

H. T. PAISTE.  
ELECTRIC SWITCH.

No. 483,862.

Patented Oct. 4, 1892.

FIG. 2.

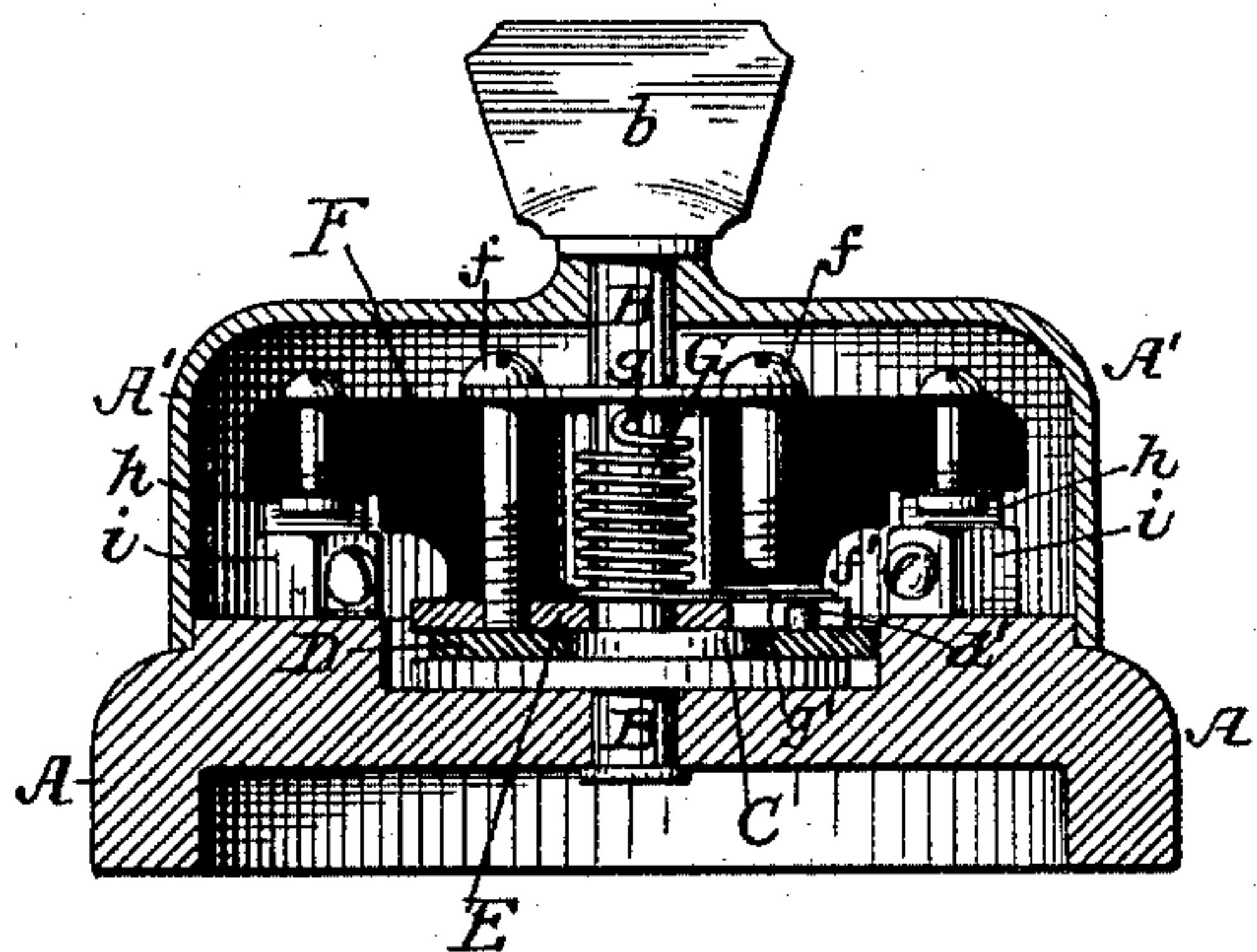


FIG. 1.

