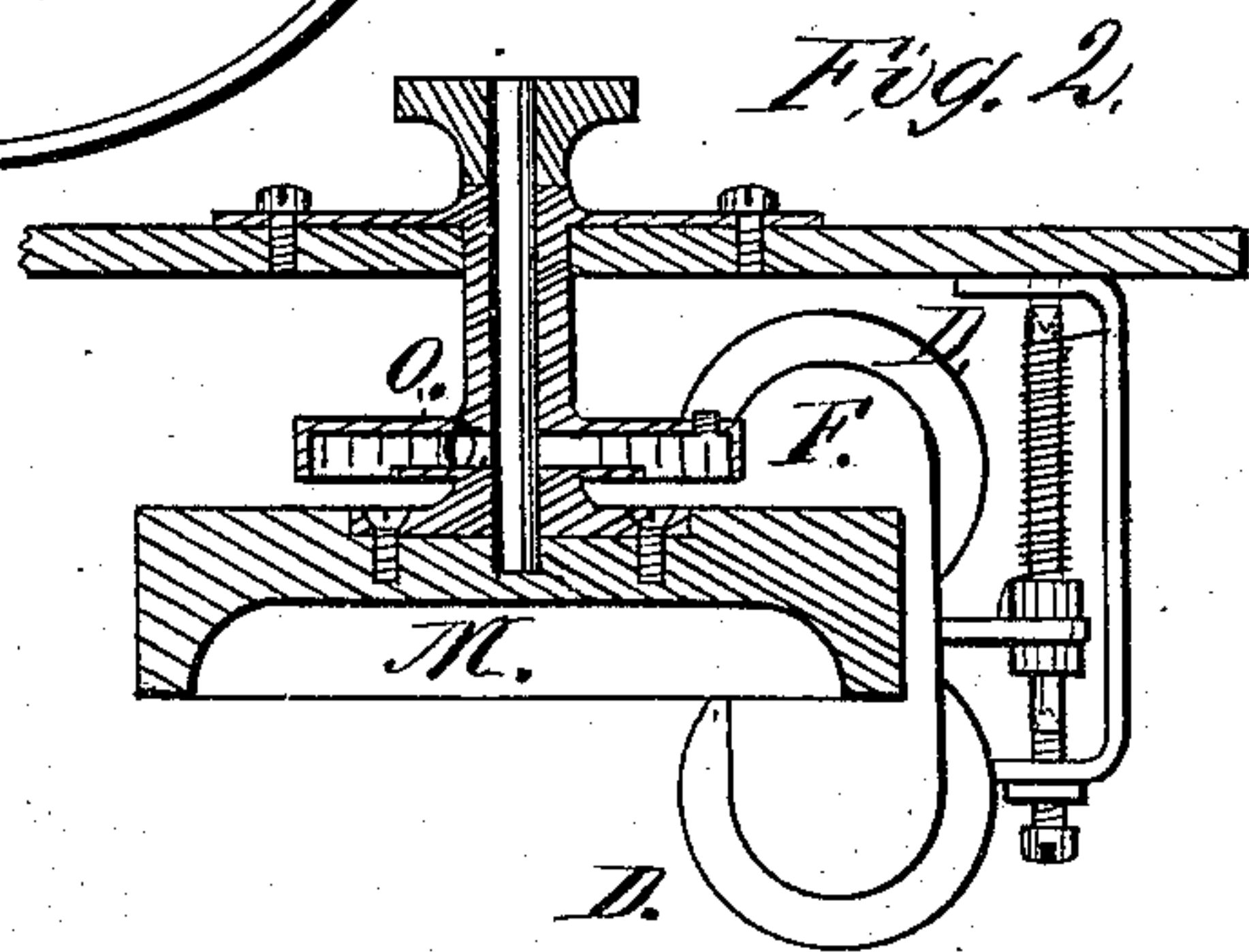
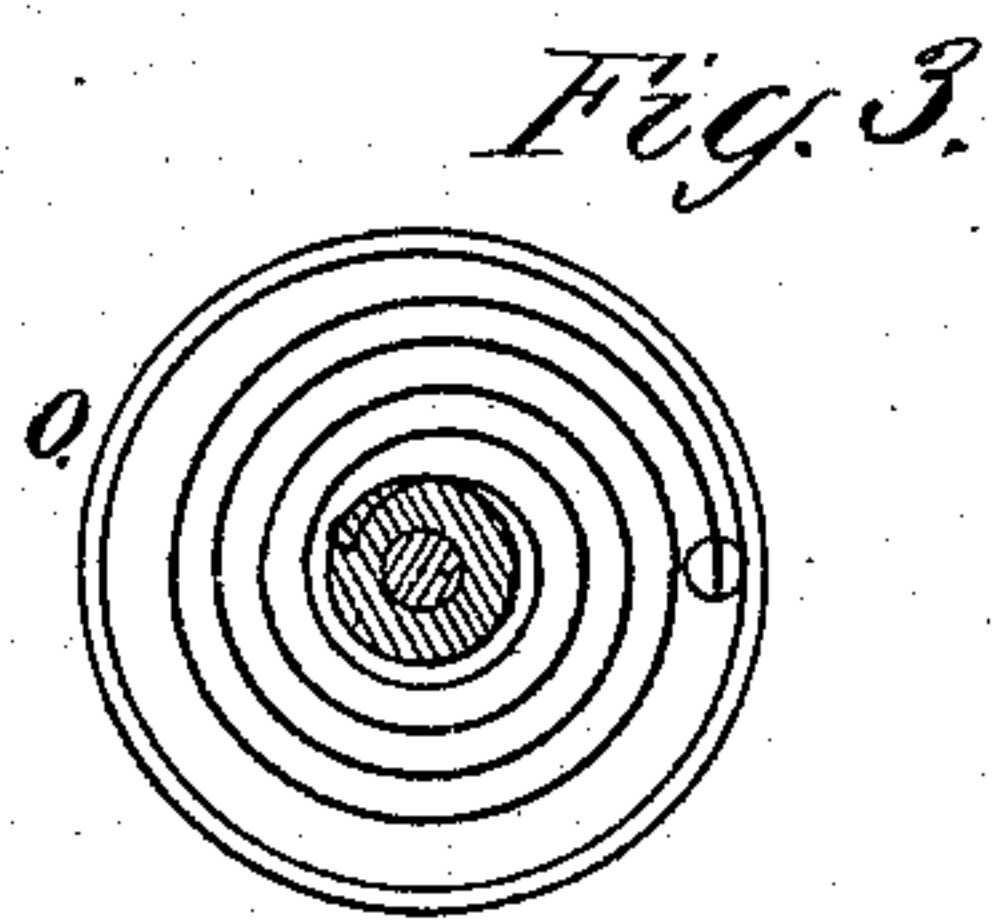
