

No. 864,700.

PATENTED AUG. 27, 1907.

F. A. SCRANTON.  
BELL.

APPLICATION FILED APR. 7, 1904.

Fig. 1.

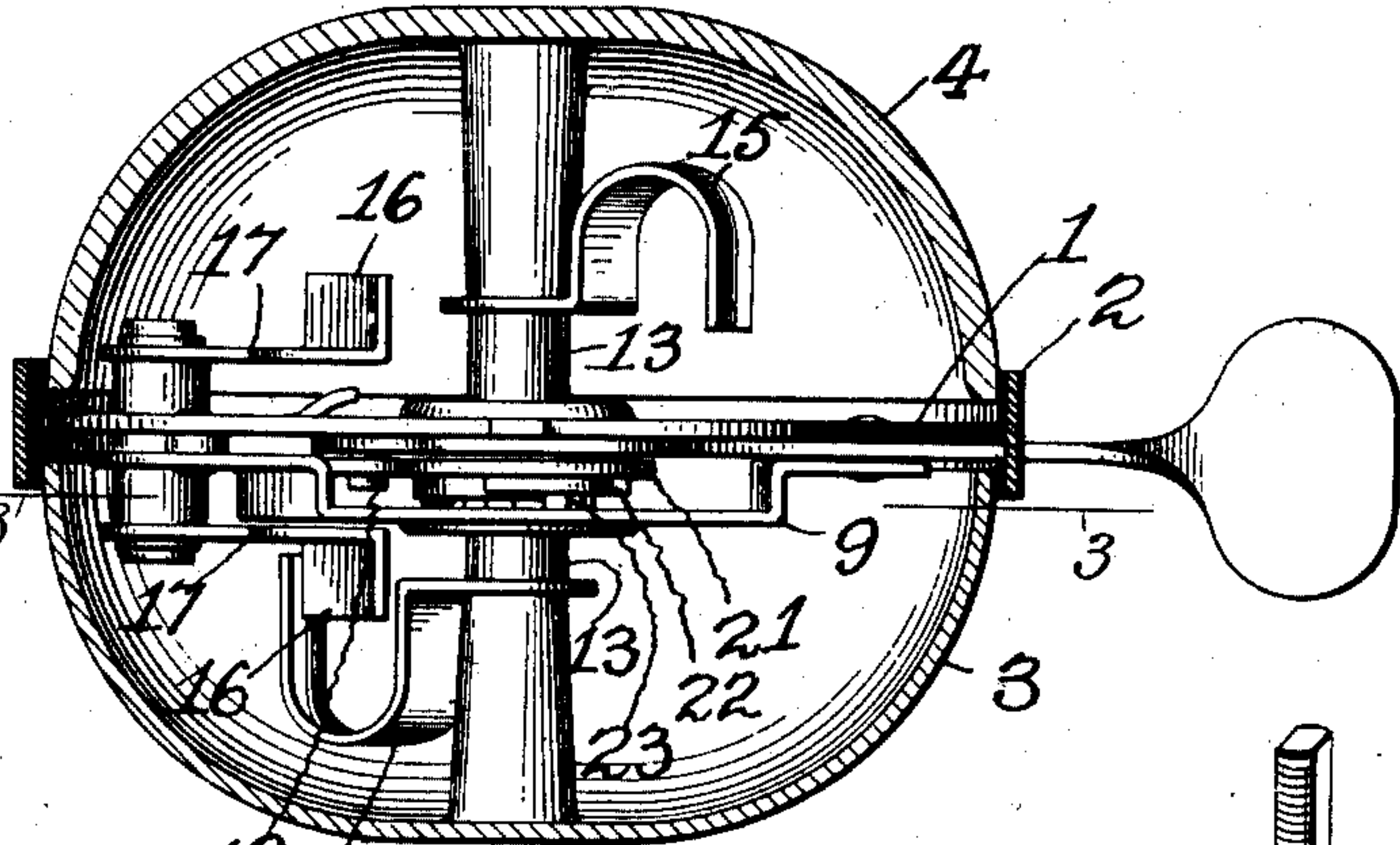


Fig. 4.