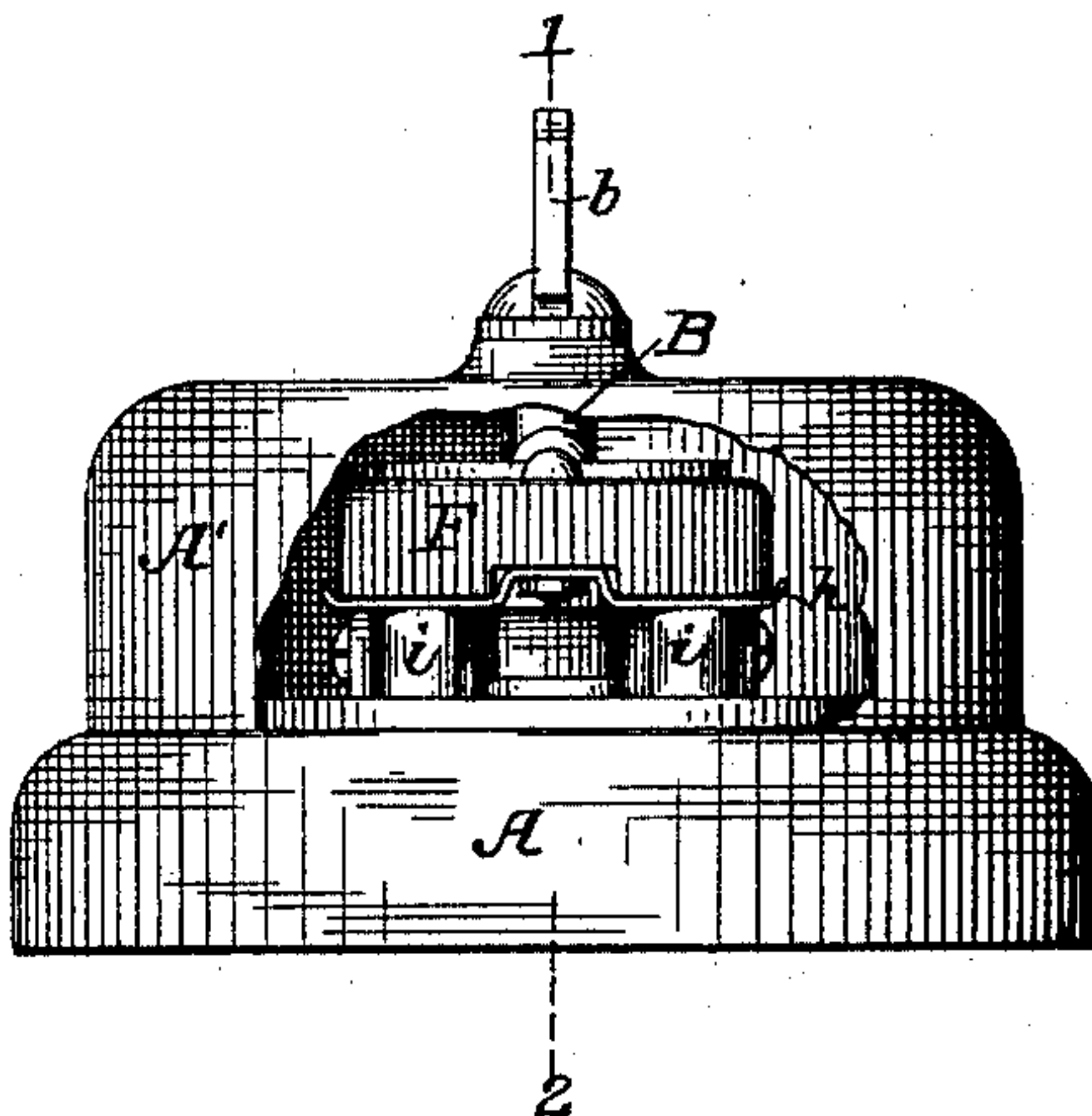


FIG. 5.

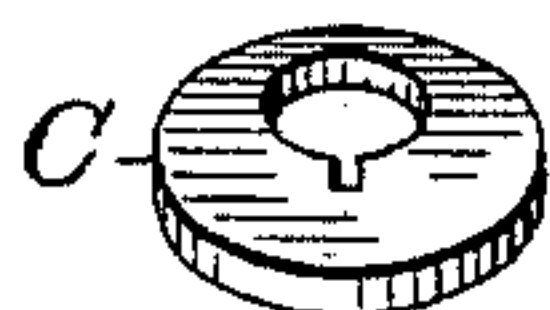
