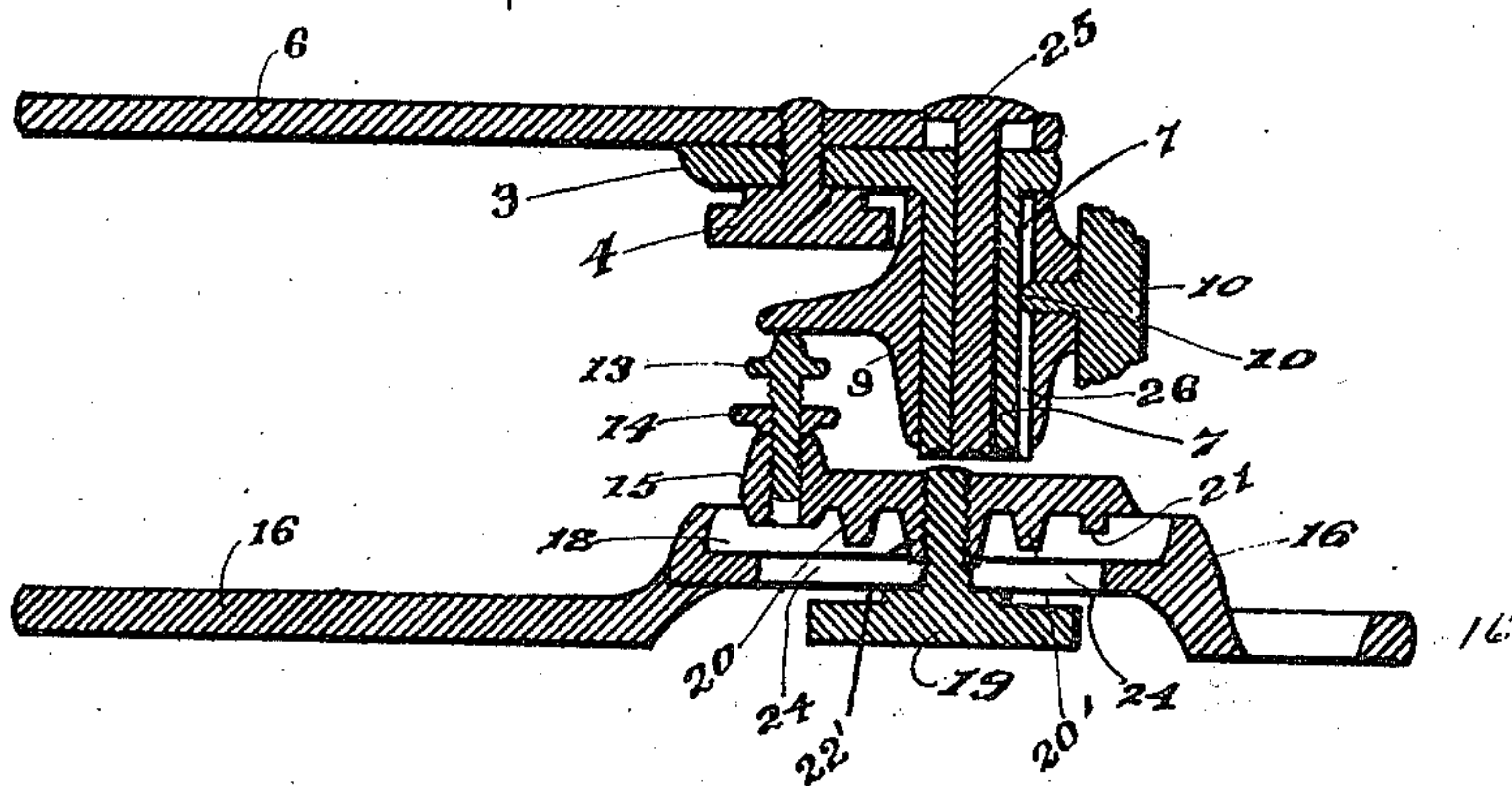


FIG. 6.