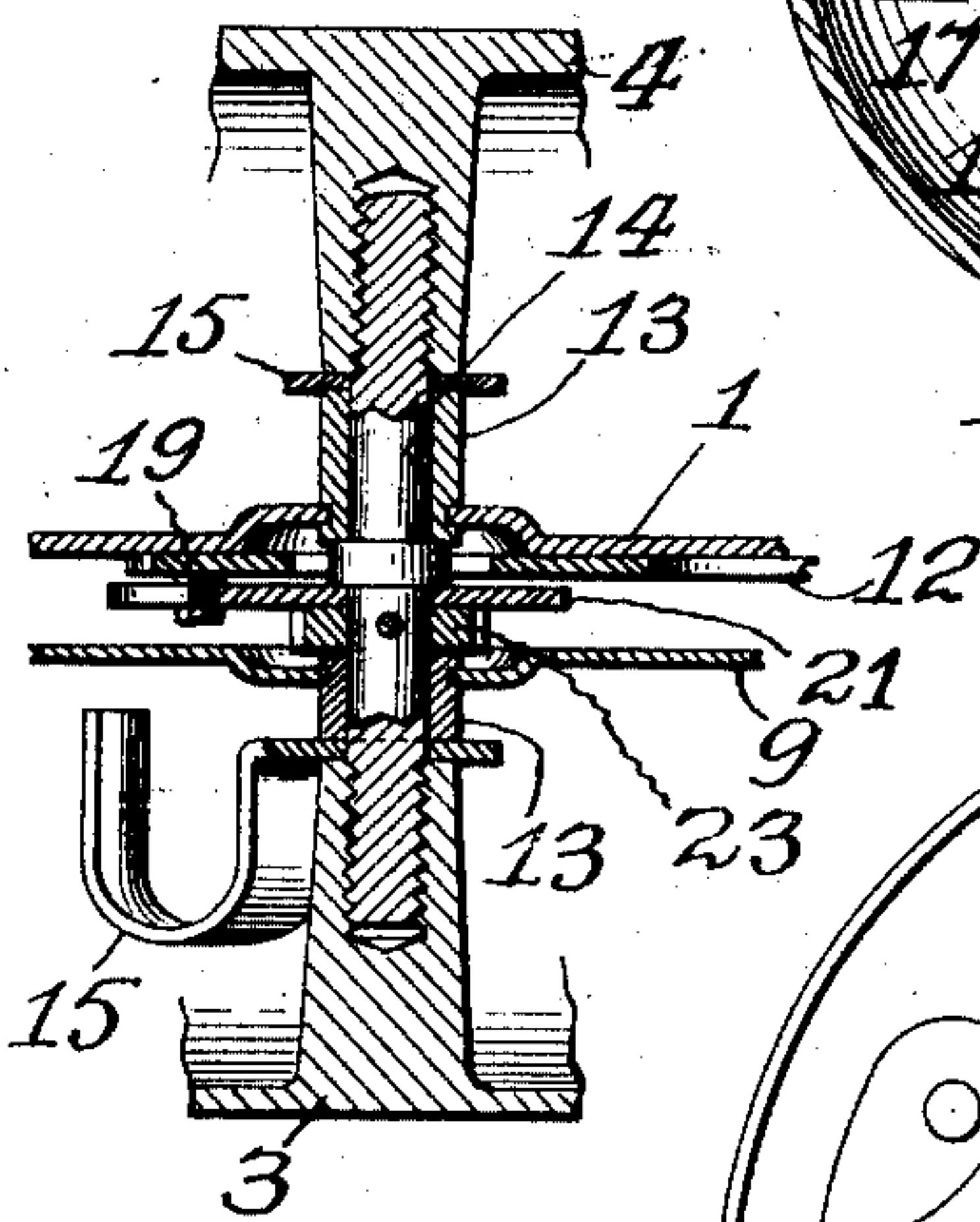


Fig. 2.