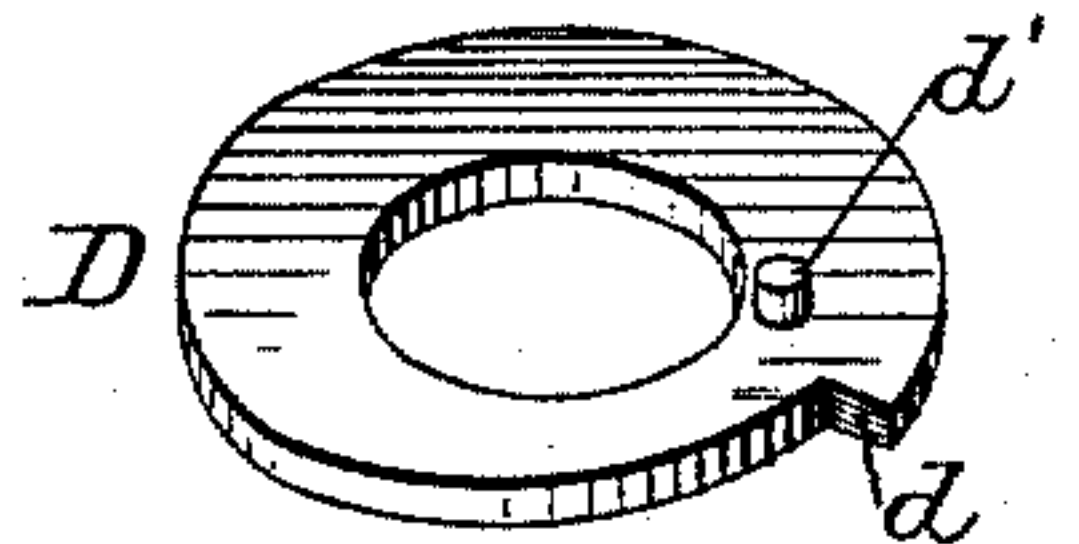
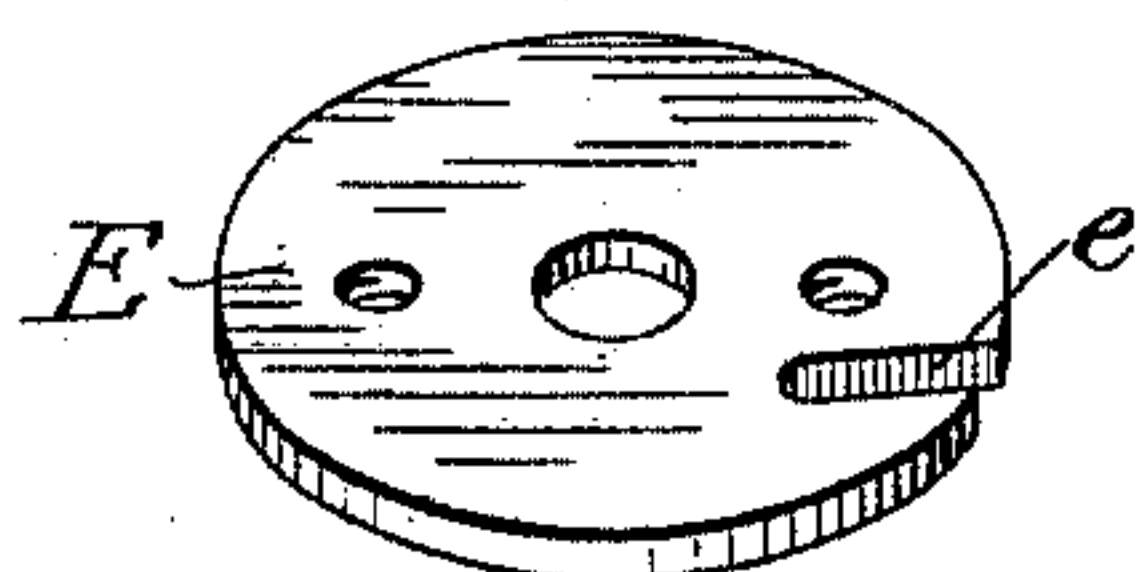
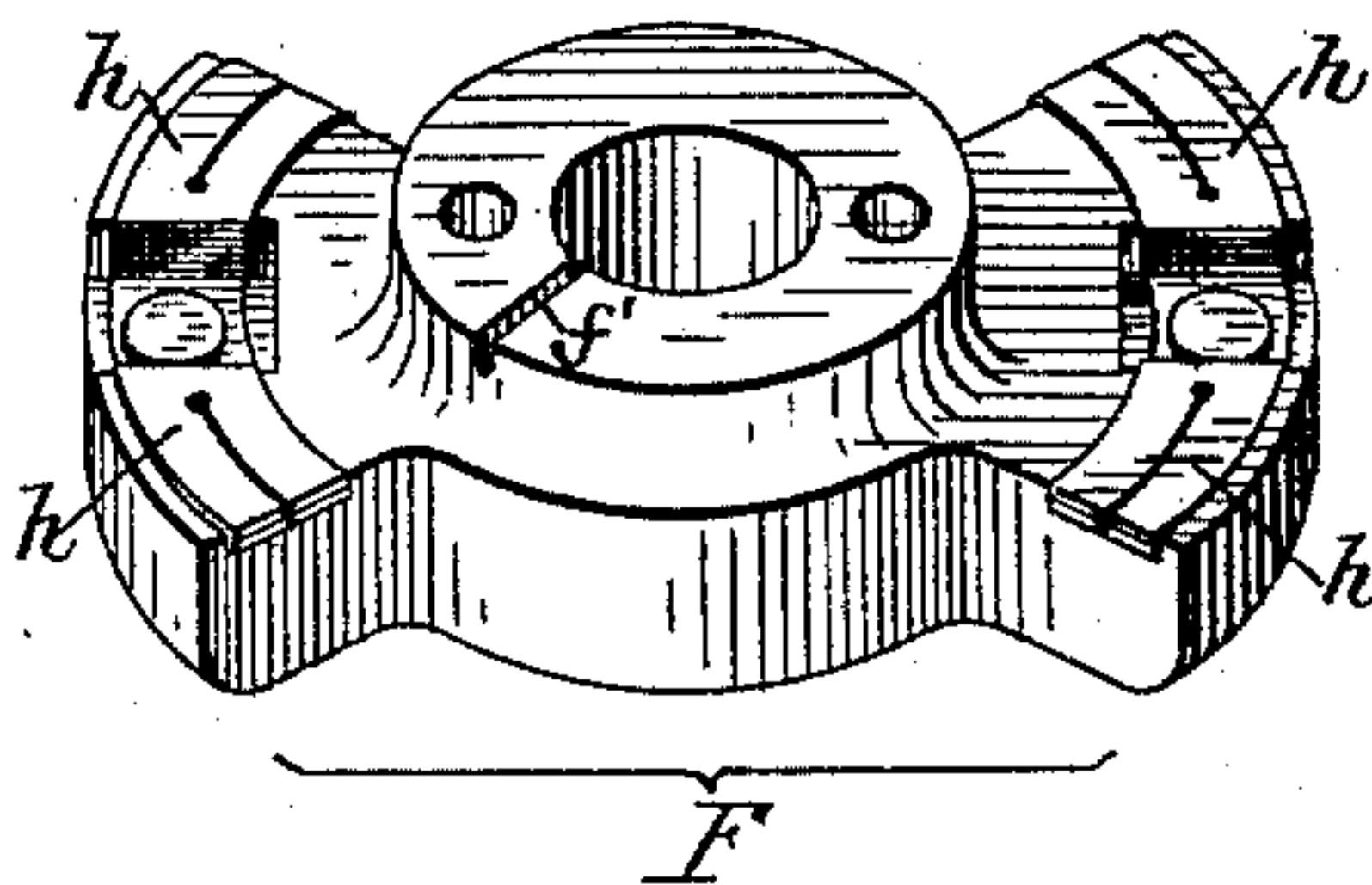


