

P. SHELLBACK.
COMBINED LOCK AND ALARM.

No. 174,742.

Patented March 14, 1876.

FIG. 1.

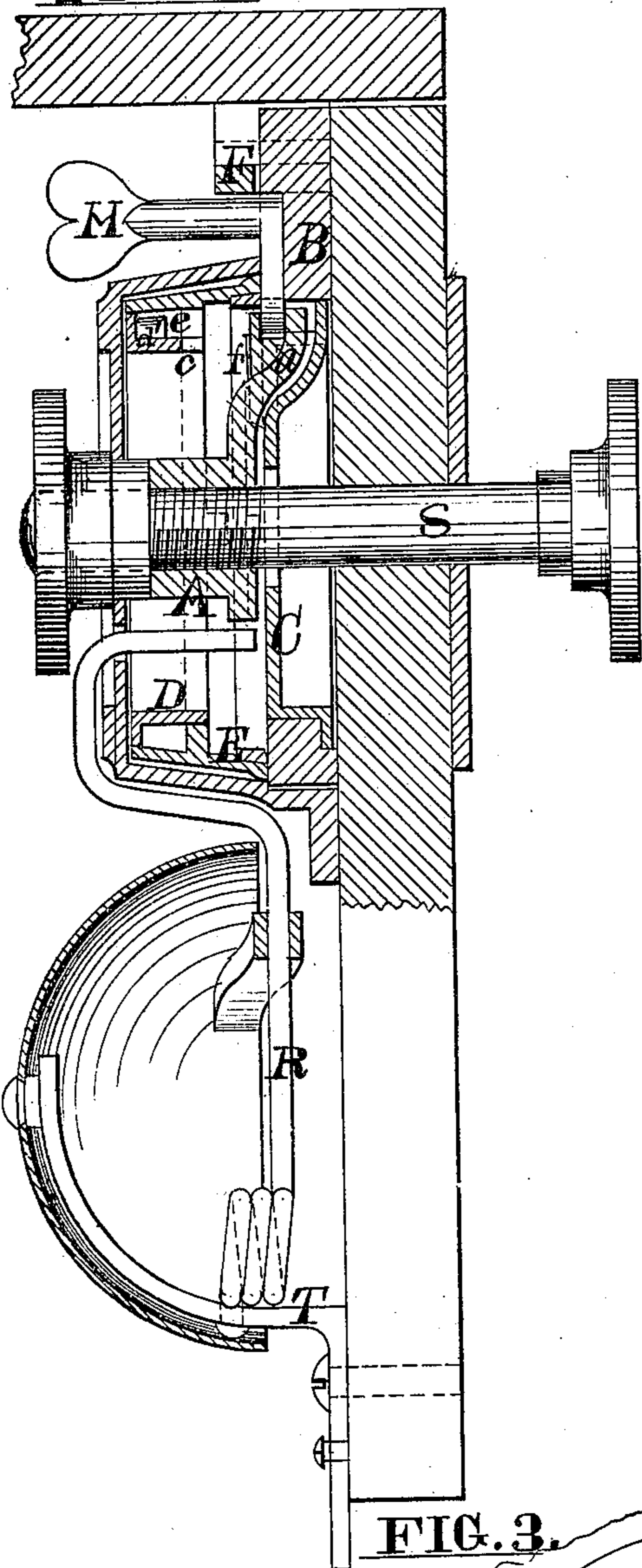


FIG. 2.

