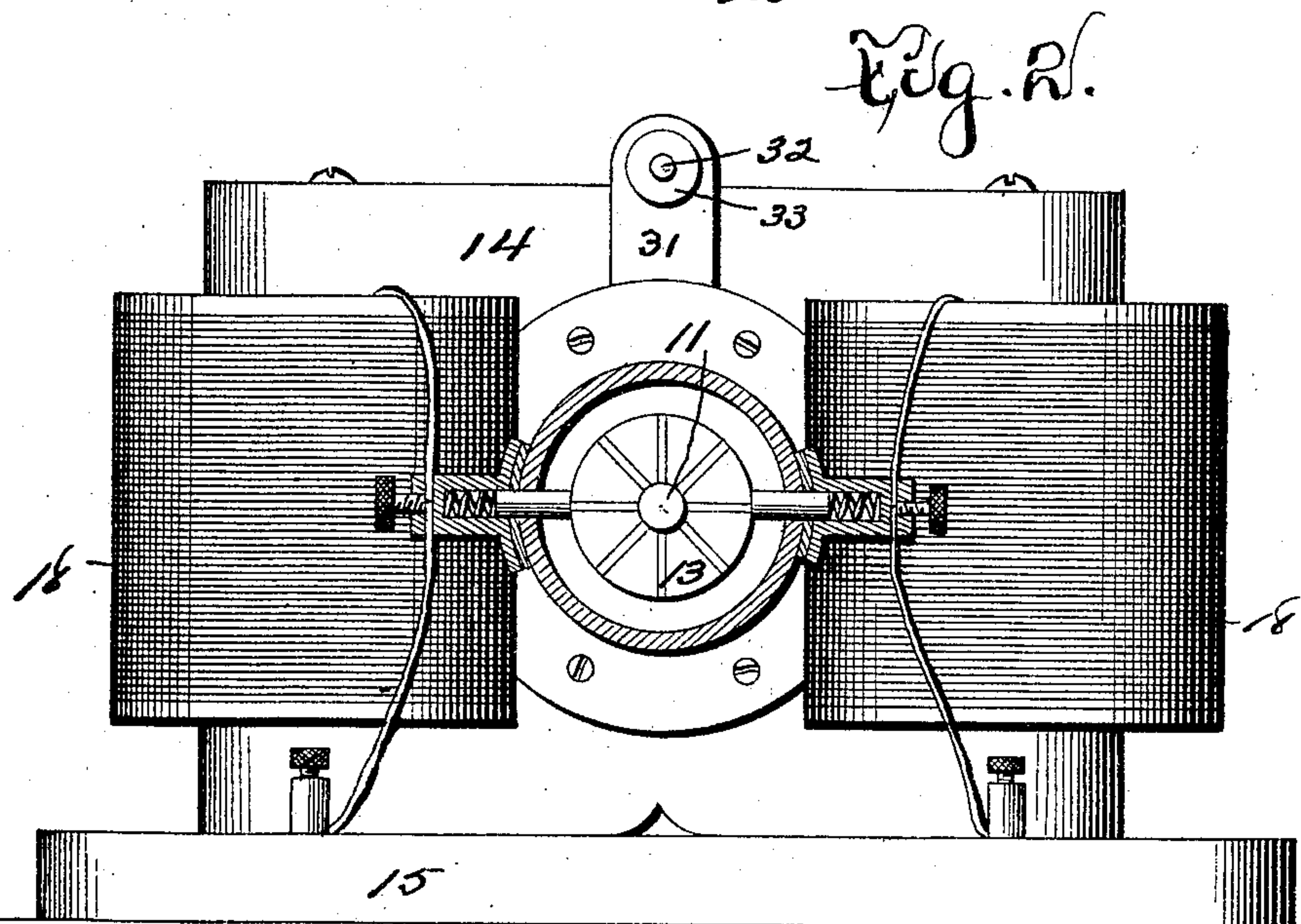