FIG. 4.

FIG. 3.

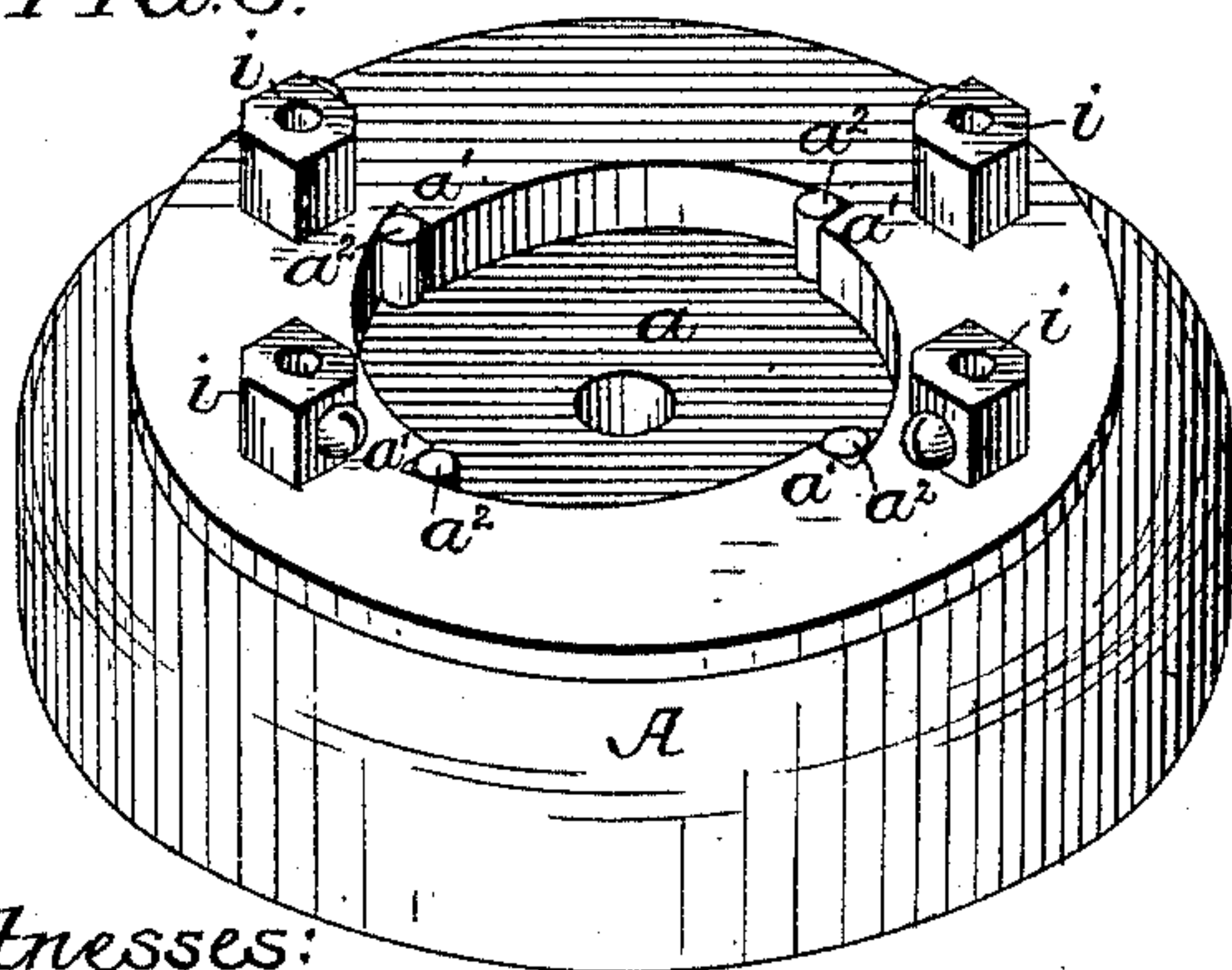
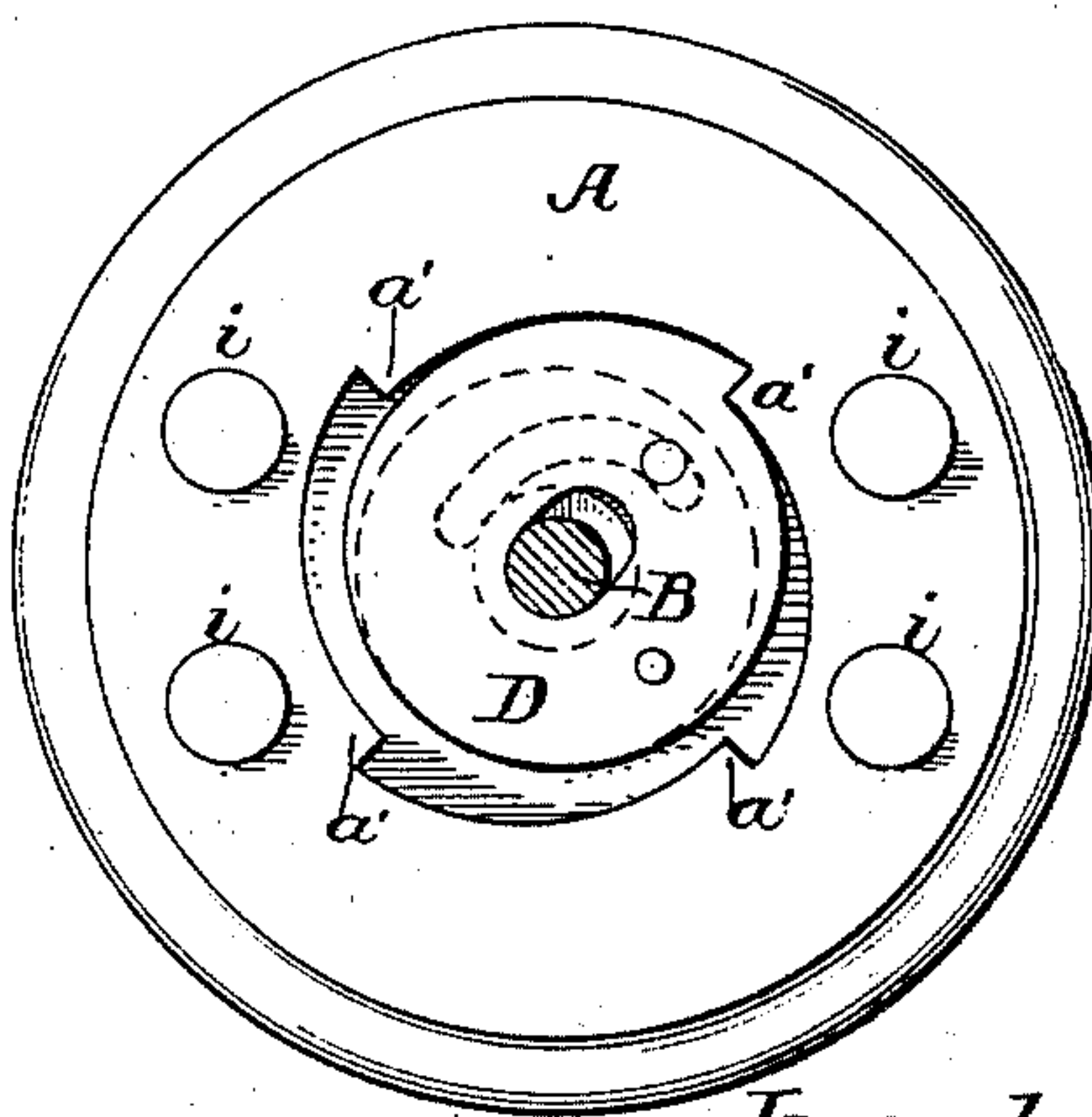


FIG. 12.



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FIG. 6.