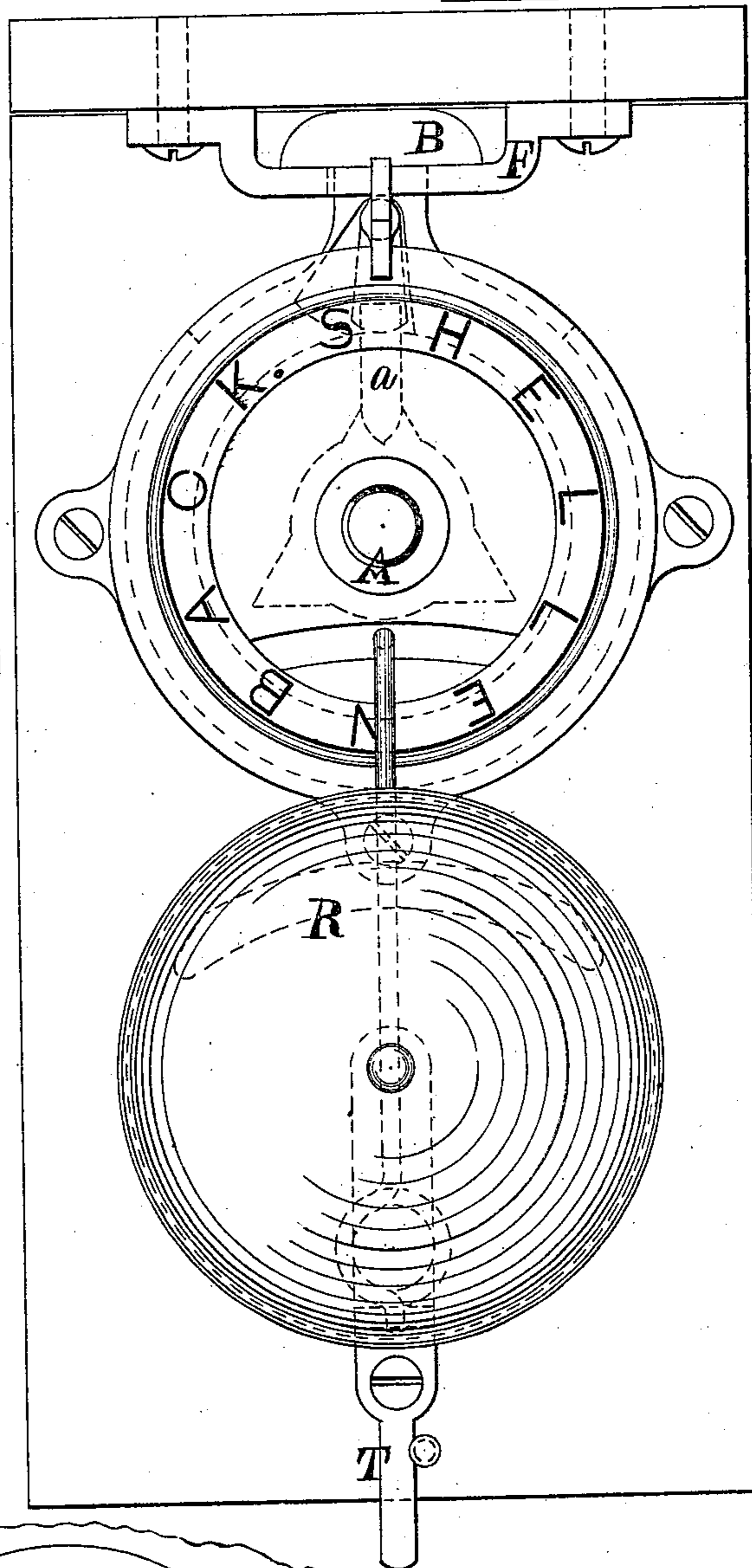
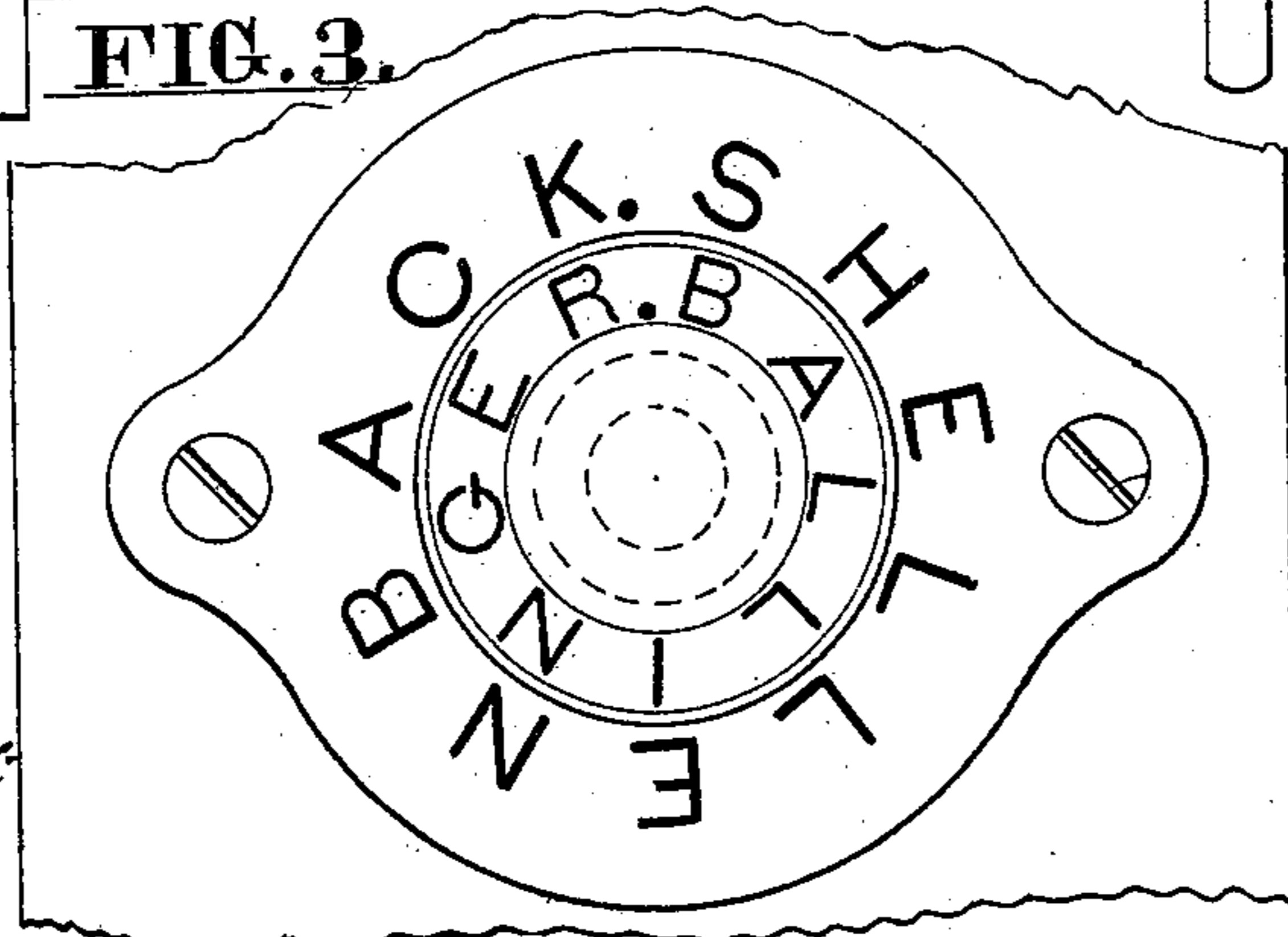


FIG. 3.



WITNESSES.