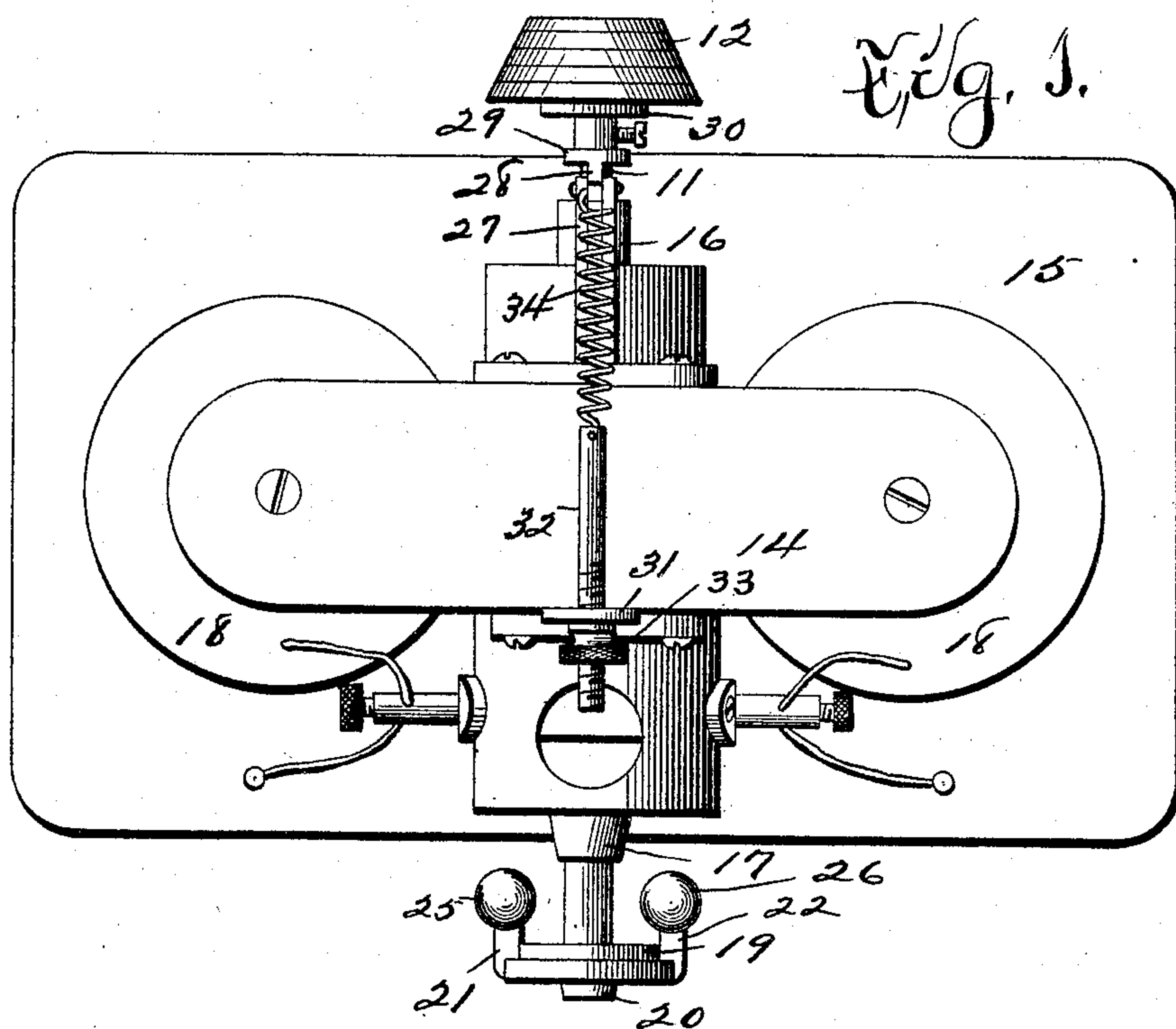