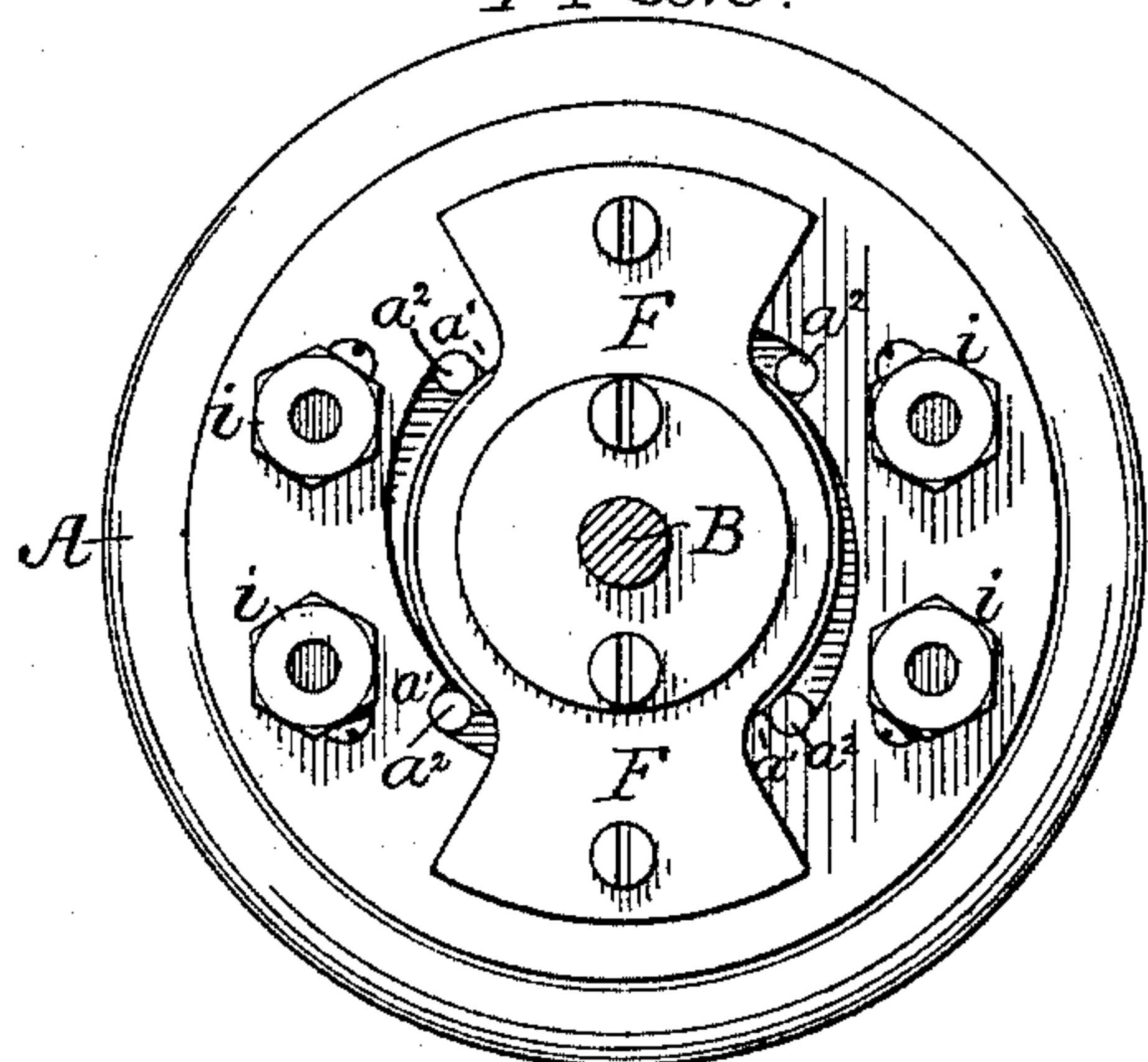


FIG. 7.

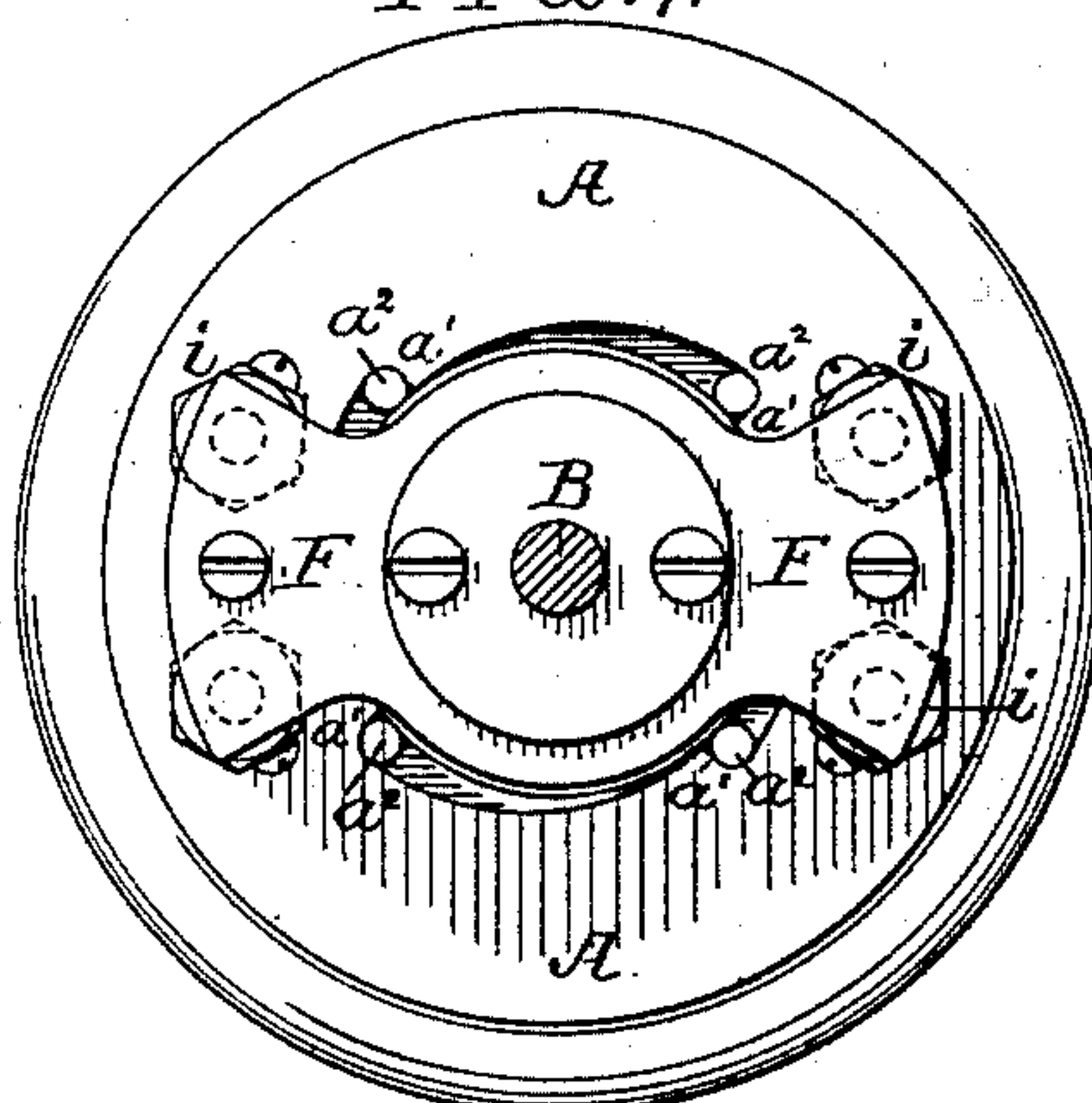


FIG. 8.