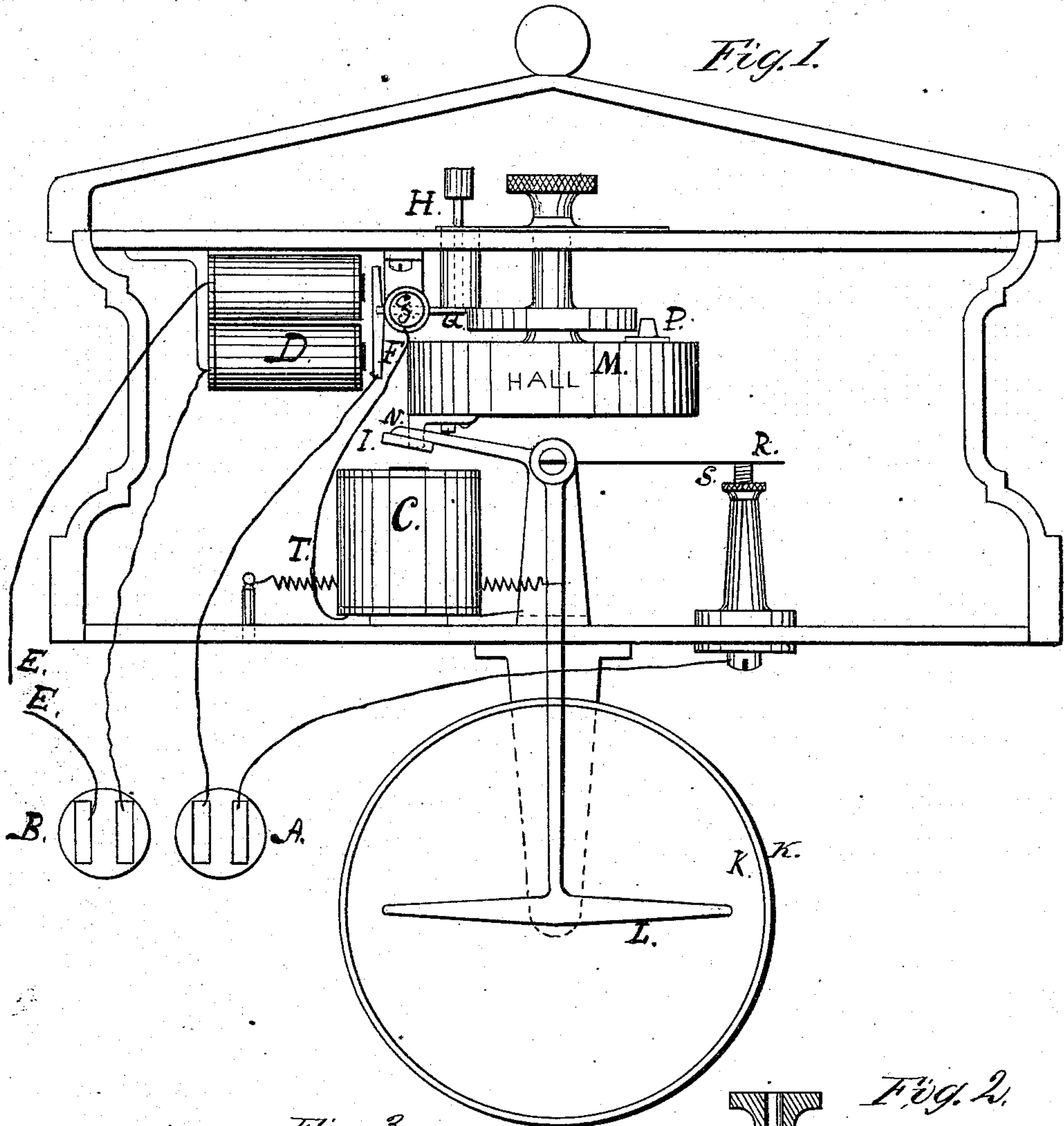