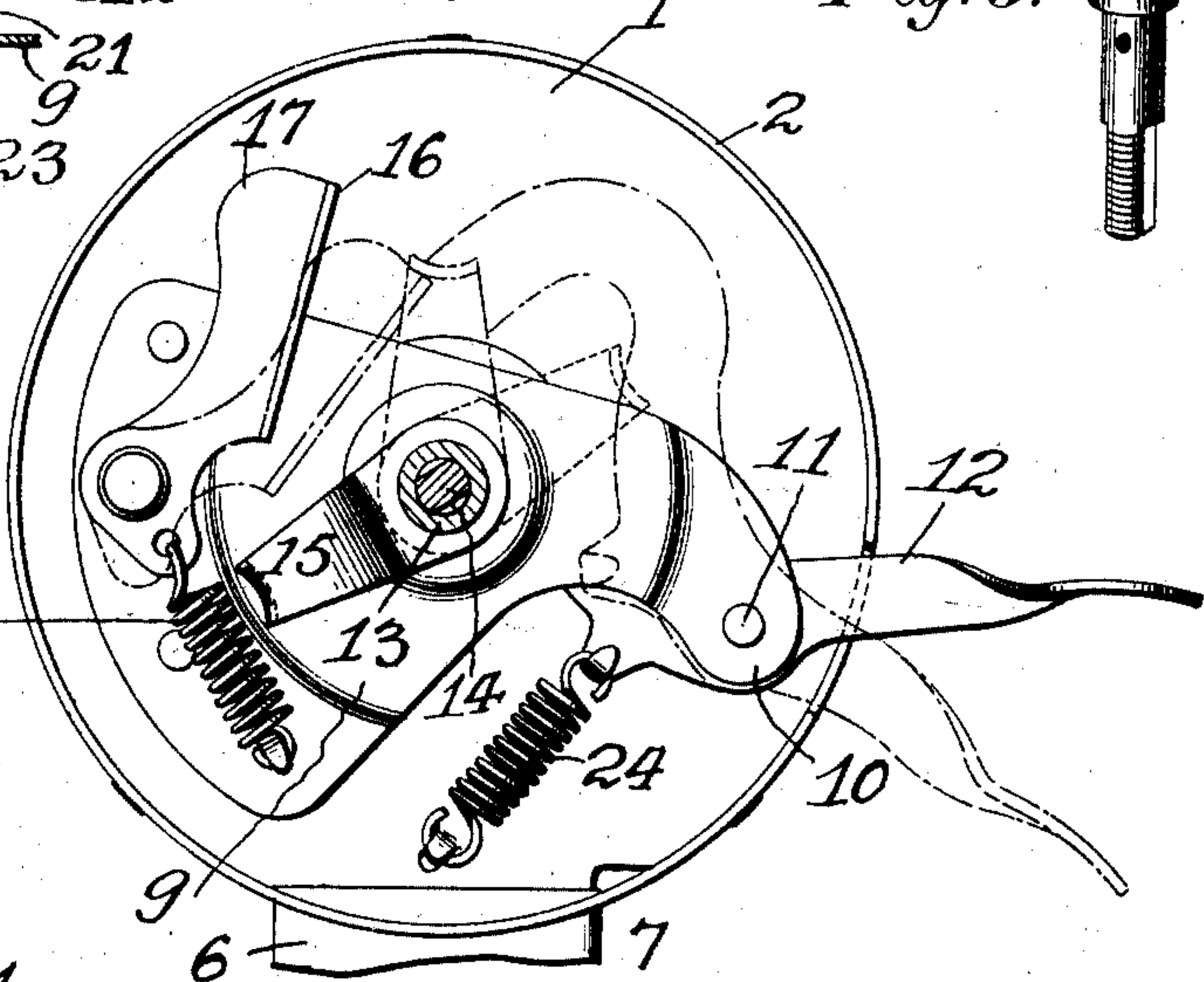


Fig. 5.