A. R. JOY.  
SPARKER.

APPLICATION FILED SEPT. 1, 1904.

2 SHEETS—SHEET 1.



Witnesses:  
D. S. Orwig. Inventor A. R. Joy  
J. B. Smutney. By Orwig & Lane Attys.

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SPARKER.

APPLICATION FILED SEPT. 1, 1904.

2 SHEETS—SHEET 2.

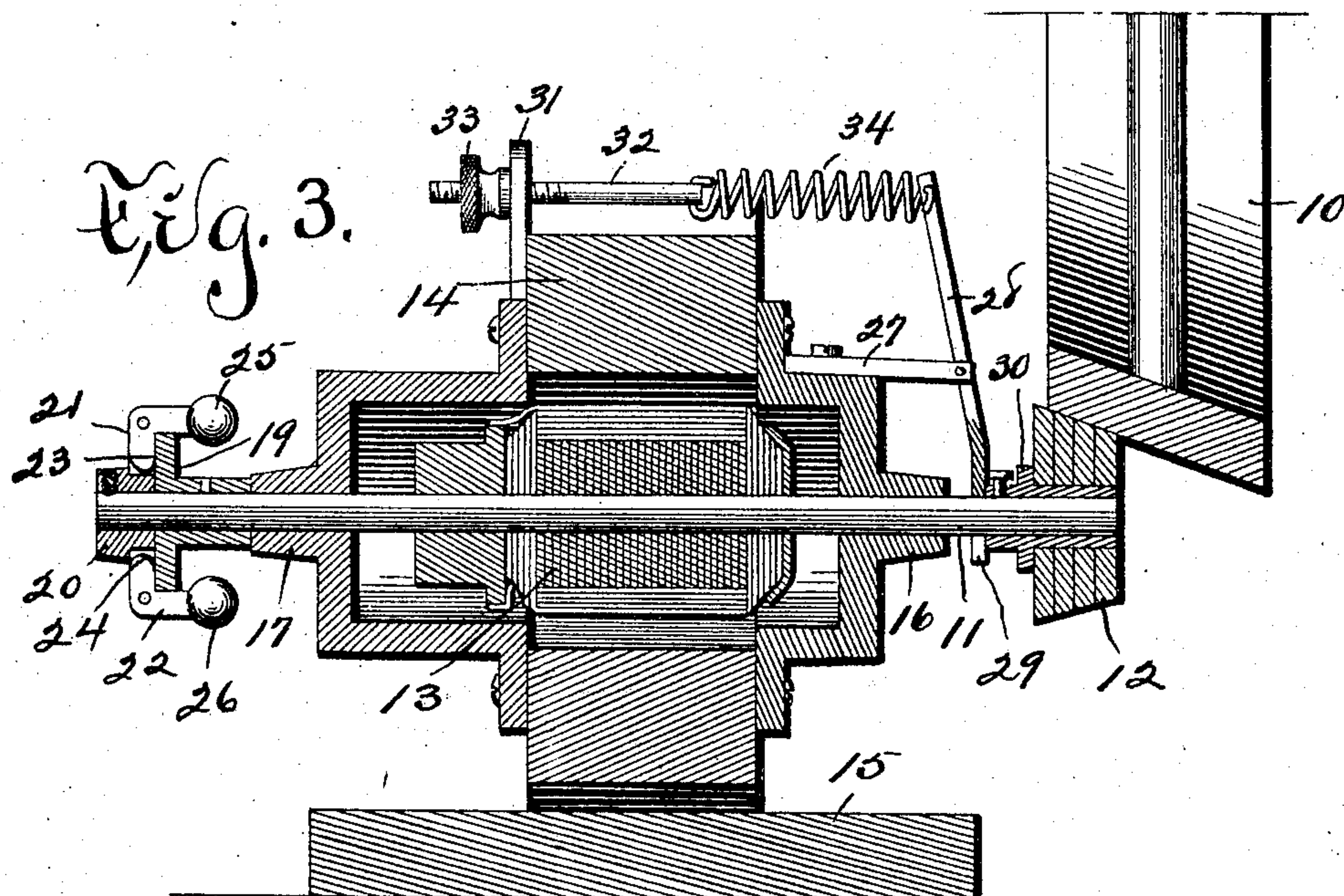


Fig. 4.