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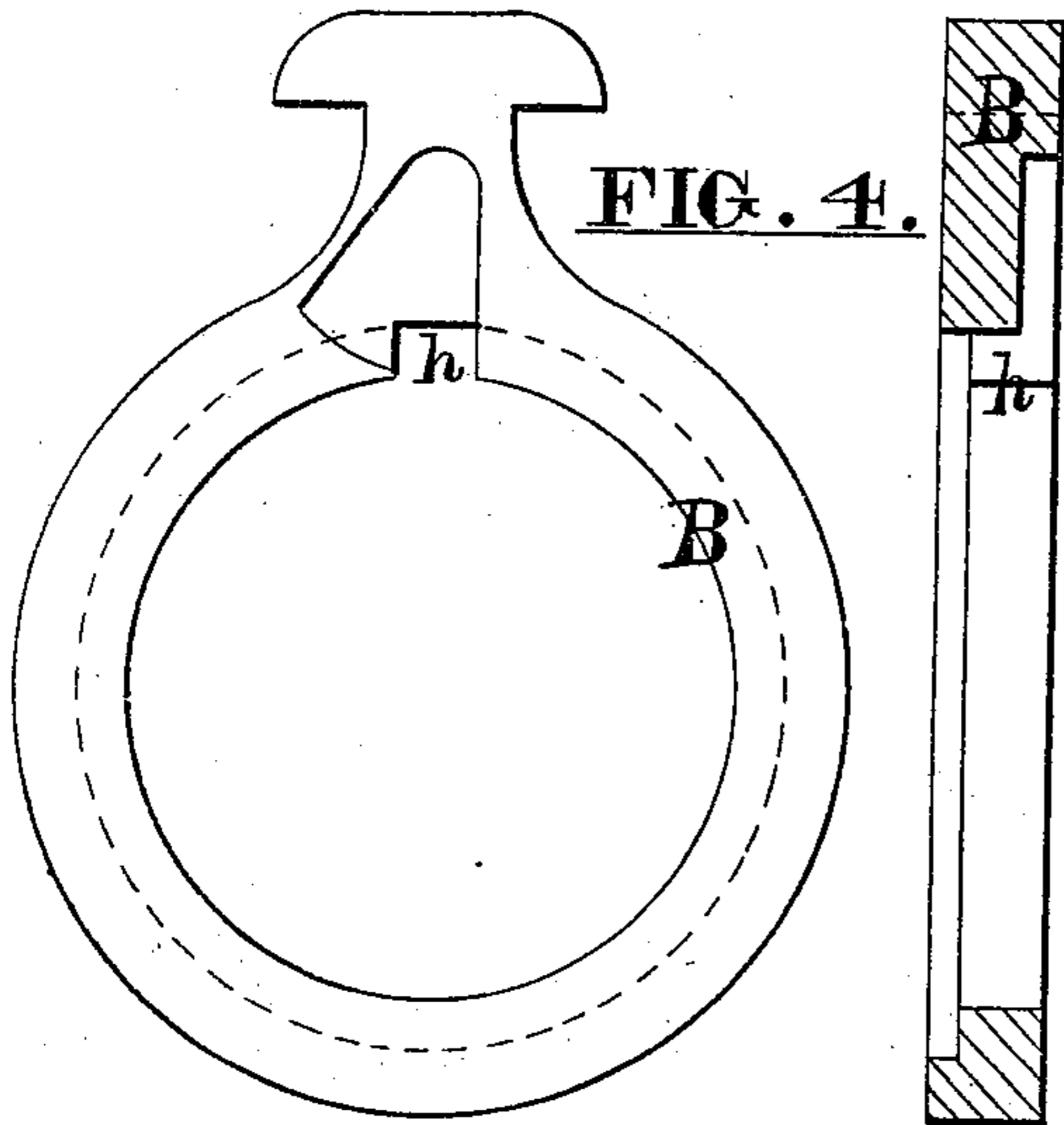


FIG. 4.