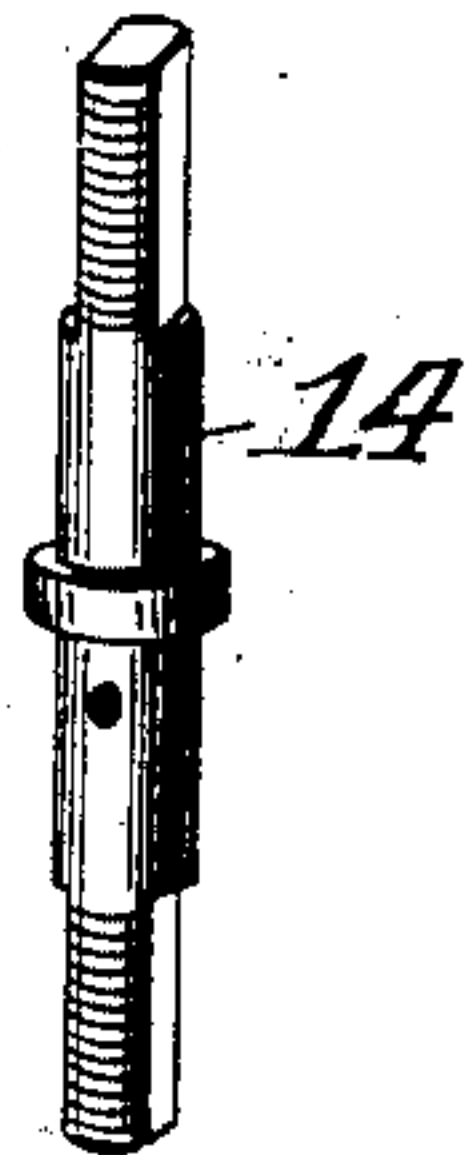


Fig. 6.

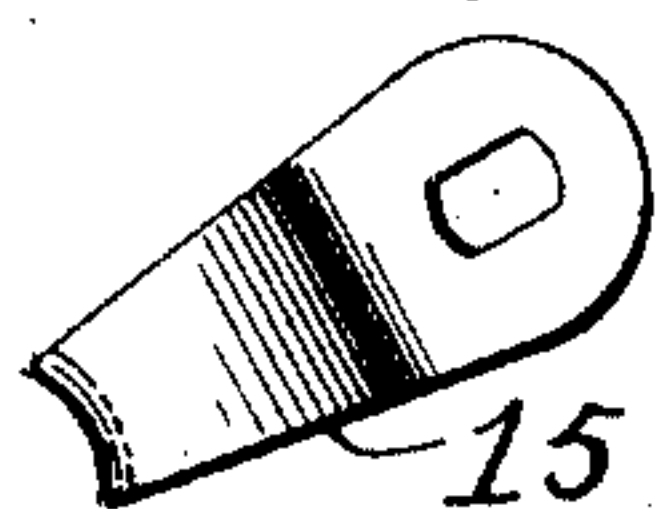


Fig. 7.