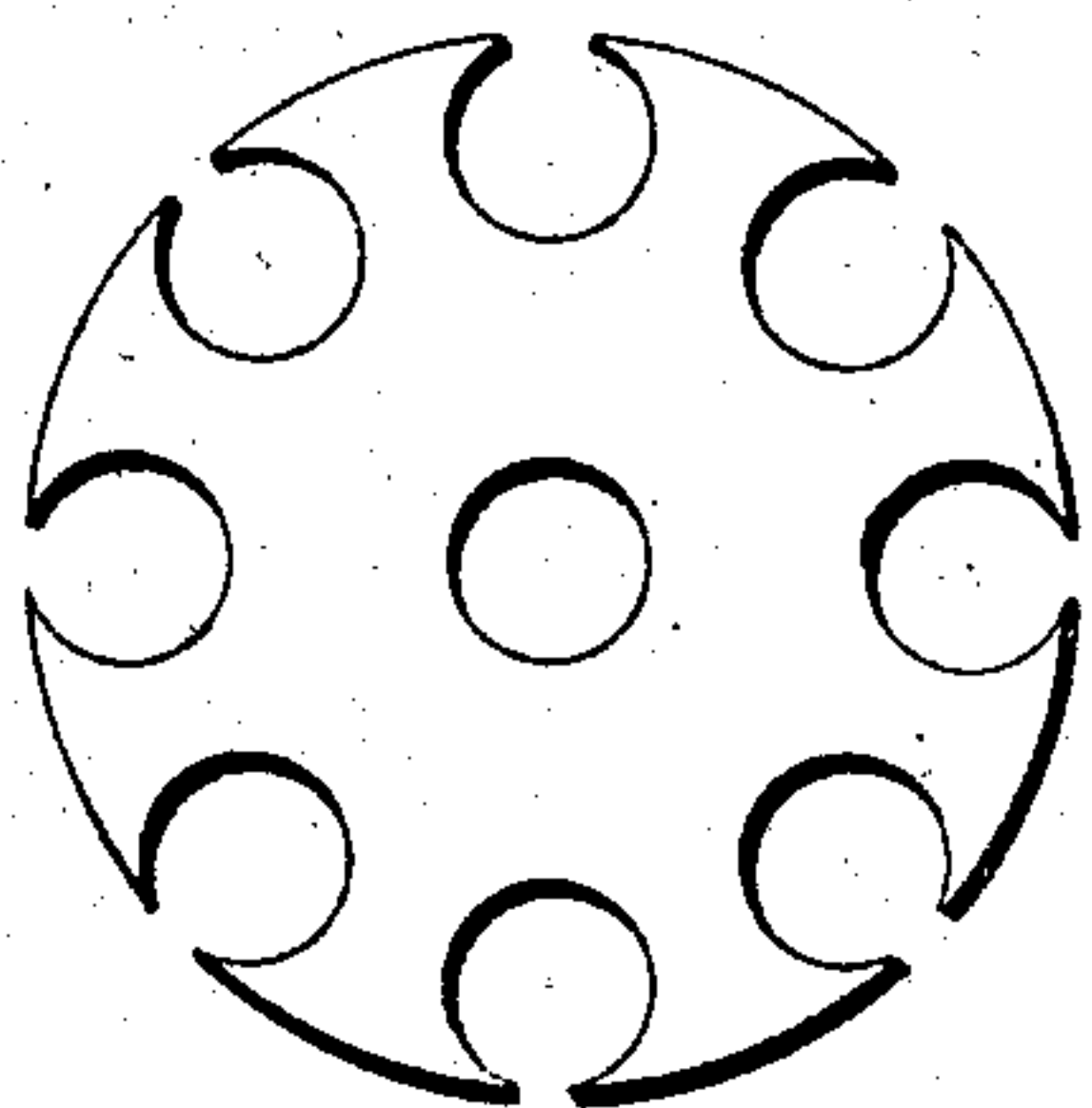