R. J. BRITTAIN.
Electro-Magnetic Burglar-Alarms.
 No. 158,897. Patented Jan. 19, 1875.



Witnesses:
Horace Harris
James S. Kidd

Inventor:
Richard J. Brittain

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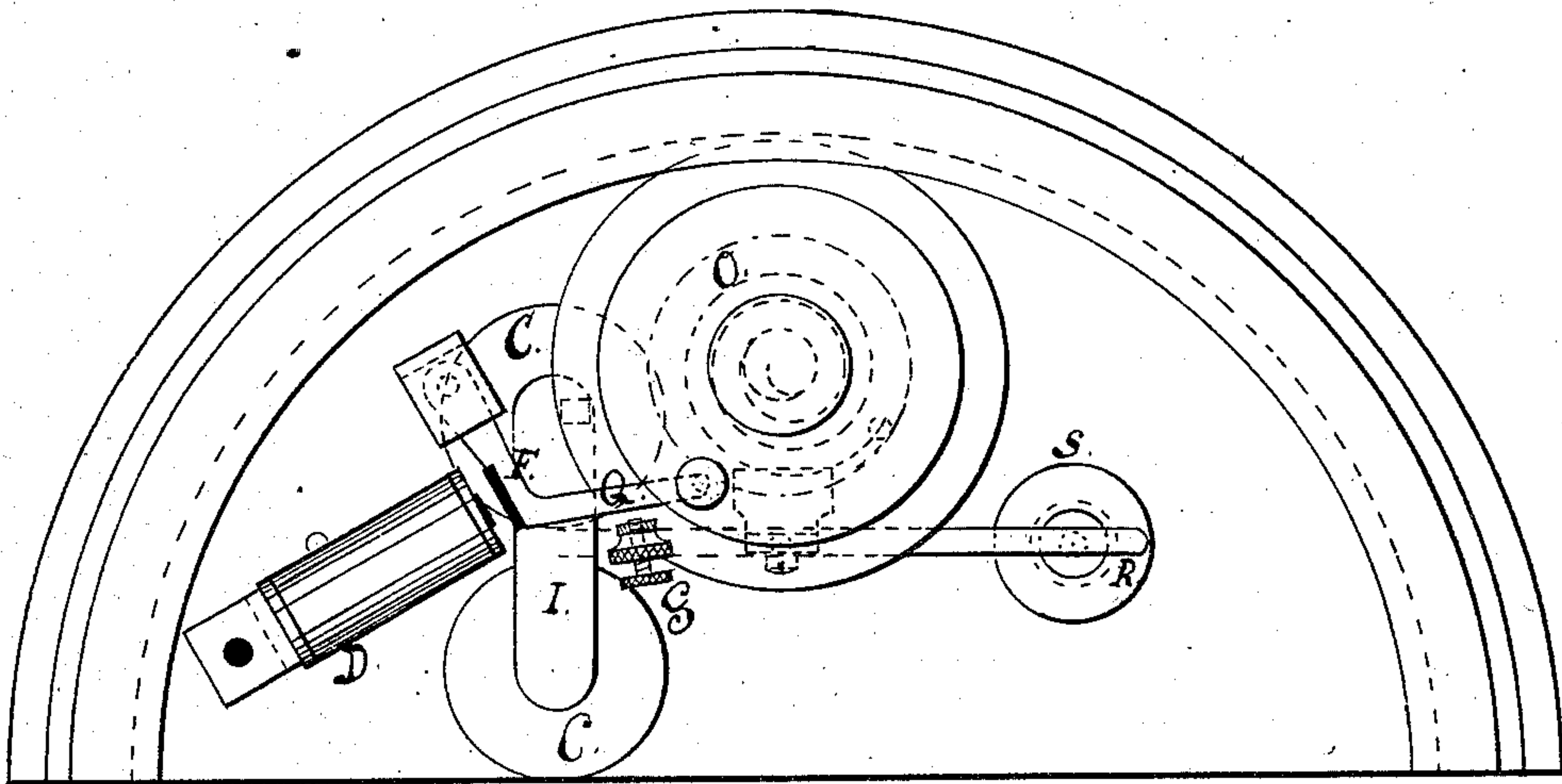


Fig. 4.