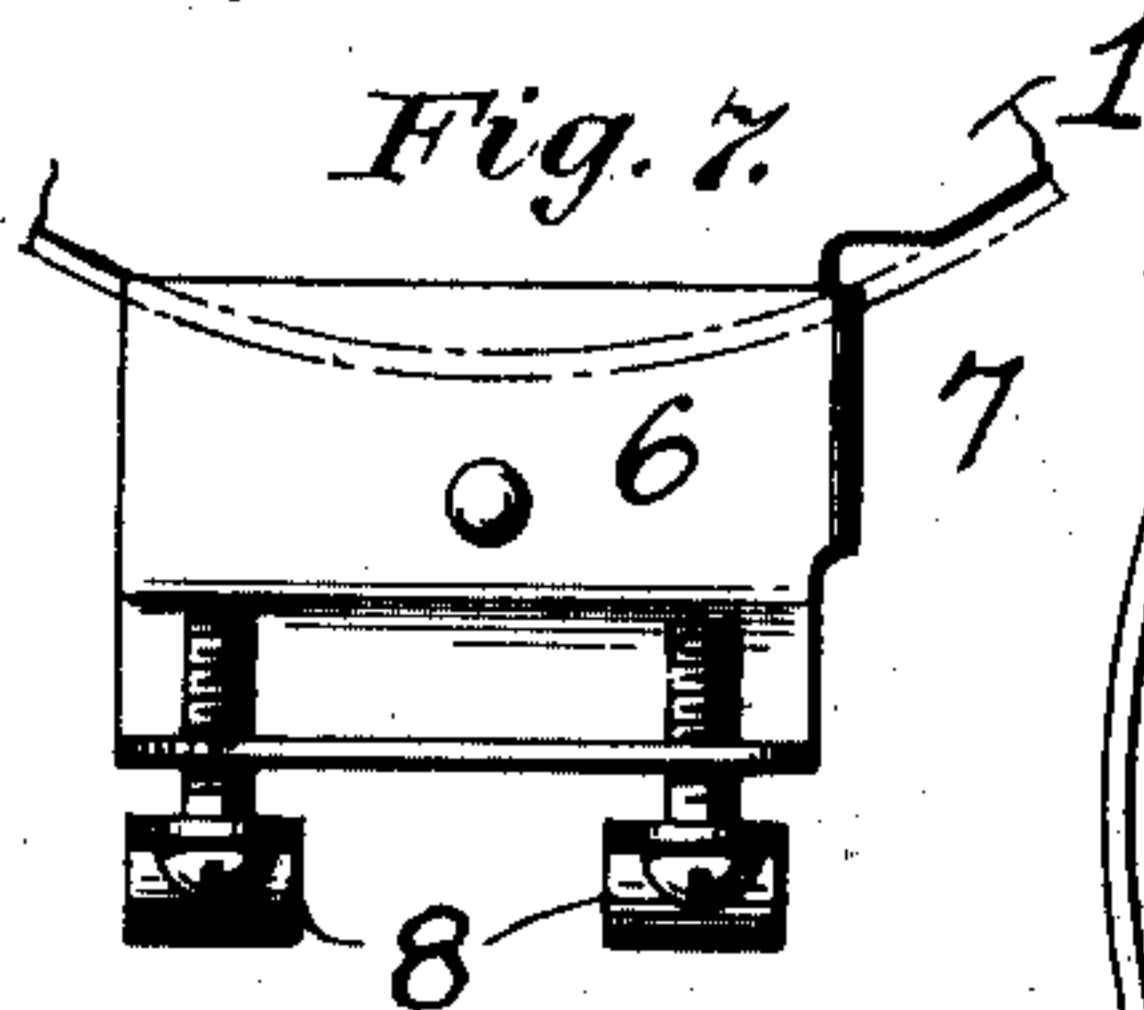


Fig. 3.