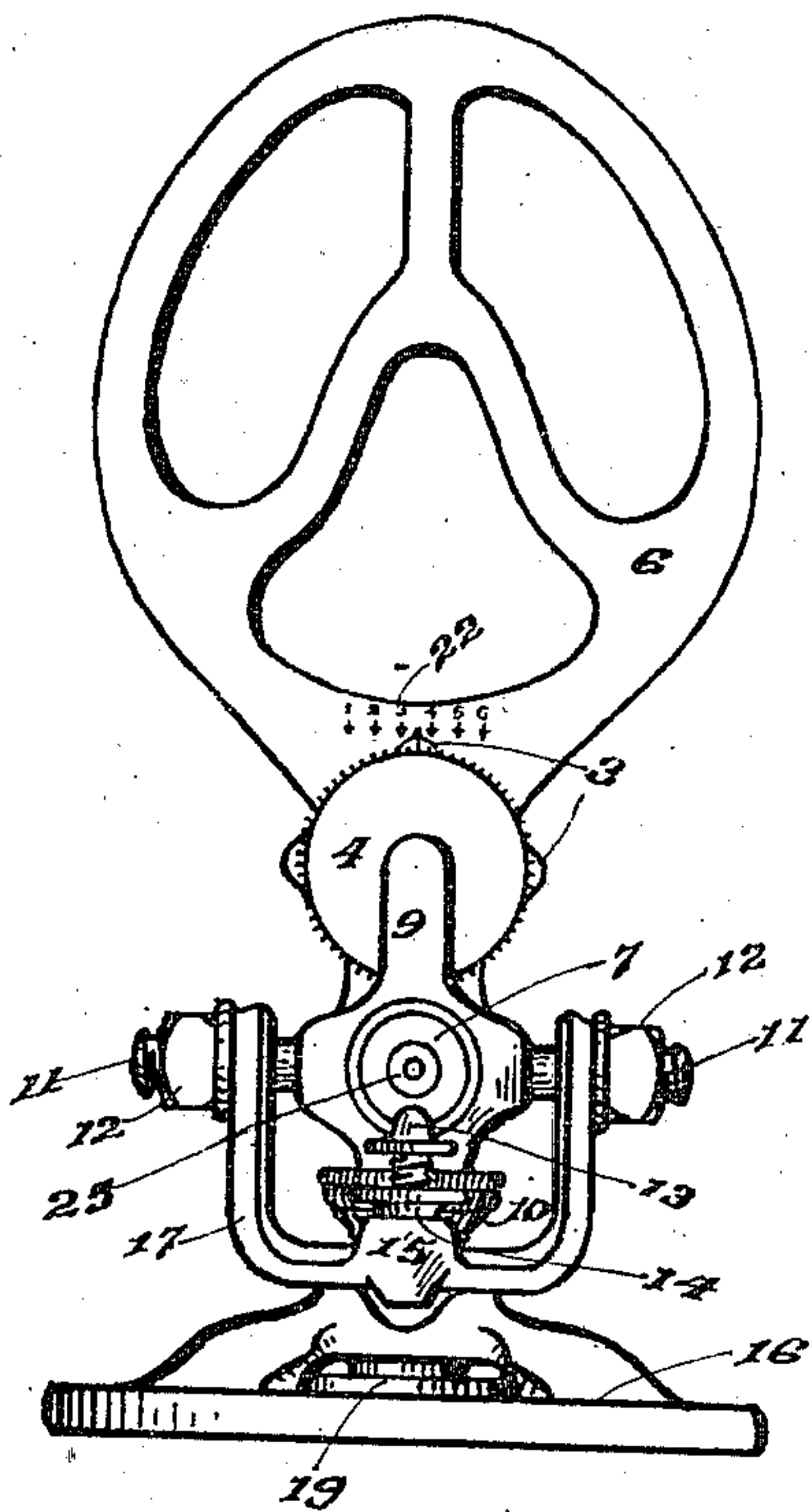


FIG. 7.