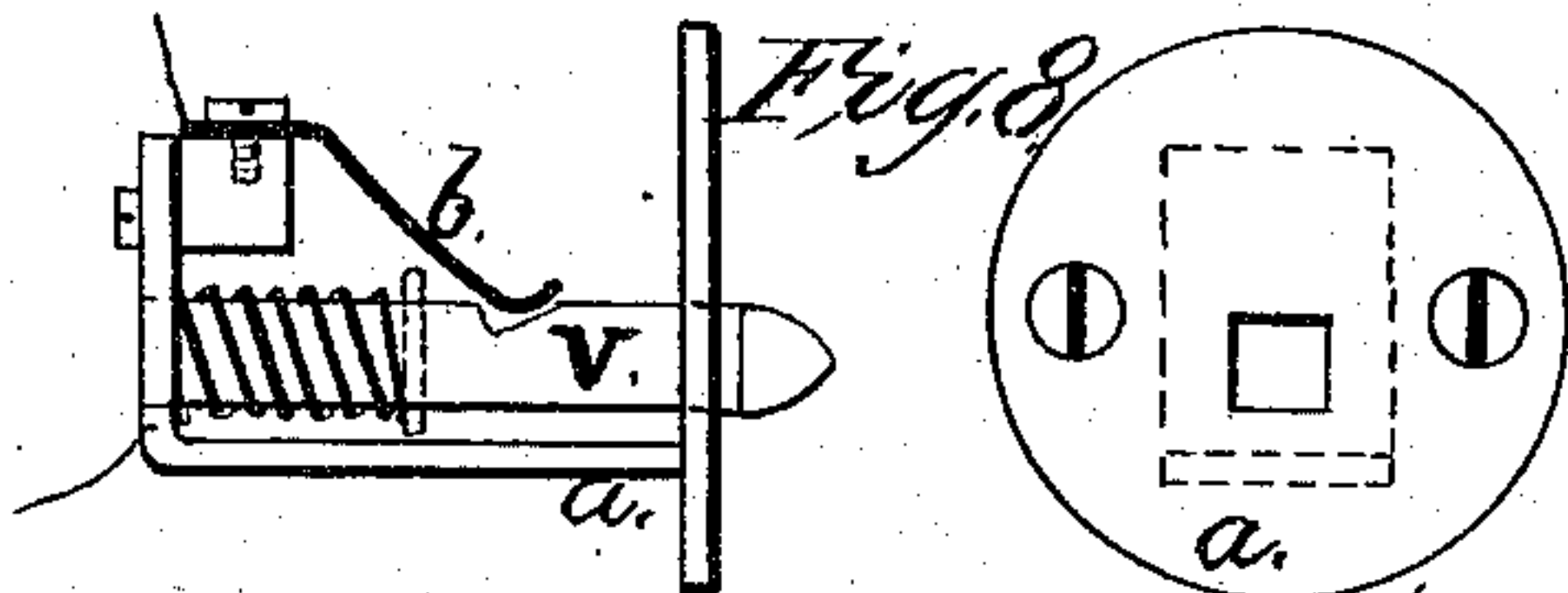
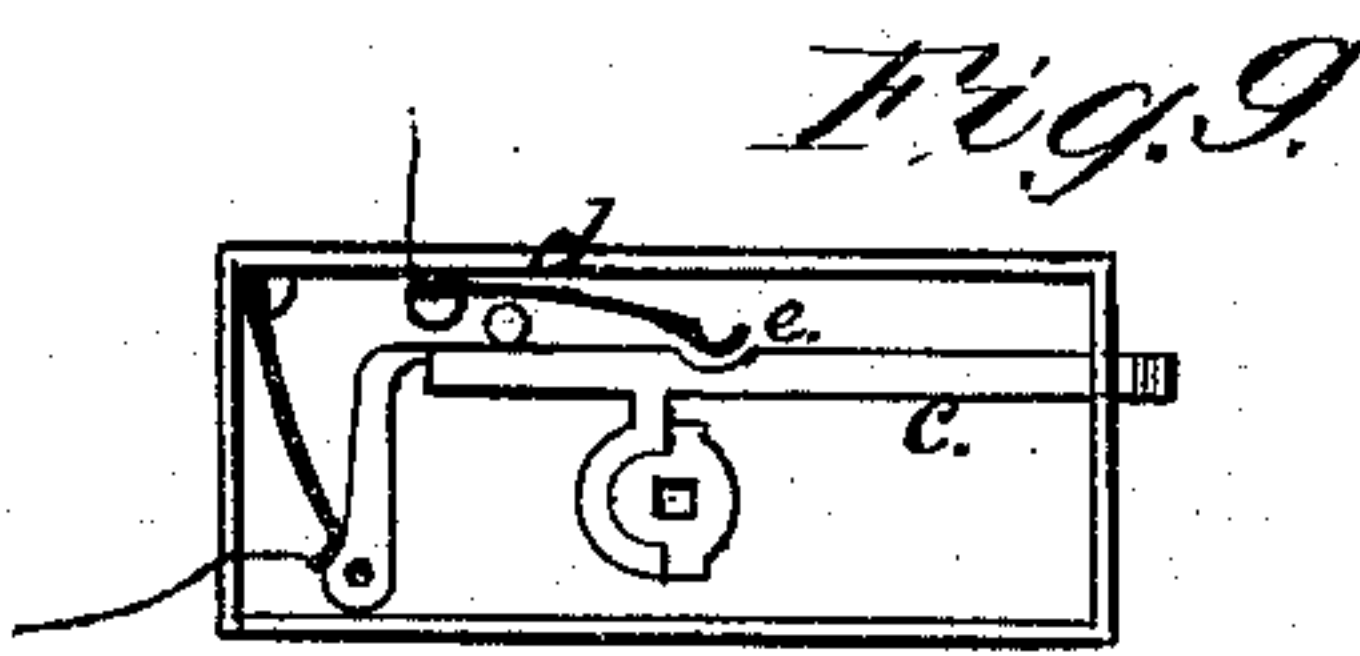