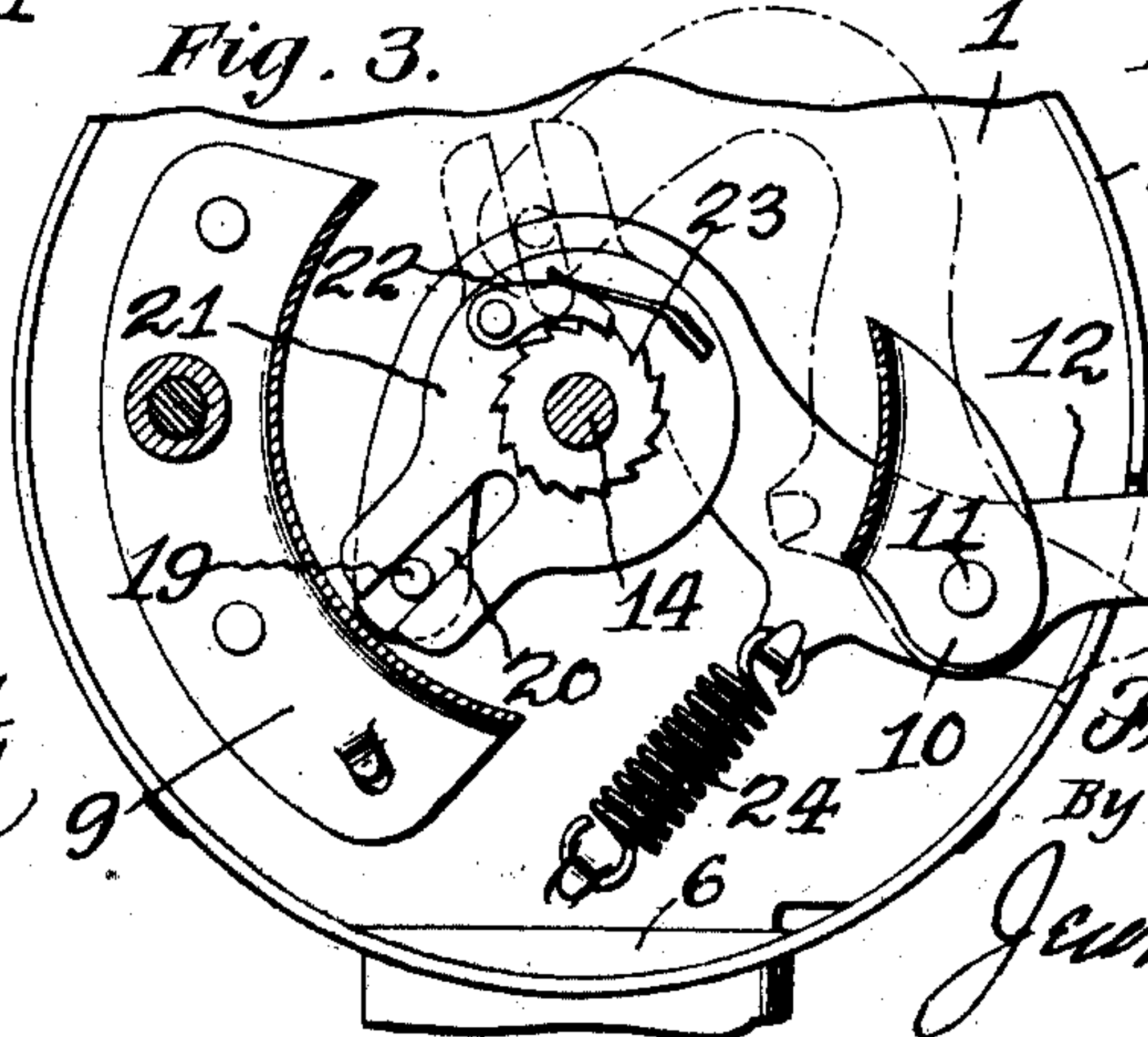
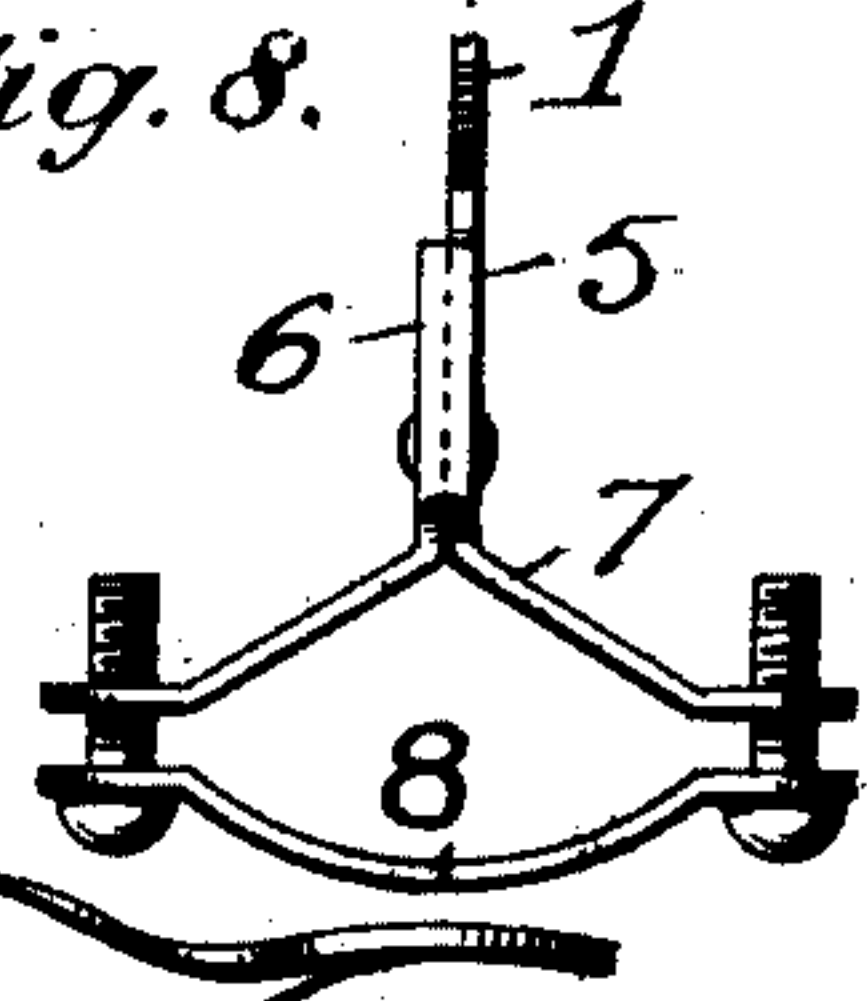


Fig. 8.