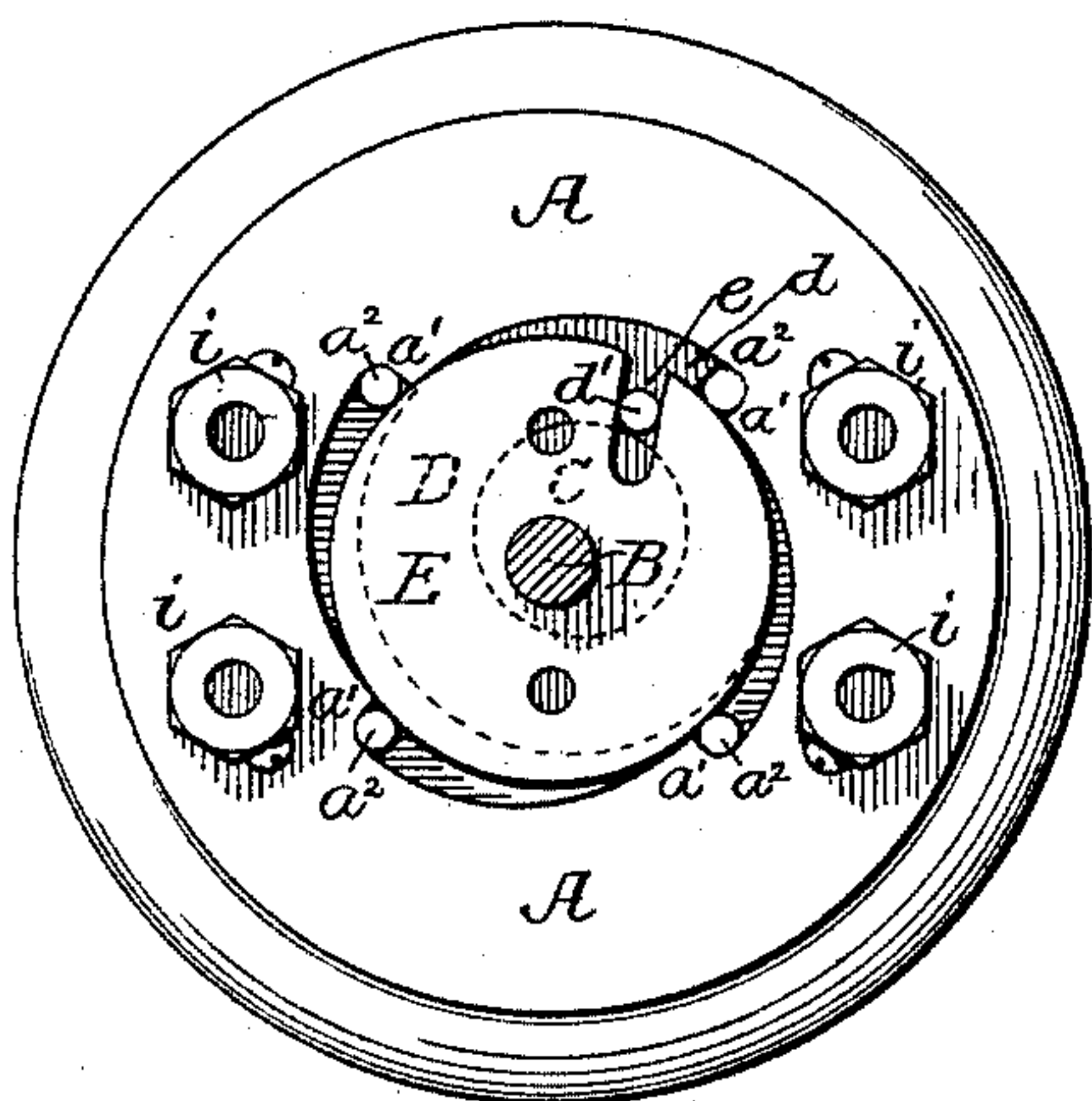


FIG. 9.

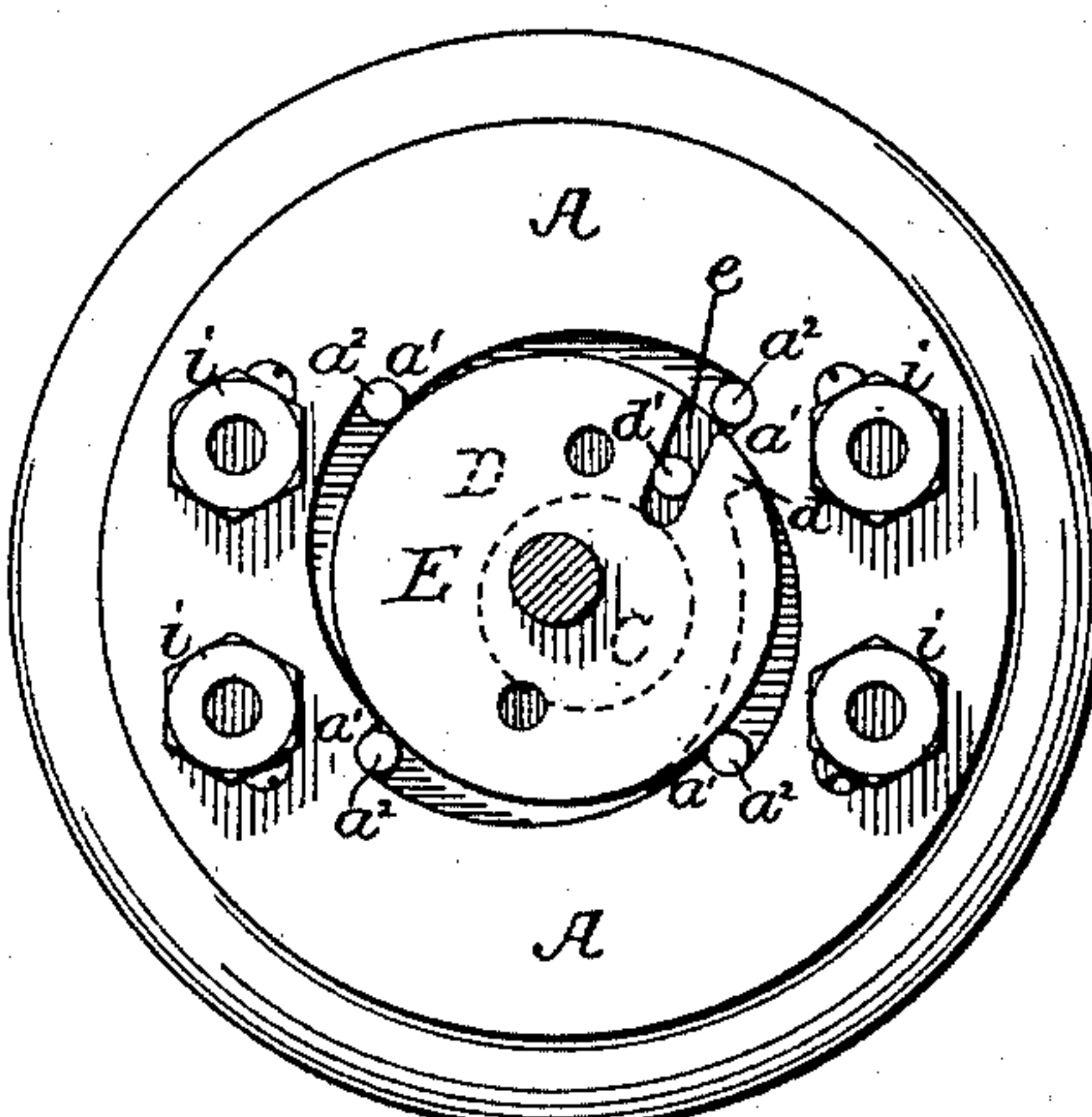


FIG. 10.