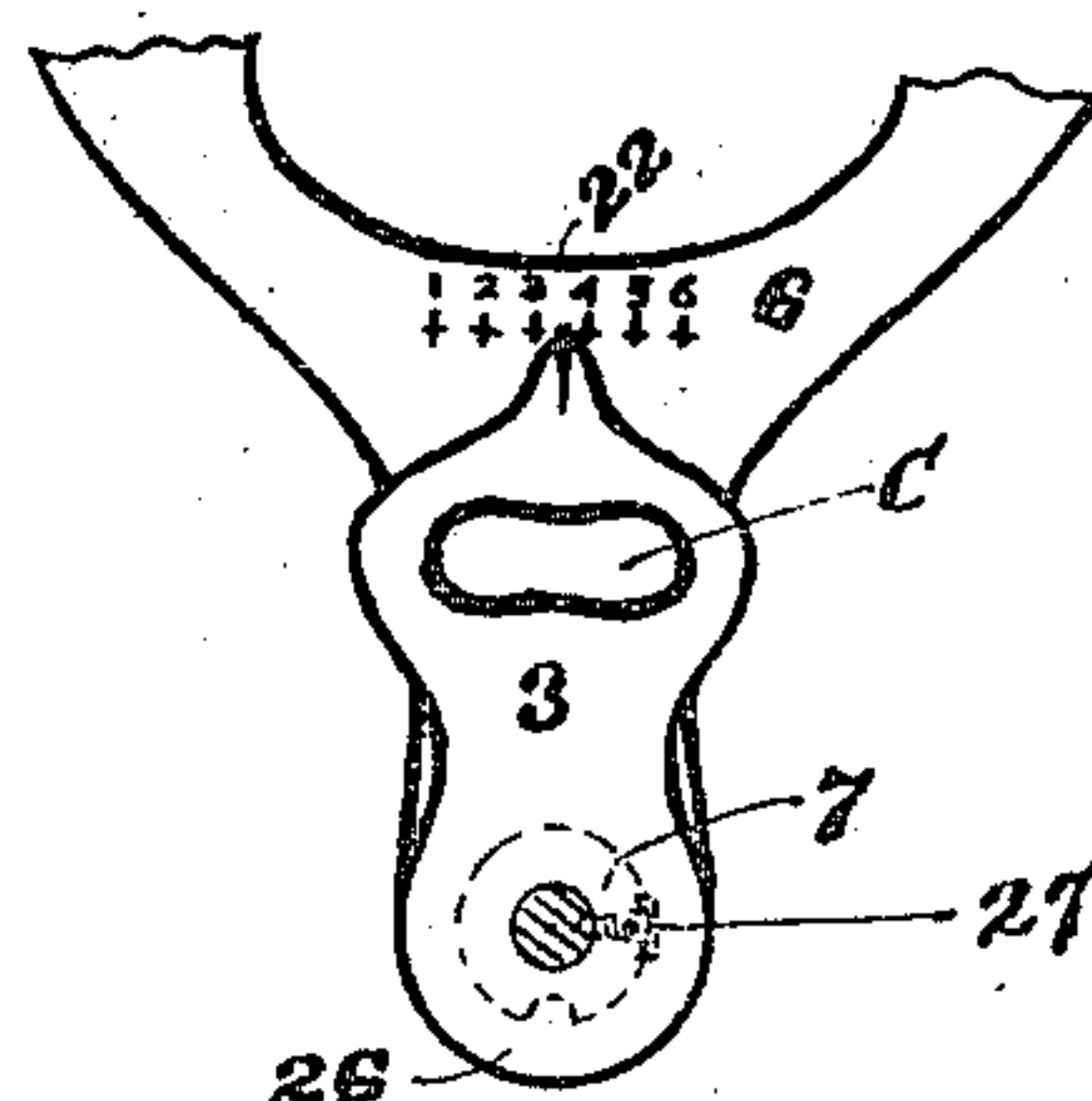
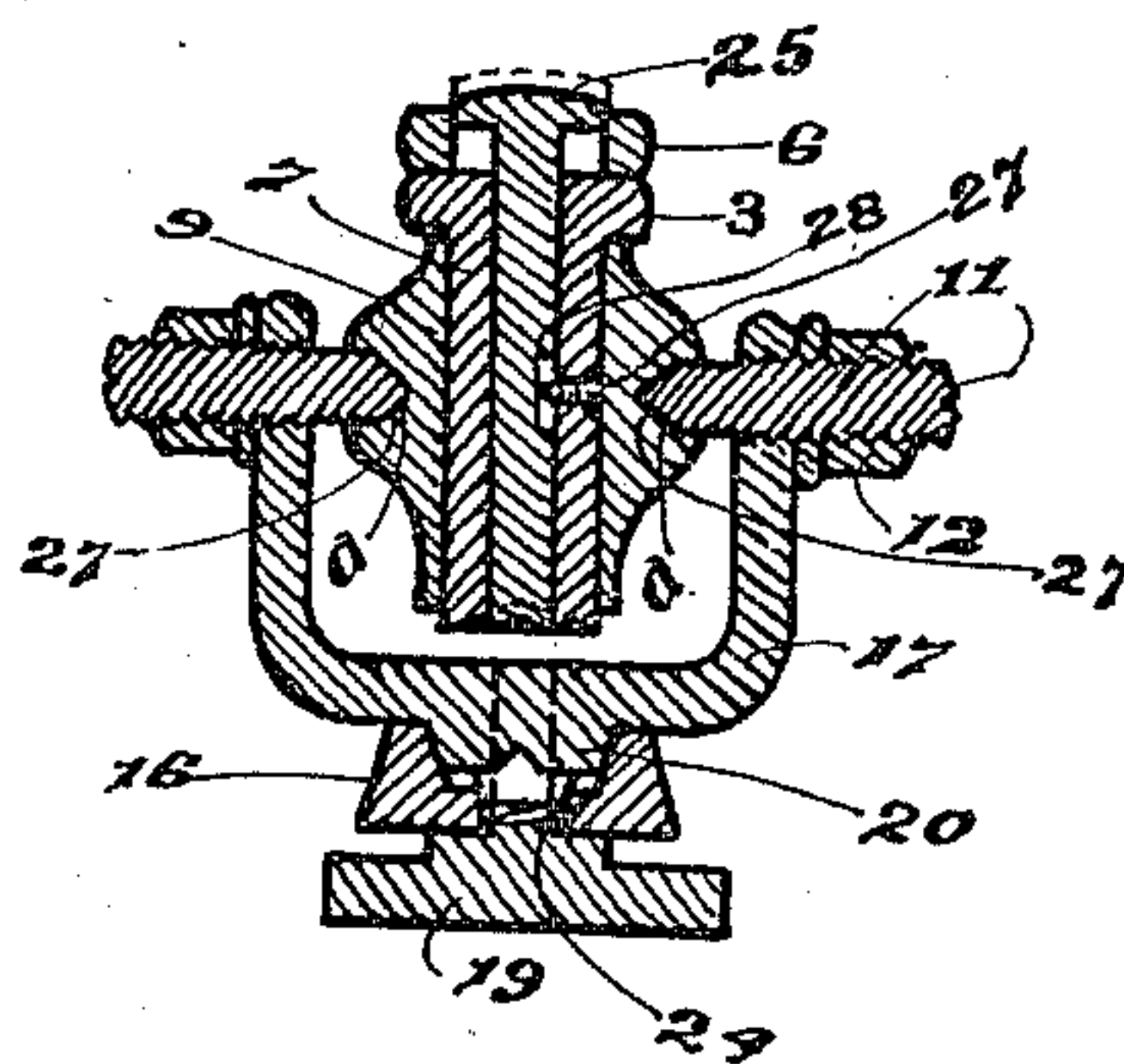