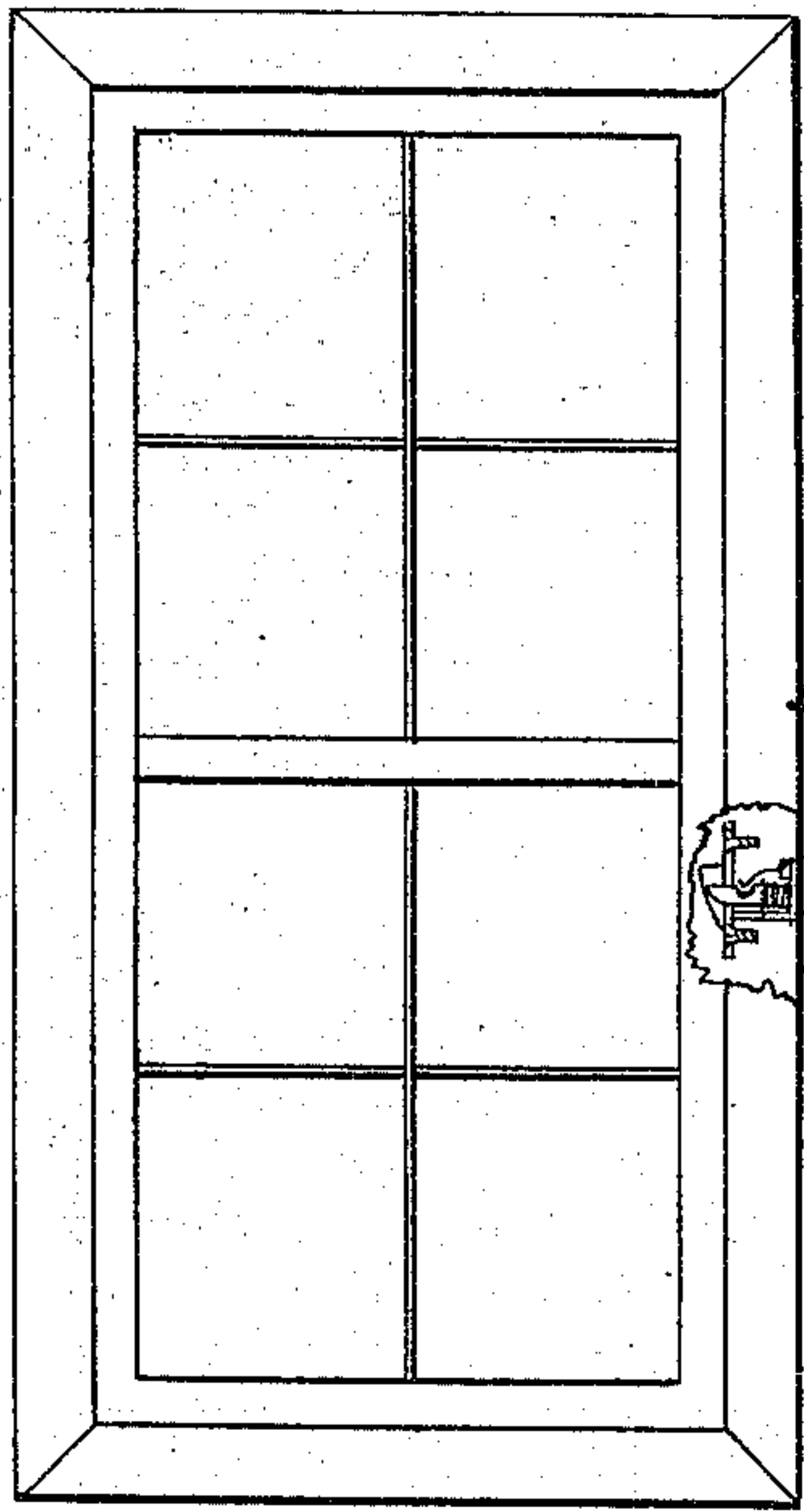
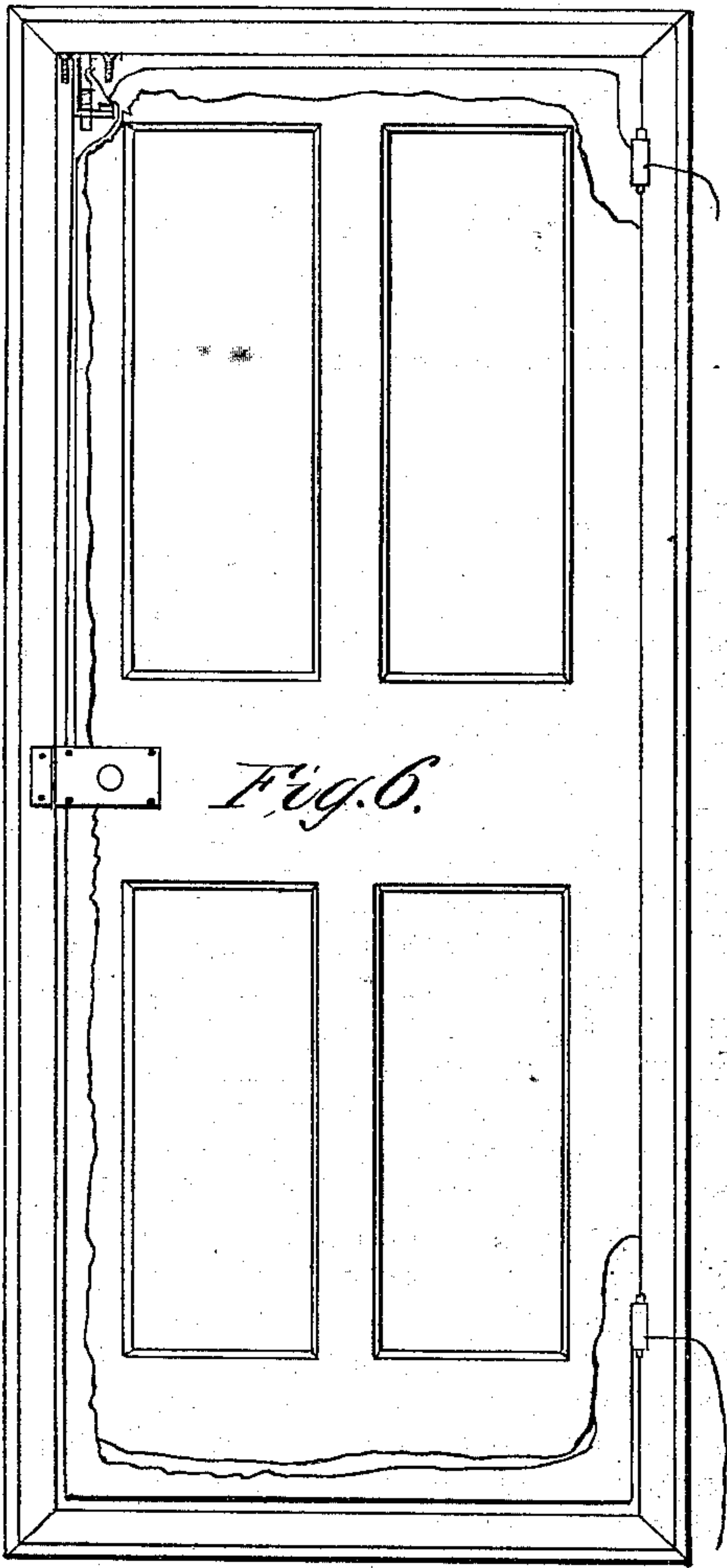