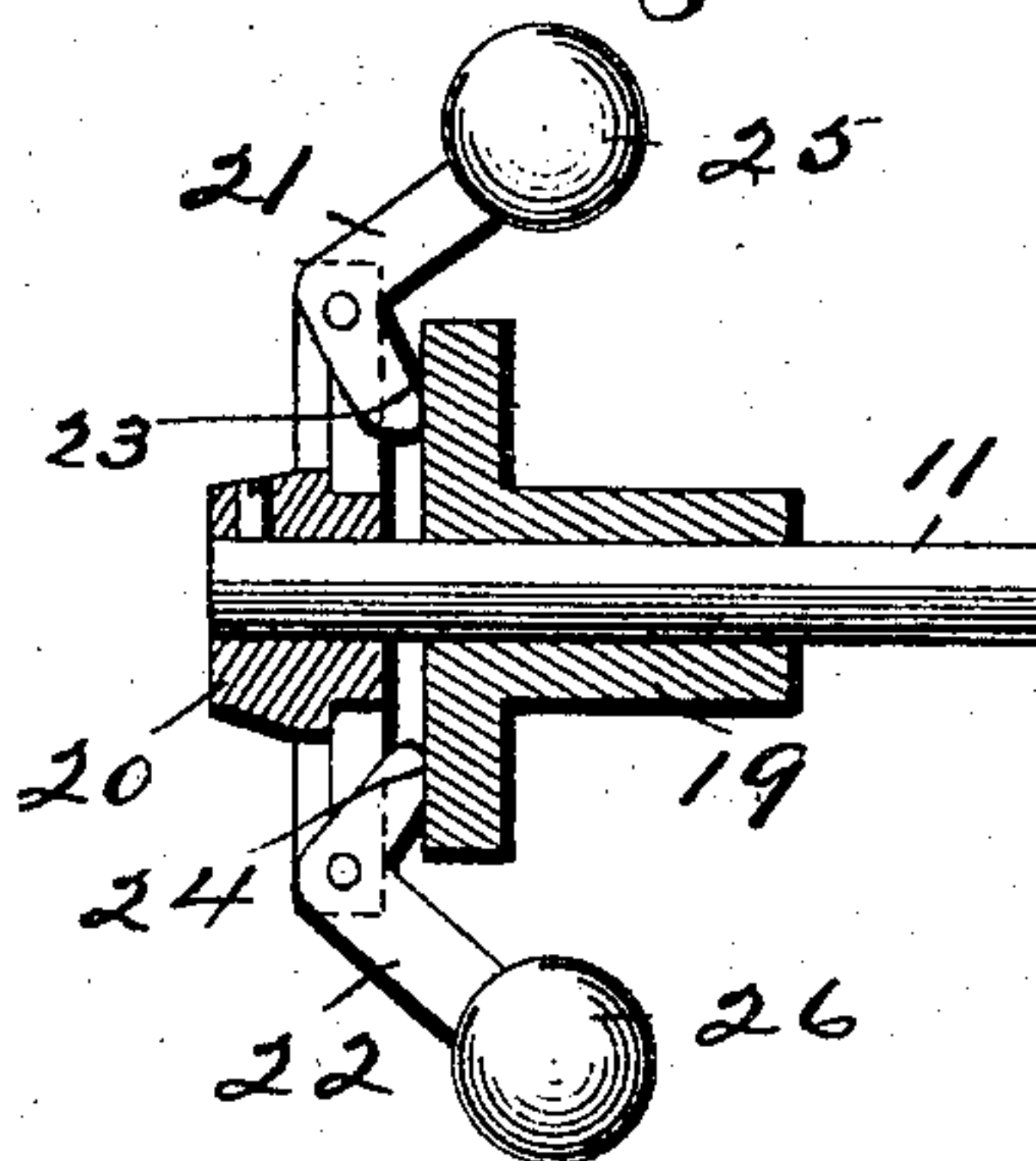