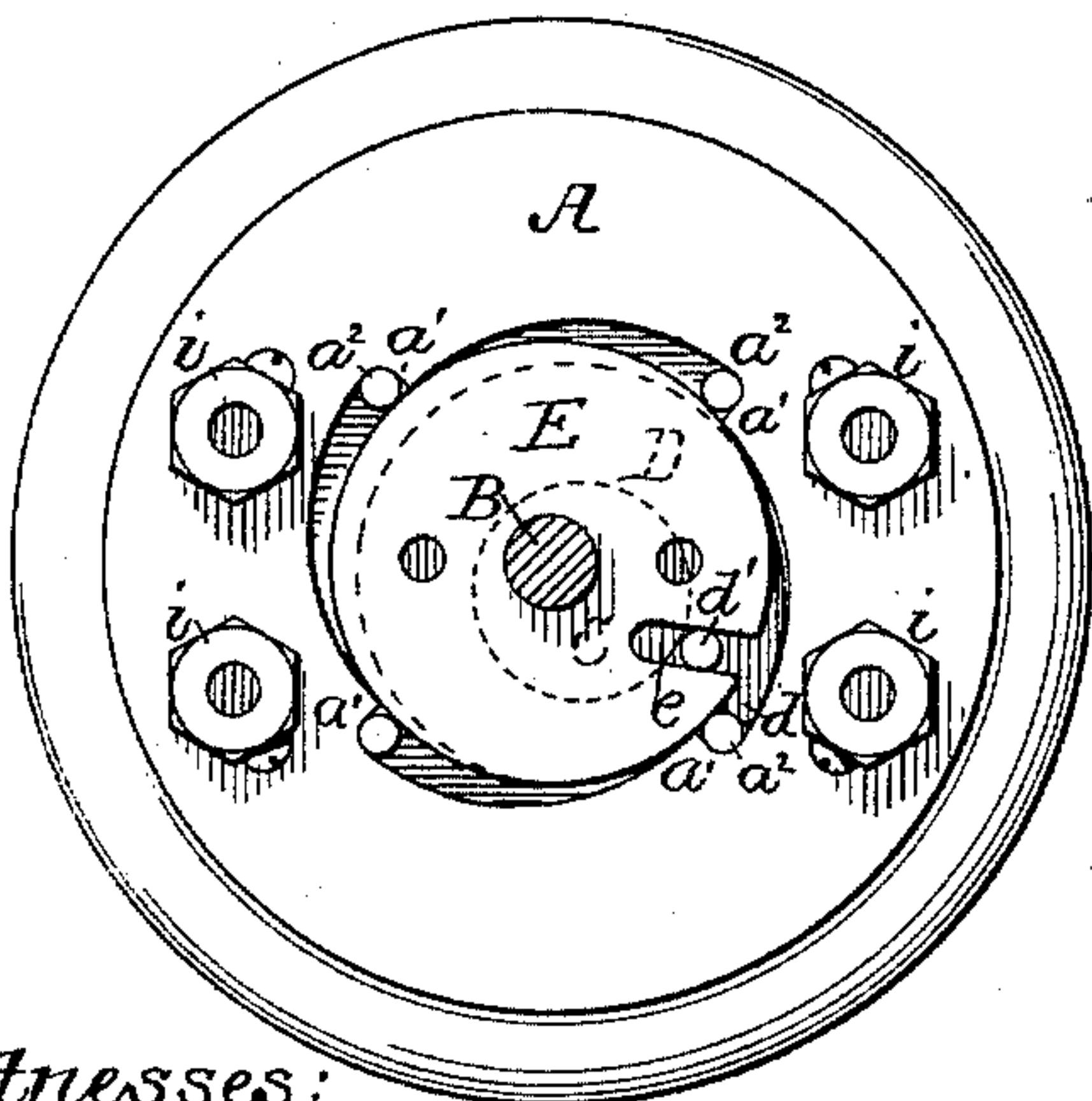
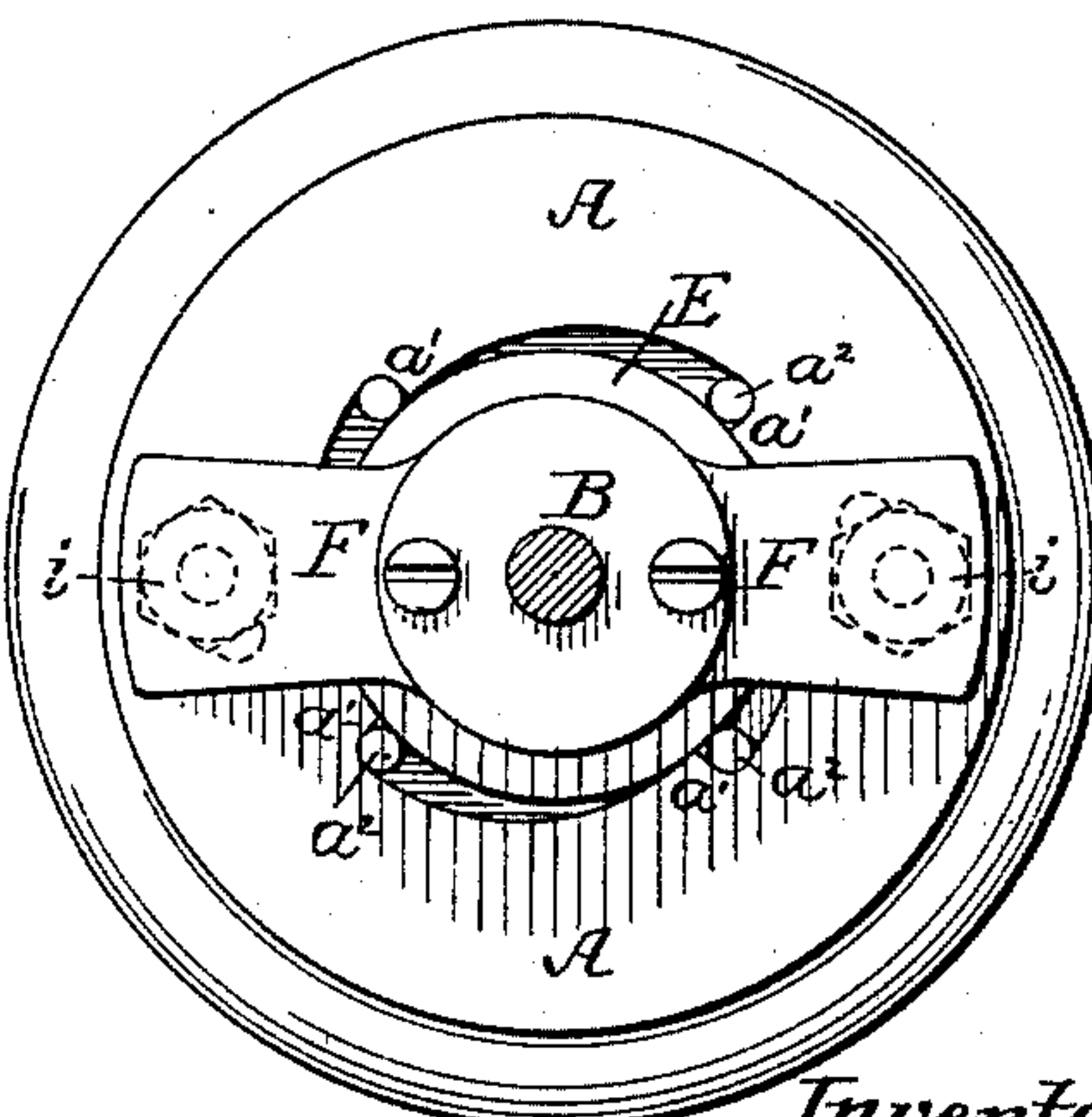


FIG. 11.