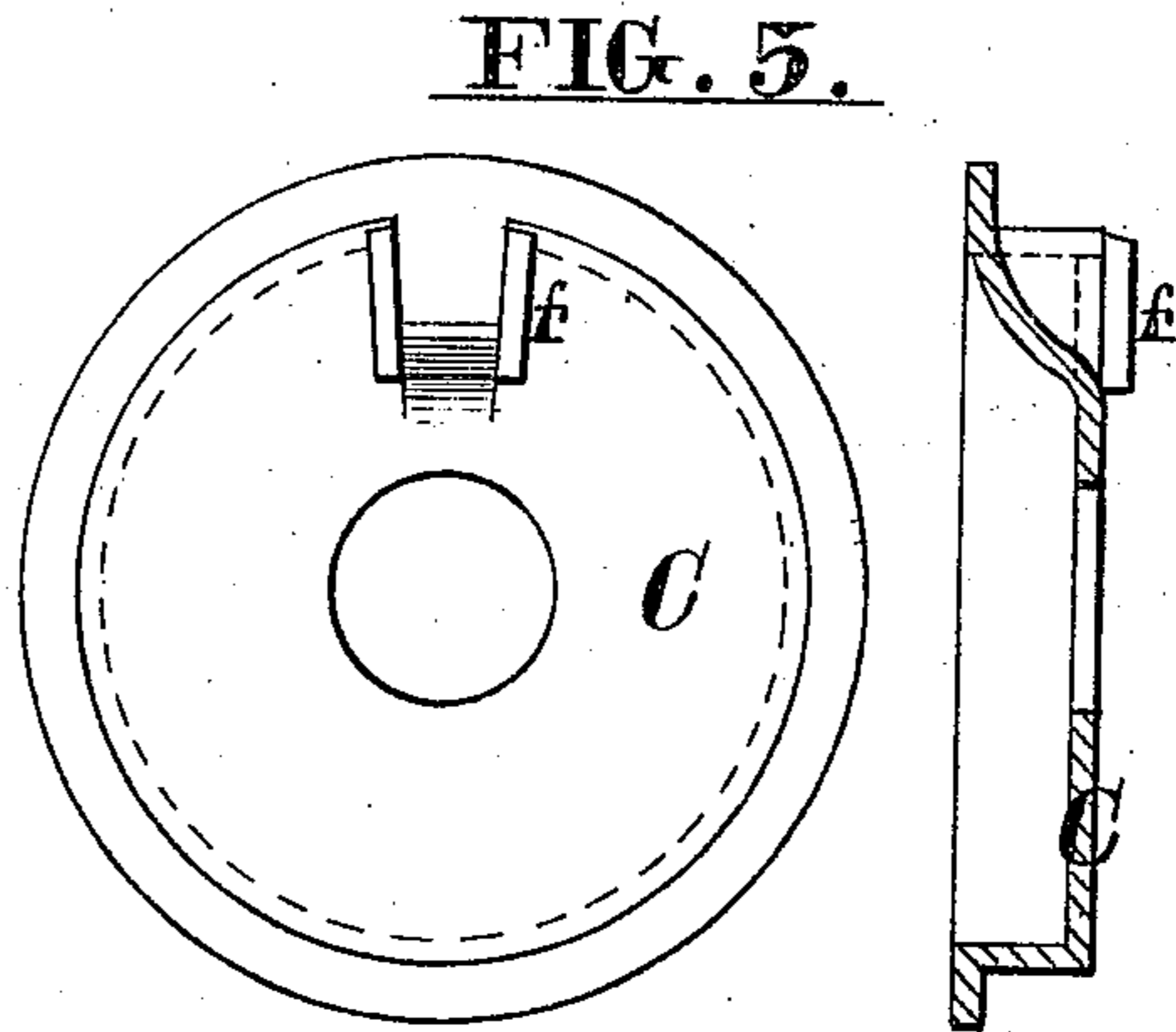


FIG. 5.

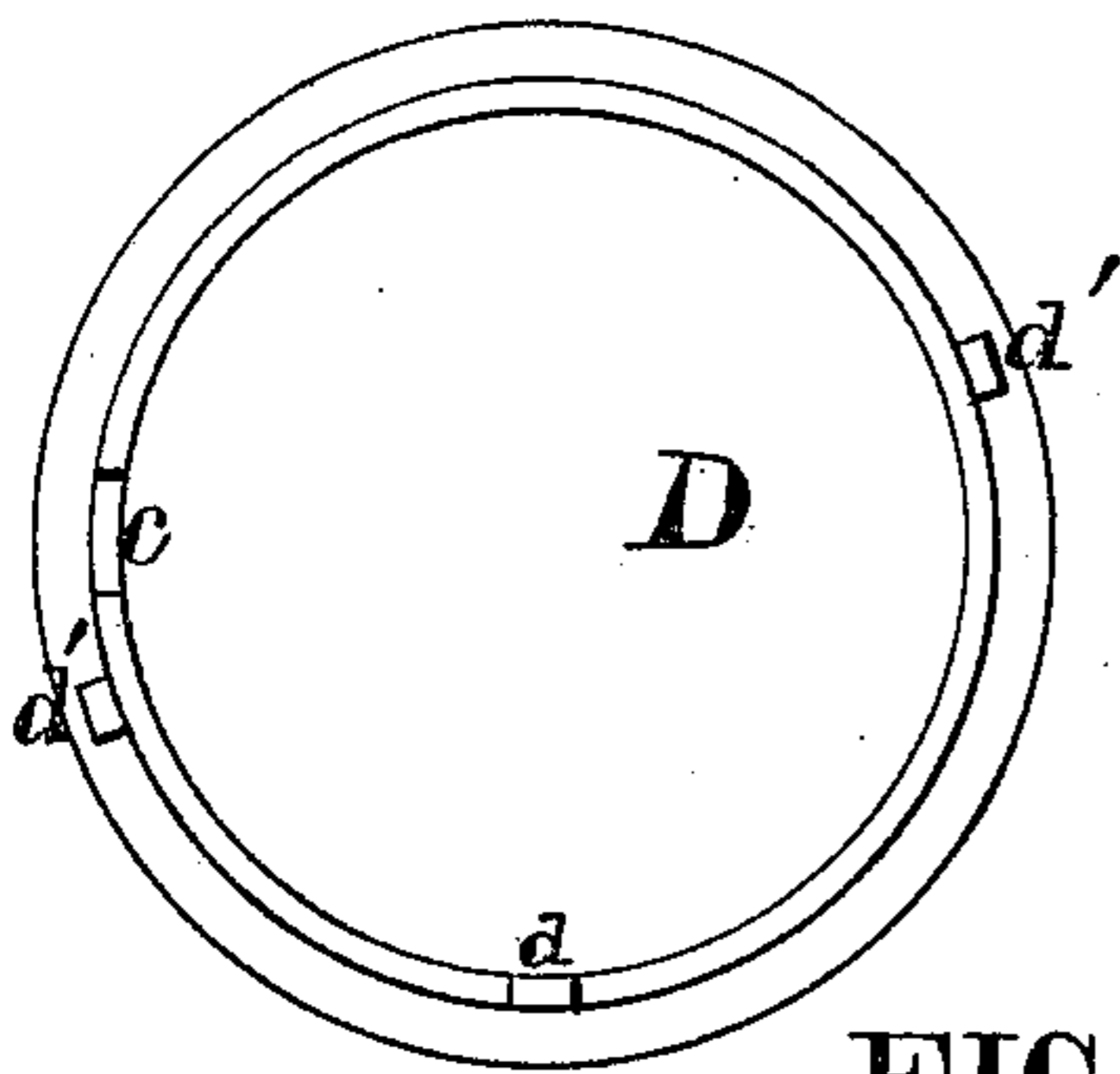


FIG. 6.