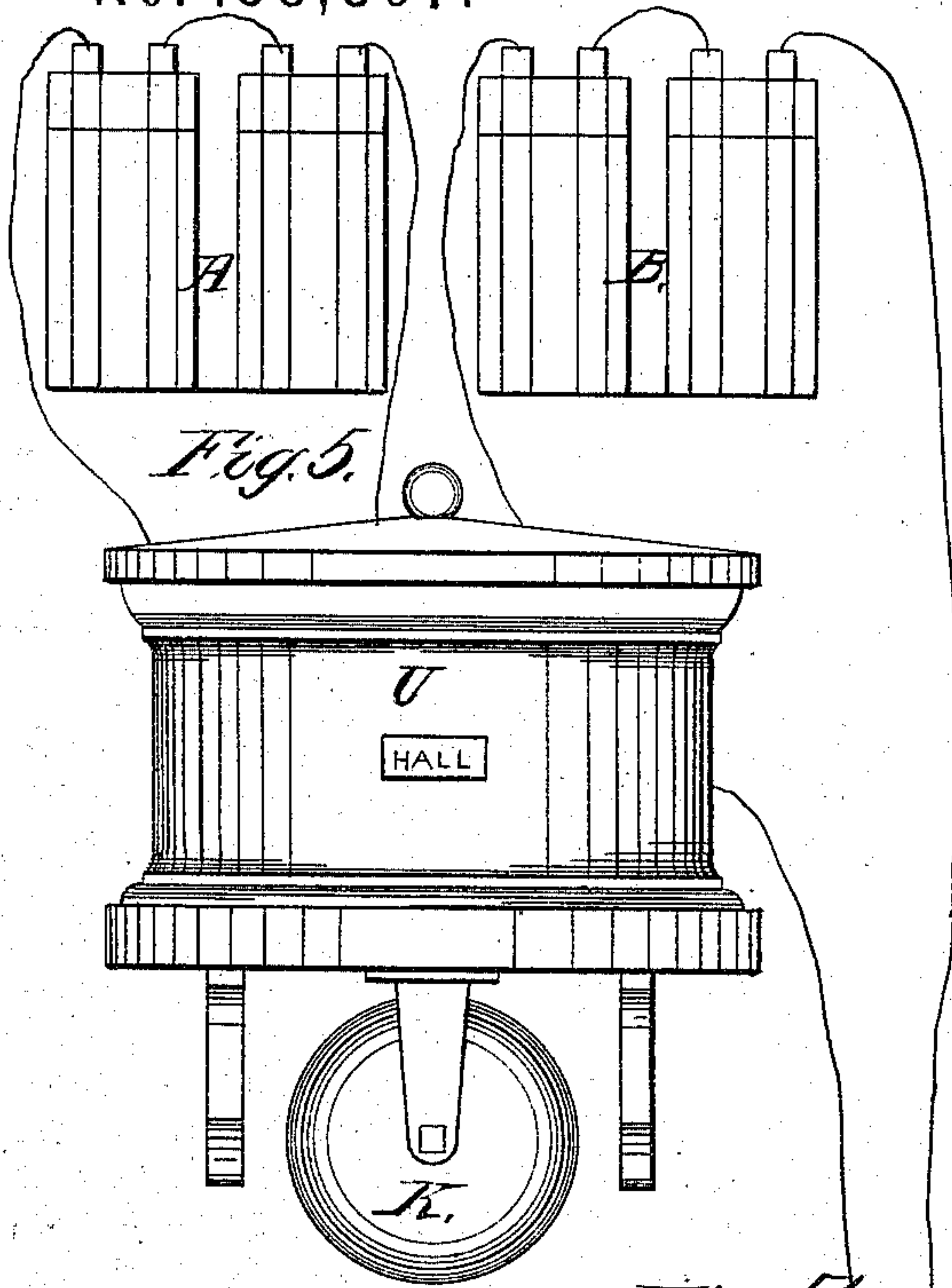
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Inventor:
Richard J. Brittain