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# UNITED STATES PATENT OFFICE.

HARRY T. PAISTE, OF WEST CHESTER, PENNSYLVANIA.

## ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 483,862, dated October 4, 1892.

Application filed May 14, 1891. Serial No. 392,660. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY T. PAISTE, a citizen of the United States, and a resident of West Chester, Pennsylvania, have invented certain Improvements in Electric Switches, of which the following is a specification.

The object of my invention is to construct an electric switch that will quickly make and break a circuit and in which the handle can be turned in one direction at any speed while the switch proper will make or break the circuit almost instantaneously.

Referring to the drawings, Figure 1 is a side view of my improved switch with the casing shown partly broken away, the switch being what is termed as a "double-pole" switch. Fig. 2 is a vertical section on the line 1 2, Fig. 1. Fig. 3 is a detached perspective view of the base. Fig. 4 is a perspective view showing the disks detached. Fig. 5 is an inverted perspective view of the switch-bar. Figs. 6 and 7 are plan views showing the switch-bar in the two positions. Figs. 8, 9, and 10 are diagrams illustrating the movement of the switch-bar-operating mechanism. Fig. 11 is a plan view showing the casing in section, illustrating one form of single-pole switch, the circuit being formed through the switch-bar of a plate carried thereby. Fig. 12 is a view illustrating a modification of my invention.

A is the base of the switch, having a recess *a* for the reception of the disk. Through the center of this base extends a shaft B, which is the prime mover and on which is secured an eccentric C, Fig. 4, adapted to act on a catch D in the form of a disk. On this disk is formed a nose *d*, which engages with the shoulders or stops *a'* of the base A successively, as fully described hereinafter. These shoulders or stops *a'*, where the base is made of wood or other fragile material, are preferably reinforced by metallic pins or plates *a''*, these pins acting as the stops; but where the base is made of porcelain or equivalent material these pins can be dispensed with.

The nose *d* of the catch-disk D is withdrawn from the shoulders on the base by the eccentric C as it turns. The disk D is then forced one-quarter a revolution in the present instance by a spring described hereinafter; but the eccentric being practically sta-

tionary while the disk is revolving the nose of the catch-disk will be forced out into engagement with the next stop or shoulder, as will be fully understood by referring to the diagrams.

On the catch-disk D is a pin *d'*, which passes into a slot *e* in a disk E, Fig. 4. This disk E is secured to or may form part of the switch-bar F, as clearly shown in the perspective view in Fig. 5. It is in the present instance secured to the switch-bar by screws *f f*.

Around the shaft B is a coiled spring G, forming the connection between the shaft and switch-bar, the spring being secured to the shaft by a pin *g*, while the opposite end *g'* of the spring extends into a slot *f'* in the switch-bar, as clearly shown in Figs. 2 and 3.

The contacts *h* are preferably secured in the manner shown in Fig. 5 to the switch-bar F, and are so formed as to readily ride over the terminals *i*. The shaft B is provided with a key or handpiece *b*, by which it is turned, and the works of the switch are in the present instance incased in a cover or casing A', confined between the key *b* and the base A.

The operation of the switch is as follows: If the switch-bar is in the position shown in Fig. 6 and the other parts are as in Fig. 8, the key is turned, say, one-quarter of a revolution, and this turning of the key contracts the spring, owing to the fact that one end is secured to the switch-bar, which is locked to the base by the catch-disk D; but as the shaft is turned the eccentric C withdraws the nose *d* of the catch-disk from the stop, as shown in Fig. 9. The spring thus released at once forces the switch-bar from the position shown in Fig. 6 to the position shown in Fig. 7, immediately closing the circuits. The nose *d* of the catch-disk D in the meantime engages with the next stop *a'*, as clearly shown in Fig. 10, owing to the fact that it travels faster than the eccentric, and consequently the eccentric forces the nose of the catch out into engagement with the said stop. It will be seen that the catch-disk D is free to move laterally independently of the switch-bar, its pin *d'* entering the slot *e*, as described above; but it is connected to the switch-bar so as to turn with it.

In Fig. 11 I have shown a single-pole switch with two terminals, which are preferably op-



posite each other, the circuit being made in this switch in substantially the same manner as that shown and described above, the current passing either through the switch-bar or through an independent wire or band.

In Fig. 12 I have shown a modification of the eccentric, a cam being secured to the shaft and having a slot into which passes a pin on the catch-disk D, so that on turning the shaft the cam withdraws the catch from engagement with the shoulder or stop *a'* and the spring forces the disk around to the next shoulder or stop, the cam-slot being so formed as to throw the nose of the catch-disk outward laterally against the next shoulder or stop.

I claim as my invention—

1. In an electric switch, the combination of shoulders or stops with a rotary switch-bar, a shaft, a spring connecting the shaft and switch-bar, and a catch connected to the switch-bar to rotate therewith, but free to have a lateral motion independently thereof, and a device to move the said catch laterally to cause it to be disengaged from and engage with said shoulders or stops as the shaft is rotated, all substantially as described.

2. In an electric switch, the combination of shoulders or stops with a rotary switch-bar, a shaft having an eccentric, a spring connecting the shaft and switch-bar, and a catch connected to the switch-bar to rotate therewith, but free to have a lateral motion independently thereof, the catch being acted on by the said eccentric to cause it to engage with and be disen-

gaged from the shoulders or stops as the shaft is rotated, all substantially as described.

3. The combination of the base having terminals and shoulders or stops with a disk having a nose engaging with said shoulders or stops, an eccentric acting on said disk, a shaft carrying said eccentric, a switch-bar adapted to turn with the disk, a spring one end of which is connected to the shaft, the opposite end being connected to the switch-bar or disk, whereby on turning the shaft the switch will be turned intermittently, substantially as described.

4. The combination of a base having the shoulders or stops *a'* and terminals with a vertical shaft B, a key for said vertical shaft, an eccentric C on the shaft, a catch-disk D, having a nose to engage with the shoulders or stops, said catch-disk being adapted to the eccentric, a disk E, a slot therein, a pin of the catch-disk entering said slot, a switch-bar secured to said disk E and having contacts adapted to engage with the terminals on the base, with a spring one end of which is secured to the shaft, the opposite end being secured to the switch-bar, the whole acting substantially as and in the manner set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY T. PAISTE.

Witnesses:

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H. F. REARDON.