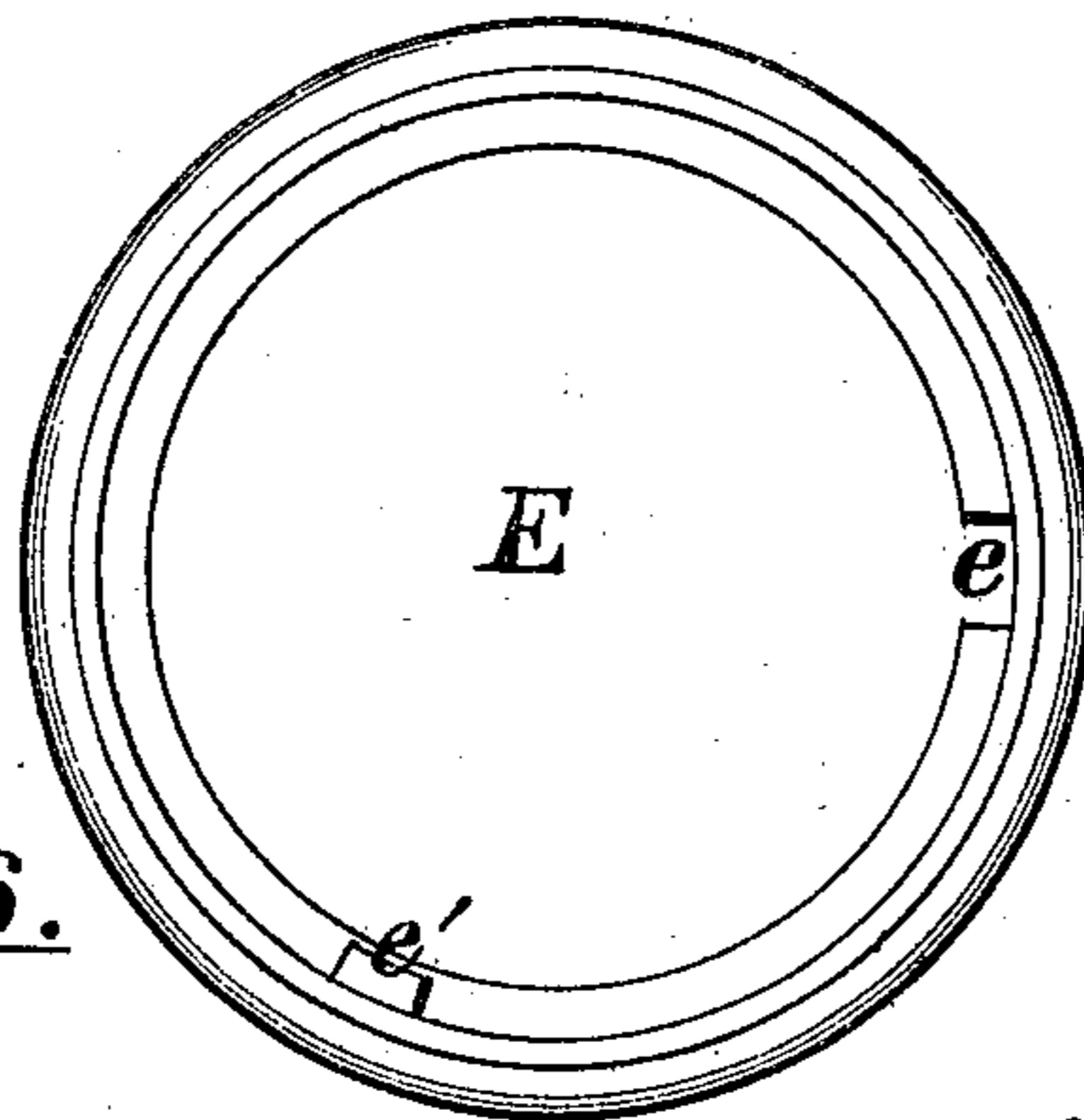
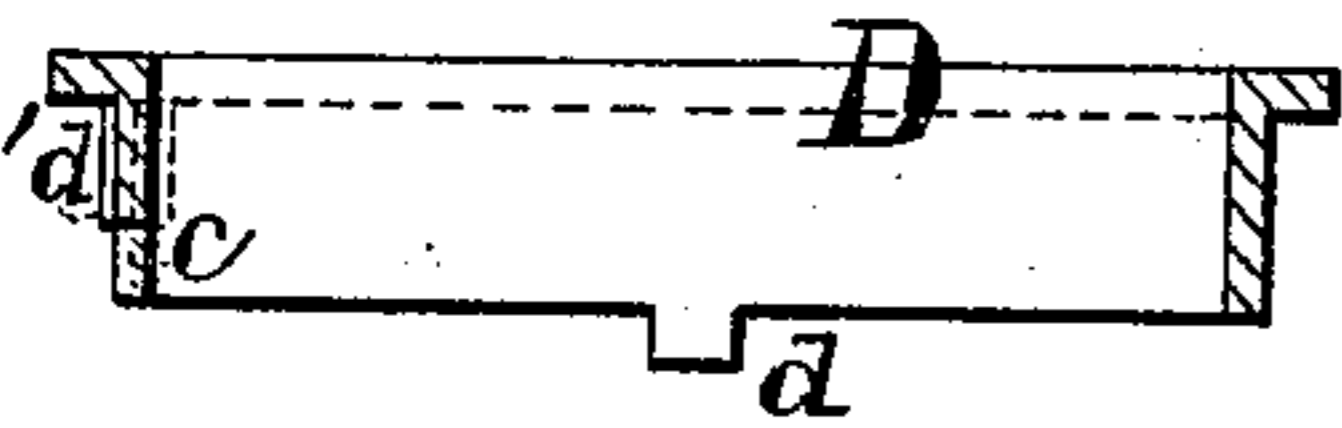


FIG. 7.