UNITED STATES PATENT OFFICE.

RICHARD J. BRITTAIN, OF NEWARK, ASSIGNOR TO JOHN MIDDLETON, OF NEWARK, AND JOHN J. THATCHER, OF CALDWELL, NEW JERSEY.

IMPROVEMENT IN ELECTRO-MAGNETIC BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **158,897**, dated January 19, 1875; application filed February 27, 1874.

To all whom it may concern:

Be it known that I, RICHARD J. BRITTAIN, of Newark, in the county of Essex and State of New Jersey, have invented an Improved Electric Burglar-Alarm, of which the following is a specification:

My improvement relates to burglar-alarms having several indicators, indicating by sight and sound the point in a building attacked, these indicators being so arranged that they may be used together or separately.

Figure 1 is a view of the machine from the rear. Fig. 2 is a section view of the name drum or disk and the spring that actuates it, and also of the shaft on which it turns. Fig. 3 is an inverted view of the spiral spring that rotates the drum. Fig. 4 (see Sheet 2) is a top view of the machine with the lid removed. Fig. 5 is a front view of the machine inclosed and against the wall in a room. Figs. 6 and 7 are views, respectively, of a door and window with the attachment applied. Fig. 8 is a view of the attachment for either a door or window. Fig. 9 is an inside view of a door-latch with the attachment applied.

The machine is operated by two separate batteries, A and B. One of these batteries, A, is used to operate a magnet, C, for ringing the bell K, and the other, B, to operate the magnet D, for releasing the drop-pin H. There will be a magnet and drop-pin for each room or division of the house connected with the alarm and with battery B. By opening a door or window a connection is made between battery B and magnet D at E E, which draws the armature F to the magnet D, thereby releasing the drop-pin, and allowing it to drop down into the path of the point or knob P, a lever, Q, attached to armature F, and also touches at point G, which connects battery A and magnet C, thereby drawing armature I to magnet C, releasing drum M, held in check at I and N, so that by the action of spring O or a weight it (the drum) will fly round until the point P strikes against the lower end of the drop-pin, and stops just at the time when the name U, indicating the point attacked, appears in sight in the face of the machine. (See Fig. 5, Sheet 3.) Now, to illustrate the working, draw up the drop-pin until it is held in check by the

armature *f* and lever Q; then turn the name-drum around until it is held in check by armature *i* at points *i* and *n*. Now, move the armature *f* to the magnet D, and the pin will drop; then move armature *i* to magnet C, and the drum will fly around until the stop on the drum strikes the pin; then, if that pin be numbered or lettered to represent the name indicated on the name-drum, it will become a separate indicator. When the pins are at rest they are even with the button in the center on the top; but if you disturb a magnet which holds a pin up, the pin will drop down and be no longer even. Therefore, if a pin is down you know that a door or window has been moved in the room represented by that pin; also, the drop-pins being numbered for the various doors and windows connected with the alarm, which are indicated on the face of the name-drum, they together (the pins and the drum) become twofold indicators by the pin dropping down and the drum flying around. It may be so arranged that the magnet C, operating the bell and releasing the drum, may be switched off, and the pins only be used as silent indicators. In this way any person in the house may, by observing the pins, know the movements of all the doors and windows in the house connected with the machine without having an alarm; or it may be so arranged that any of the drop-pin magnets and part of the house only need be under the protection of the alarm; or the whole may be switched off. Herein is seen the especial advantages of the two batteries.

It will be seen that when the armature I is drawn to C the striker L will strike the bell at K. It will also draw the spring R from the point or adjusting-screw S, thereby breaking the circuit and demagnetizing magnet C, when the spiral spring J will draw the armature I back, and the spring R will once more make a connection with the point S, and the operation of striking the bell will be repeated.

I will now describe the attachments. V is a hardened-steel spring-bolt, set in a suitable socket, *a*. The spring *b* is insulated, and attached to the socket, and so placed that the end will come directly over a recess cut in the bolt. One wire is attached to the insulated

spring, and the other to the socket or bolt, and the wires are run to the battery B and to the instrument.

Now, it will be seen that when the bolt is at rest the nose will project into a notch or recess in the window-frame or door-frame, (see Fig. 7,) and when the window or door is opened the bolt will be pushed back, and come in contact with the spring *b*, thereby completing the circuit at E E, and creating an alarm. The advantage of this attachment is, that nothing but the small point of this bolt can be subject to attack, and being hardened cannot be cut off. The attachment in the lock is substantially the same. By turning the knob in an attempt to open the door the bolt *c* comes in contact with the insulated spring *d*, thereby completing the circuit at that point, and giving an alarm.

The door in Fig. 6 is provided with both of these attachments, Figs. 8 and 9.

In the drawings the alarm is represented as working on an open circuit; but it may be arranged to work on either an open or closed circuit.

I am aware that automatic indicators have been used; but I do not claim this simple fact, nor of operating a bell by electricity, but my mode of producing the indication. I am also aware that two separate batteries are used in electric instruments—that is, main and local; but I do not claim the two, except as connected with a burglar-alarm.

I claim—

1. The rotating name-drum M, or disk, actuated by a spiral spring or weight, in combination with a drop-pin, H, and electro-magnets C and D, substantially as named, and for the purposes specified.

2. The combination, with the name-drum and alarm-bell, of a single magnet and armature, operating to simultaneously release the name-drum and sound the alarm-bell, substantially as set forth.

RICHARD J. BRITTAIN.

Witnesses:

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JAMES S. KIDD.