FIG. 7.



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ELI SWEET, OF BINGHAMTON, NEW YORK.

DENTAL ARTICULATOR.

989,540.

Specification of Letters Patent.

Patented Apr. 11, 1911.

Application filed July 1, 1910. Serial No. 569,958.

To all whom it may concern:

Be it known that I, ELI SWEET, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Dental Articulators, of which the following is a specification.

My invention relates to improvements in dental articulators, and is particularly aimed to improve the construction of such devices and increase the facility of adjustment of the parts with relation to each other.

It is particularly designed to construct the relative connection between the plates of an articulator in such a manner that they may be readily shifted into desired positions of alinement with great facility.

My invention particularly refers to that class of articulators in which one of the plates is rendered movable both upon a horizontal and upon a vertical pivot with relation to its complemental plates.

In particular, the aim of the present invention is to provide such a structure that a minimum adjusting action is necessary to bring the plates into desired alinement.

With the above objects in view, the invention resides in the novel arrangement of the structural elements hereinafter described particularly pointed out in the claims and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the upper plate of my device; Fig. 2, is a side elevation of said upper plate; Fig. 3, is a side elevation of my improved articulator in assembled position, and showing in dotted lines the position of adjustment attainable by my upper plate with relation to the lower plate; Fig. 4, is a top plan view of my lower plate showing the upper plate carrying element with said upper plate removed; Fig. 5, is a longitudinal section of my assembled structure; Fig. 6, is a front elevation of my improved device showing the upper plate in elevated position; Fig. 7, is a transverse sectional view through the vertical pivot of my device and Fig. 8, is a detail view of the jaw and its supporting plate.

Referring more particularly to the drawings, in which similar characters of reference designate like parts, the lower plate or jaw of my device is indicated by the numeral 16 and has in coöperative relation the upper plate or jaw 6. The body portions of my plates are of normal form and

are solid as is customary being however provided with beveled walls 2 to permit the separation of the modeled article without chipping. The lower plate or jaw of my device is provided with an attenuated rear portion having a groove 18 extending substantially throughout its length and having its base cut away to form a slot 24. Slidably mounted in said groove 18 is a yoke 17 having guide locks or runners 20 and 20' fitting in said groove 18 and likewise having an integral hold pin 21 arranged upon the base of said yoke 17. Preferably between the runners 20 and 20' is a boss 22' having an internal threaded aperture. Extending upward through said slot 24 is a set screw 19 adapted to coöperate with the threaded aperture of the boss 22' to clamp said yoke at any position of adjustment in the groove. Preferably the attenuated portion of the lower jaw 16 is in elevated relation to the body of the jaw to form a seat for the head of the set screw 19. At the forward end of the yoke 17 is preferably provided an internally threaded apertured lug 15 for the reception of the set screw 13 adapted to be held in adjusted position by means of a lock nut 14. The function of this last mentioned set screw will be defined hereinafter. To the rear of the attenuated position of the lower jaw is provided an apertured off-set portion in substantially the same plane as the body portion of said jaw.