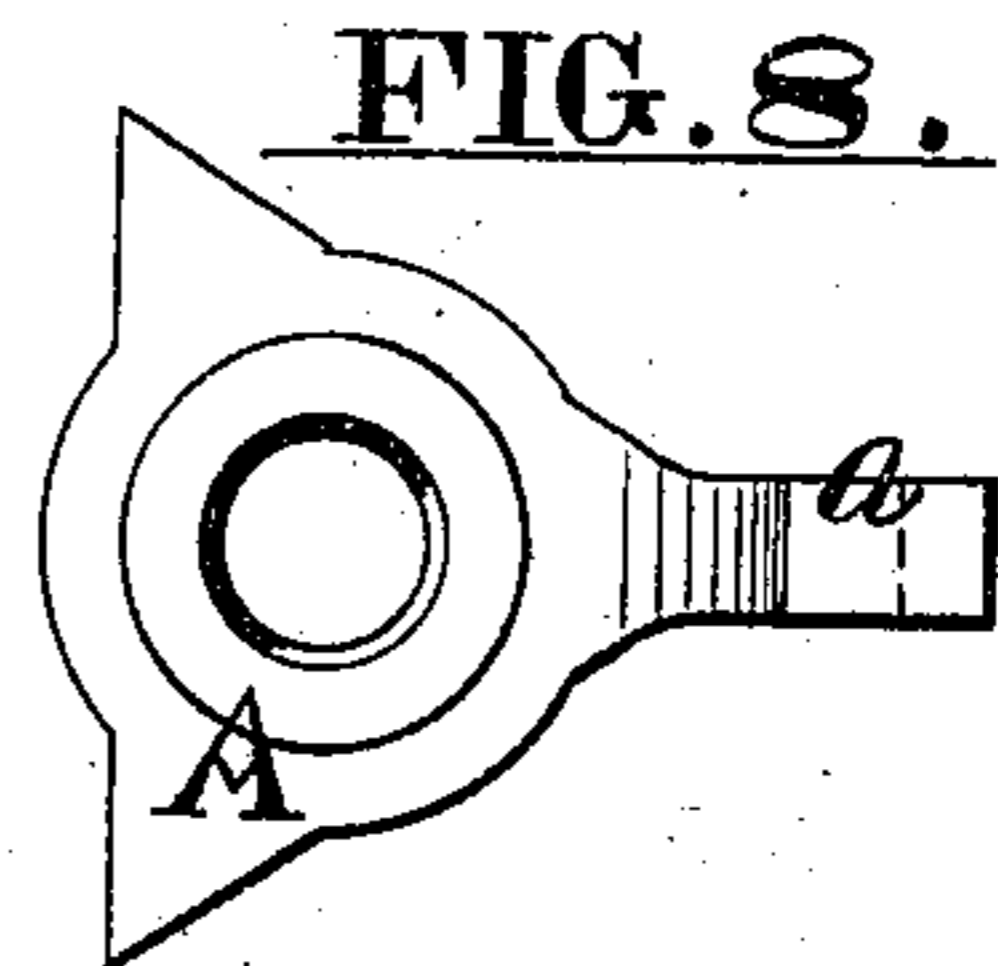
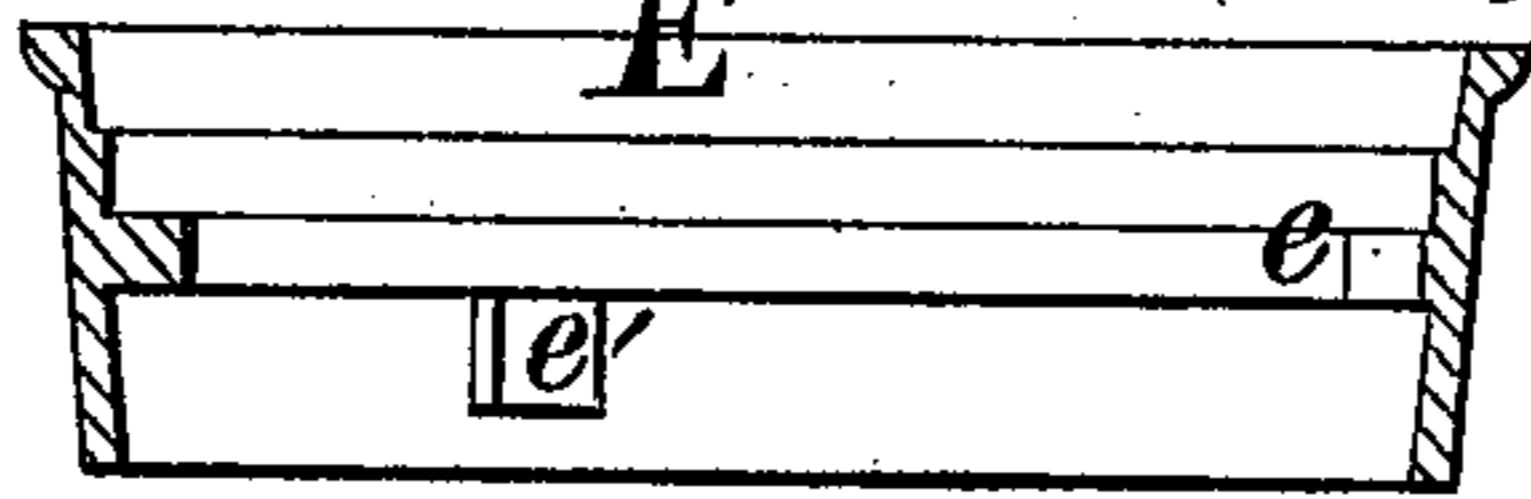
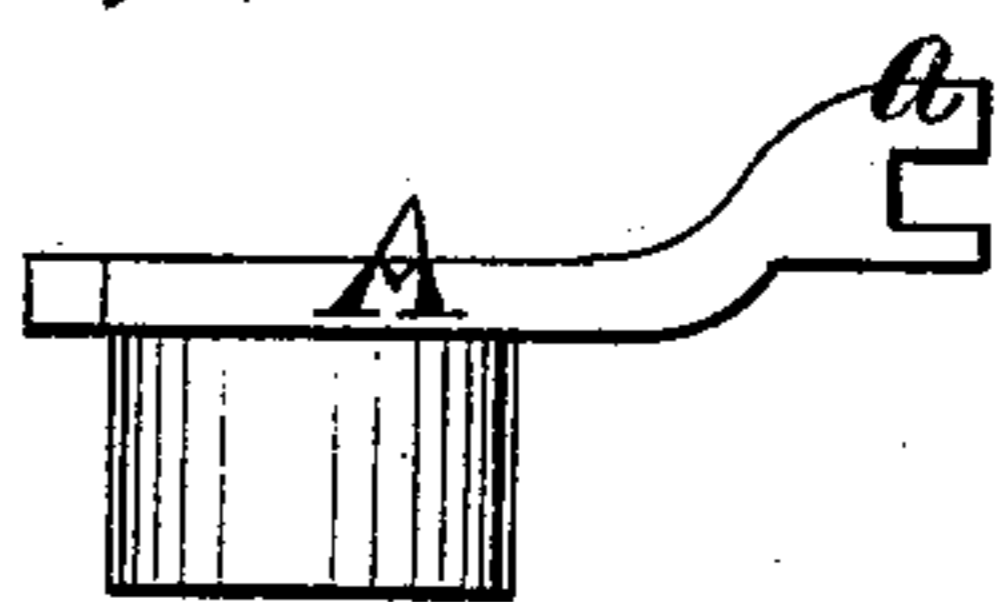