Witnesses:  
Chas. M. Atwood  
Sma. S. Berkovitch

Inventor:  
Frederick A. Scranton  
By his Attorneys  
Jenkins & Barker.



# UNITED STATES PATENT OFFICE.

FREDERICK A. SCRANTON, OF EAST HAMPTON, CONNECTICUT, ASSIGNOR TO THE BEVIN BROTHERS MANUFACTURING COMPANY, OF EAST HAMPTON, CONNECTICUT, A CORPORATION OF CONNECTICUT.

BELL.

No. 864,700.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed April 7, 1904. Serial No. 202,065.

*To all whom it may concern:*

Be it known that I, FREDERICK A. SCRANTON, a citizen of the United States, and a resident of East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Bells, of which the following is a specification.

The invention relates to bells and more particularly to devices of this class for use on bicycles and other vehicles.

The object of the invention is to provide an extremely simple device as to operating mechanism by which the gongs may be started to rotate and will by the momentum acquired continue to rotate after the actuating mechanism has performed its function, the rotation of the gongs causing a movement of the strikers which sound the same.

A further object of the invention is to provide a bell of the sort specified in which the actuating mechanism for rotating the gong is of a positively acting type free of complications.

A still further object is to provide a ratchet mechanism for imparting movement to the gongs, including positive sliding connections.

Referring to the drawings: Figure 1 is a cross sectional view through the gongs and support. Fig. 2 is a side view with one of the gongs removed and parts broken away to show construction. Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1 with the parts broken away. Fig. 4 is a sectional view through the gongs and their central support, with the parts broken away. Fig. 5 is a detail view of the supporting shaft or central support for the gongs. Fig. 6 is a detail view of one of the retractors. Fig. 7 is a detail side view of the clamp for securing the gong in place, showing the peculiar envelop construction. Fig. 8 is an edge view of the parts shown in Fig. 7.

The type of bell herein shown and described is not entirely new in the art, such devices being generally known as rotary gong bells. In devices heretofore used it has been common practice to provide a gong shaft with gongs secured thereto and on the shaft to provide a pinion intermeshing with a rack carried on a thumb lever. This pinion in turn has been secured to a carrier plate provided with a pawl adapted to engage a ratchet fast on the shaft. By this construction a sort of clutch connection has been provided between the thumb lever and shaft by which an initial movement could be given to the shaft and gongs whereupon the momentum of the gongs cause a continuous rotation for sounding the gongs through the medium of suitable strikers. In such an arrangement the gear parts soon become worn and thus produce unpleasant rattling and various troubles which it is the object of the present invention to obviate.

In the accompanying drawing the numeral 1 denotes a disk-like plate or frame surrounded by a flange 2 that overlies the adjacent edges of the gongs 3—4 in such a manner as to close the opening between them to prevent ingress of dust and dirt. The plate 1 projects through the annular flange 2 and has projecting parts 5—6, the latter being folded back upon the former to provide the upper half of a bracket or clamp 7. This forms a simple and convenient means of securing the device as a whole in position for use through the medium of a cooperating clamp member 8 secured to the upper half of the bracket by screws or other suitable means. It is to be noted that the entire frame, including the disk-like part 1 and the upper section of the clamp member is formed from a single piece of metal struck up and folded to form, thus providing an extremely rigid though light structure.

Secured to the plate 1 is a second plate 9 and this at one end, as at 10, has a rivet 11 passing through both the plates and forming a bearing for a thumb lever 12.

Centrally arranged with reference to the plates 1 and 9 are bearing bosses 13, which provide an extremely long bearing for the main shaft 14.

The gongs 3—4 are secured to this shaft and the shaft itself at a point below where the gongs join it is of irregular cross section to hold retractors 15 from rotating with relation to the shaft. These retractors 15 consist of loop members, the outer ends of which are formed with convex faces arranged to come into contact with the edge 16 of strikers 17. These strikers are pivoted on the frame and are normally held out of contact with the gongs by springs 18.