A hub member 9 is provided with radial sockets *d* and is adapted to be supported from the yoke 17 by means of the ends 27 of set screws 11 having lock-nuts 12 for locking the same in any adjusted position. Removably mounted in the hub 9 is a sleeve 7 for the reception of a pivot pin 25 which is capable of limited adjustment therein because of a groove 28 in said pin and a co-operative screw 27 extending radially through the sleeve and into said groove. A projecting tongue F is provided upon the forward face of the hub 9 and is adapted to co-act with the aforementioned set screw 13 for the purpose of limited adjustment. The sleeve 7 is vertically grooved as at 26 for the reception of a set screw 10 mounted in the rear of the hub and operating in said groove to clamp said sleeve 7 at any point of adjustment with relation to the hub.

Integrally formed upon the sleeve 7 is an angularly disposed plate 3 preferably having its outer end tapered to a point and having

a transversely curved slot designated C near said outer end. Adapted to rest upon the plate 3 is a complementary jaw member 6 having cutaway portions likewise provided with beveled edges and having an internally threaded aperture and a larger aperture near its extreme inner end. The first of these apertures is adapted for the reception of a set screw 4 having its shank extending through the slot C whereby the plate 6 may be readily clamped to the plate 3. The aperture at the extreme inner end of the jaw is adapted for the reception of the pin 25, the head of which normally rests therein. It will be noted however, that the pin 25 may be elevated to a point where the head and pin clears the said last mentioned aperture and thus permit, by loosening the set screw 4, a complete lateral movement as opposed to a laterally swinging movement. Under normal conditions, the head of the pin 25 is adapted to rest in the said aperture and serve as a pivot for the jaw 6. It will be noted that the lower jaw 16 is provided with an extension aperture as at 16'. It will be seen that the tapered point of the plate 3 is adapted to co-act with a scale 22 which is formed on the under surface of the jaw 6. I also provide the sleeve 7 with a scale as shown in Fig. 2 to determine the degrees of vertical adjustment in its hub.

The operation of my device will be understood to be as follows:—When a longitudinal adjustment of the upper jaw with relation to the lower jaw is desired the set screw 19 is loosened and the yoke member 17 is shifted within the limits of its slot until the desired relative position of the upper jaw is attained. If desired it is possible to obtain a movement of the upper jaw directly at right angles with the aforesaid longitudinal movement by loosening and elevating the pin 25 and simultaneously loosening the set screw 4. If a swinging movement of the jaw 6 is desired the pin 25 is preferably maintained in its normally lower position and the set screw 4 is loosened when the jaw 6 may

be shifted. The hub which carries the upper jaw is frictionally held in any adjusted position by means of its set screws. If there is any sagging tendency of the jaw 6, this may be overcome by the adjustment of the set screw 13 and the consequent lifting of the tongue F on the hub 9. If it is desired, the sleeve 7 may be completely removed from the hub 9 by loosening the set screw 10. This removal of the sleeve 7 from its hub is essential, in the form of device shown in the drawings, to render the screw 27 accessible for adjustment of the headed pin 25.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. An articulator comprising a lower jaw and an upper jaw, said upper jaw being adjustable longitudinally and slidably adjustable transversely with respect to said lower jaw.

2. An articulator comprising a lower jaw and an upper jaw, said upper jaw being adjustable longitudinally, slidably adjustable transversely and adjustable in a rotatory direction with respect to the lower jaw.

3. An articulator comprising a lower jaw, a yoke member slidably mounted in a longitudinal groove on said jaw, adjustable pivot pins carried by said yoke, a hub supported from said pivot pins, and a jaw member carried by said hub, said pivot pins acting to maintain said hub at various points of adjustment in a rotatory direction.

4. An articulator comprising a lower jaw, an upper jaw, a yoke mounted on said lower jaw, a hub mounted on said yoke, an upper jaw mounted on said hub, and a pivot pin for said jaw capable of adjustment to permit transverse movement of said upper jaw.

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

ELI SWEET.

Witnesses:

S. C. VALENTINE,
WALTER D. WEBSTER.