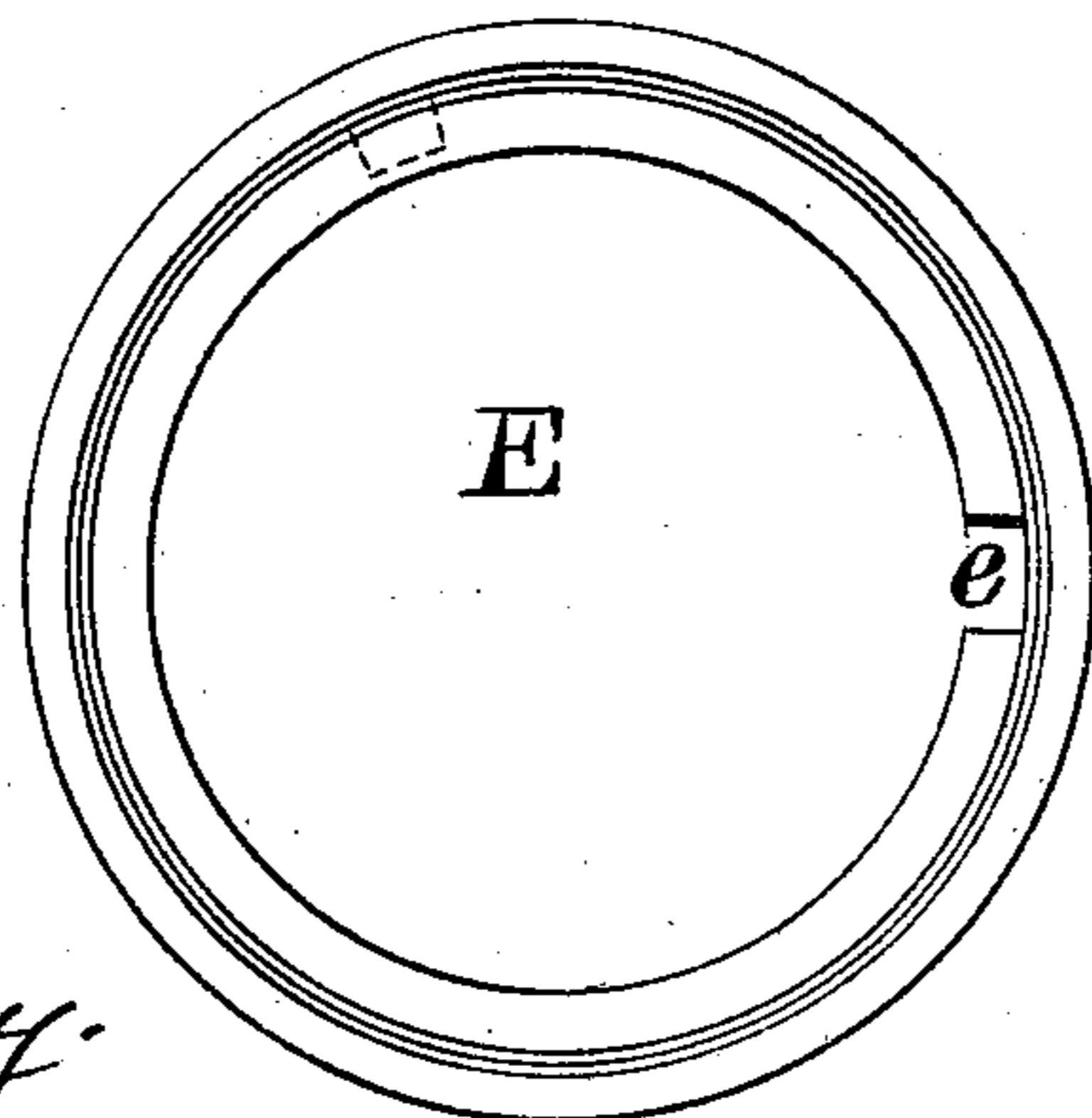
FIG. 8.



WITNESSES.

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UNITED STATES PATENT OFFICE.

PETER SHELLBACK, OF HAMILTON, OHIO, ASSIGNOR OF ONE-HALF HIS
RIGHT TO NER B. BALLINGER, OF SAME PLACE.

IMPROVEMENT IN COMBINED LOCKS AND ALARMS.

Specification forming part of Letters Patent No. **174,742**, dated March 14, 1876; application filed
January 27, 1876.