The thumb lever 12 is of peculiar curved form, and has at its inner end a pin 19 which rests within a slot 20 of the oscillatory pawl plate 21 loosely mounted upon the shaft 14. This pawl plate bears a spring pressed pawl 22 arranged to engage a ratchet member 23 fast on the shaft 14. The thumb lever and connected parts are normally retracted by a spring 24 and when in normal position the pin 19 rests at or near the outer end of the slot 20. As the thumb lever is depressed this pin travels down the slot and then outward again giving a long throw to the pawl plate 21.

As the thumb lever 12 is depressed the pawl plate through its pawl 22 engages the ratchet fast on the shaft 14 and rotates the same. By giving a quick pull upon the lever a considerable speed is acquired by the gongs, which under the acquired momentum continue to rotate. By reciprocating the lever 12 and thus oscillating the pawl plate 21 practically a continuous rotation is induced upon the gongs and connected parts. During the rotation of the gongs the retractors 15 engage the projections 16 of the hammer levers, pulling them away from the gongs and permitting them to rebound under the action of the springs 18 to strike a forcible blow



against the gongs, permitting a clear, sharp tone. It is to be noted that the thumb lever 12 is always in positive engagement with the oscillatory pawl plate and this connection being of the slot and pin type there is comparatively no wear upon the parts. Furthermore, the spring 24 holds the parts in normal position where they are locked against oscillating and vibration.

It is of course obvious that various detailed changes might be made in the structure without departing from the spirit and intent of the invention, and, in fact, various forms of hammers or strikers might be used. In lieu of the pivoted striker shown herein a stationary striker might be used wiping against projections on the inner side of the gongs during their rotation.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In combination in a bell a supporting plate, pivoted strikers mounted thereon and provided with upturned projections, a rotary shaft, means for rotating said shaft, and a disconnecting device included in said rotary means for permitting free movement of the shaft, retractors borne upon the shaft and provided with down-turned ends having convex contact faces for engaging the hammers, and gongs secured to the shaft.

2. In combination in a bell, a pair of supporting plates, bosses secured to the outer faces of said plates and forming a bearing, a shaft extending through the plates and bosses, a ratchet secured to the shaft, a pawl plate loose on the shaft, a thumb lever and a sliding connection intermediate the thumb lever and pawl plate for oscillating the latter.

3. In combination in a bell, a pair of plates, a shaft extending through said plates, gongs secured to said shaft,

a thumb lever pivoted between the plates, a ratchet fast on the shaft, a pawl plate loose on the shaft, a positive sliding connection intermediate the thumb lever and pawl plate for oscillating the latter, and means intermediate the pawl plate and shaft for connecting the thumb lever with said shaft for driving and releasing said shaft for an independent rotary movement.

4. In combination in a bell, a supporting plate, a shaft extending therethrough, gongs secured to opposite ends of the shaft, a ratchet fast on the shaft, a pawl plate loose on the shaft and provided with a slot, a pivoted thumb lever provided with a pin arranged to traverse the slot of the pawl plate to reciprocate the latter, and a clutch connection intermediate the pawl plate and shaft.

5. In combination in a bell, a supporting plate, gongs rotarily mounted on the plate, a pawl plate rotarily mounted on the supporting plate, a thumb lever, a pawl mounted upon the pawl plate and adapted to rotate the gongs, and a sliding connection between the thumb lever and the pawl plate.

6. In combination in a bell, a supporting plate, a gong rotarily mounted on the plate, a pawl plate loosely mounted on the supporting plate, a pawl borne by the pawl plate to rotate the gongs, a thumb lever, and a pin and slot connection between the thumb lever and the pawl supporting plate.

7. In combination in a bell, a supporting plate, a rotating shaft mounted on the plate, a gong secured to said shaft, a pawl plate loosely supported on the shaft, a pawl mounted on the plate to rotate the shaft, a thumb lever, and a pin and slot connection between the thumb lever and pawl plate.

FREDERICK A. SCRANTON.

Witnesses:

ARTHUR W. MEAD,  
MUYR S. TURPLE.