Fig. 5.



Witnesses:

R. E. Gray.

J. B. Smutney.

Inventor A. R. Joy.

by Curig & Lane Attys.



# UNITED STATES PATENT OFFICE.

ALPHA R. JOY, OF WAPELLO, IOWA.

## SPARKER.

No. 795,983.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed September 1, 1904. Serial No. 222,940.

*To all whom it may concern:*

Be it known that I, ALPHA R. JOY, a citizen of the United States, residing at Wapello, in the county of Louisa and State of Iowa, have invented a certain new and useful Sparker, of which the following is a specification.

The objects of my invention are to provide a sparker which is controlled by a mechanism in which there is a wheel rotated at a variable speed and which is so regulated that it will drive a second part at a constant and comparatively even speed.

A further object is to provide a stationary sparker which is so arranged that there is no necessity for the entire mechanism to be tilted or swung on a pivotal support.

Heretofore it has been customary to have the entire frame of the sparker mechanism tilted as the speed is controlled. By the use of my device this is entirely unnecessary, and owing to this and other facts the cost of manufacture of my device is reduced to a minimum.

My invention consists in certain details in the construction, combination, and arrangement of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of the spark-generator. Fig. 2 is a side elevation of same. Fig. 3 is a longitudinal sectional view of the field-magnet. Fig. 4 is an end view of one of the plates in the armature; and Fig. 5 is a detail view of the speed-governor, showing in section a portion of it.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate a driving-wheel, which moves at a varying speed and which may be beveled. The driving-wheel 10 is the ordinary fly-wheel of an engine. Mounted on one end of the armature-shaft 11 and in engagement with the outer periphery of the fly-wheel 10 is the beveled friction-pulley 12. The armature-shaft 11 extends through the armature 13, which is inside of the field 14, which field is mounted on a proper base 15. The shaft is mounted in the bearings 16 and 17, which are attached to the field. The field-magnets 18 are also properly supported above the base 15 and are connected in the ordinary way with the other parts of the device. Mounted on the other

end of the armature-shaft 11 from the pulley 12 is the plate 19, having a flat surface away from the pulley 12. Rigidly secured to the extreme end of the armature-shaft 11 which is away from the pulley 12 is the collar 20, which has pivotally attached to its outer periphery two bell-crank levers 21 and 22. The inner ends of these bell-crank levers are rounded at 23 and 24, respectively, which rounded portions are designed to engage the outer surface of the plate 19 as the bell-crank levers are operated. Mounted at the other end of the bell-crank levers 23 and 24 are the balls 25 and 26, respectively, which are designed to be thrown away from each other as the armature-shaft 11 is rotated. As these balls are forced away from each other by the rotation of the armature-shaft the rounded portions 23 and 24 will engage the outer surface of the plate 19 and will cause the entire armature-shaft to be drawn in a direction away from the fly-wheel 10.

Attached to the upper portion of the bearing 16 and extending toward the fly-wheel 10 is a bar 27, which has pivotally attached to it the forked bar 28, the forked portion 29 of which is at its lower end and one tine of which is on each side of the armature-shaft 11 and is in engagement with the adjustable collar 30, upon which the friction-pulley 12 is mounted. Extending upwardly from the upward portion of the bearing 17, which is on the opposite side of the field 14 from the bearing 16, is a post 31 having an opening through it, through which the screw-threaded rod 32 passes. This screw-threaded rod has the thumb-screw 33 mounted on its screw-threaded portion and on that portion which is away from the fly-wheel 10. Connecting the end of the rod 32 which is nearest the fly-wheel 10 and the upper portion of the forked bar is a spring 34, which is designed to normally hold the forked portion of the forked bar 28 in engagement with the collar 30, so as to normally hold the armature-shaft 11 and the friction-pulley 12 at its limit of movement nearest the fly-wheel 10 and in engagement with said wheel. It is against the resistance of this spring 34 that the governor operates to draw the friction-pulley in a direction away from the fly-wheel, and it is this spring that forces the friction-pulley in a direction toward the fly-wheel 10.

It will be seen that on account of the adjustment of the parts—that is, the adjustment



of the friction-pulley 12 and the adjustment of the spring 34—the action of the governor is easily regulated.

It will be clearly seen by the above construction that the speed of the armature-shaft can be easily and readily regulated so that it will be driven at a greater or less speed at the desire of the one using the device.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a device of the class described, an armature-shaft, a beveled friction-pulley mounted at one end of the shaft and designed to engage a fly-wheel, a speed-governor at the other end of the shaft, a pivotally-mounted forked bar, one of the tines of which is on each side of the armature-shaft and rests against the collar upon which the beveled friction-pulley is mounted, a spring connected with the upper portion of the pivotally-mounted forked bar and normally holding the tines in engagement with the collar upon which the friction-pulley is mounted.

2. In a device of the class described, an armature-shaft, a beveled friction-pulley mounted at one end of the shaft and designed to engage a fly-wheel, a speed-governor at the

other end of the shaft, a pivotally-mounted forked bar, one of the tines of which is on each side of the armature-shaft and rests against the collar upon which the beveled friction-pulley is mounted, a spring connected with the upper portion of the pivotally-mounted forked bar and normally holding the tines in engagement with the collar upon which the friction-pulley is mounted and means for adjusting the tension of the spring.

3. In a device of the class described, a base, an armature, a field-magnet mounted upon the base, an armature-shaft, a beveled friction-pulley mounted at one end of the shaft and designed to engage a fly-wheel, a speed-governor at the other end of the shaft, a pivotally-mounted forked bar one of the tines of which is on each side of the armature-shaft and rests against the collar upon which the beveled friction-pulley is mounted, a spring connected with the upper portion of the pivotally-mounted forked bar and normally holding the tines in engagement with the collar upon which the friction-pulley is mounted.

ALPHA R. JOY.

Witnesses:

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