To all whom it may concern :

Be it known that I, PETER SHELLBACK, of the city of Hamilton, county of Butler and State of Ohio, have invented certain new and useful Improvements in Combination-Locks ; and I declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists, first, in the combination of a series of rings, a cylindrical bolt, and a driver in such a manner that the rings must be brought into a certain relation to each other to lock and unlock the bolt. The operations of setting the rings and throwing the bolt are both performed by a single spindle and knobs. Secondly, in the combination of a lock and bell operated by the peculiar mechanical contrivance hereinafter described and claimed.

In the drawings, Figure 1 is a sectional view taken through the center of the lock and bell. Fig. 2 is a plan view of the same. Fig. 3 is a view of the dial-plate and knob, showing the letters by means of which the combination is set. Figs. 4, 5, 6, 7, and 8 are sectional and plan views of each of the various working parts in detail.

The lock is composed of a series of rings inclosed in a case, and operated by a driver attached to the knob spindle, which, when the rings are brought into a certain relation to each other, enters the bolt, and the latter may be operated. A bell or alarm-gong is connected to the lock, and is operated by the contact of the driver A with the wire R, to which the hammer is attached.

The bell is well adapted as a door-bell, and presents a very simple arrangement for that purpose.

The driver A, Fig. 8, consists of a hub, which screws upon the spindle S, and a tongue, *a*, which operates the rings and bolt. The hub is also provided with projections, which strike the bell-wire R, as has been mentioned.

The bolt B, Fig. 4, is circular in form, and has a depression, *h*, into which the tongue of the driver enters to throw it. The outer engaging portion of the bolt may be straight, or it may have a double or single hook, as pre-

ferred. The ring C, Fig. 5, is placed within the bolt B, the latter forming a seat for it. A hole, *f*, is cut through this ring, the edges of which hole are raised, forming a ledge, the object of which will be seen in the description of the operation. The ring C, being placed within the bolt, occupies much less space than it otherwise would. A secondary ring, D, Fig. 6, is placed within a shell, E, Fig. 7, resting upon its pins *d'* *d'*, so that its notched edge is always flush with a ledge extending round on the inside of the shell E. The tongue of the driver A engages with the pin *d*, to move the ring D into position. Either of the pins *d'* *d'* engaging with the pin *e'* upon the shell E will place it in position. The ring D and shell E are notched at *c* and *e*, respectively, into which notches the tongue of the driver enters when they are brought into proper position.

The main casing covers all the above-mentioned working parts.

A thumb-button, H, is placed between the casing and bolt B, in such a position that it may be turned to enter the notch in the end of the tongue of the driver A, and thus hold all the parts in position, so that the bolt may readily be thrown. With a house-door lock this would be an indispensable feature.

The knob and dial-plate on both sides of the door are provided with a series of letters, by means of which the lock may be set so as to operate the bolt.

The driver being screwed upon the spindle, as we have shown, the loose knob (not attached to the spindle) is screwed up against it, securing it in position in the manner of a jam-nut. Now, if this knob is loosened or unscrewed slightly, the other knob, to which the spindle is attached, may be turned, screwing the spindle out from the driver, while the latter remains stationary.

To set the lock at any combination, cause the tongue of the driver A to enter the hole in the ring C, and the depression *h* in the bolt B, which is the position for throwing the bolt. Then unscrew the loose knob and turn the other, in the manner just described, until any two letters you may select upon the knob and dial-plate are in line; then screw up the knob and these letters will be the key to the

combination. We will take, for example, the letter B on the knob and A on the plate, and the operation is as follows:

The parts being in position, as shown in Fig. 1, to unlock the bolt, first move the knob to the left, or back, and the tongue of the driver will be drawn out of the hole *f* in the ring C, and the depression *h* in the bolt B, and will enter the notches *c* and *e* in the ring D and shell E. Said tongue will then, when rotated, clear the ledge around the hole *f* in the ring C. Now turn the knob in either direction and slide the spindle to the right, and the tongue of the driver will rest upon the ring C, and then, by turning it in either direction, it will strike the ledge on the ring C, changing its position, and hence destroying the combination.

To reset the combination, turn the key-letter on the knob—in this case, B—over the fifth letter, which is E, on the right of the key-letter A on the dial-plate. Now turn the knob to the right one complete revolution, until B on the knob and E on the plate again coincide. In making this revolution the tongue of the driver comes in contact with the pin *d* upon the ring D, turning the latter to the right. Now turn the knob to the left one complete revolution, and on until B on the knob coincides with S on the plate, the second letter from E. This revolution causes the pin *d'* on the left side of the ring D to strike the pin *e'* on the shell E, and hence the latter is moved to the left until the notches *c* and *e* on the ring and shell coincide. The tongue of the driver, however, is still in contact with the pin *d* upon the ring D. Turn the knob three letters to the right, until B on the knob and the first, L, on the plate coincide, and the

tongue of the driver will be directly in line with the notches *c* and *e*. Now press it into these notches and turn back to the left four letters to K on the plate. The tongue of the driver having been pressed back into the notches *c* and *e*, it can pass over the ledge around the hole *f* in the ring C, and so comes directly in line with the hole *f*, so that by moving the spindle forward, or to the right, the tongue of the driver will enter said hole. Then turn on to the left to the second letter, which is the key-letter A of the dial-plate. This turns the ring C until its hole *f* is brought to coincide with the depression *h* in the bolt, and the tongue of the driver is then made to enter said depression.

The combination is now reset, and the bolt may readily be thrown.

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

1. The combination of the movable spindle S, driver A, bolt B, rings C and D, and shell E, inclosed in a case, and arranged, constructed, and operated substantially as shown and described.

2. The combination of the spindle S, driver A, formed with projections, as shown, the hammer, and bell-wire R, one end of the latter attached to the standard which supports the bell, and twisted to form a spiral spring, substantially as shown and described.

3. The thumb-button H, for holding the parts in position, as shown and described.

PETER SHELLBACK.

Witnesses:

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R. B. DAVIDSON.