

J. SLATER.
ELECTRIC ALARM LOCK.

Patented Aug. 28, 1894.

Fig. 2.

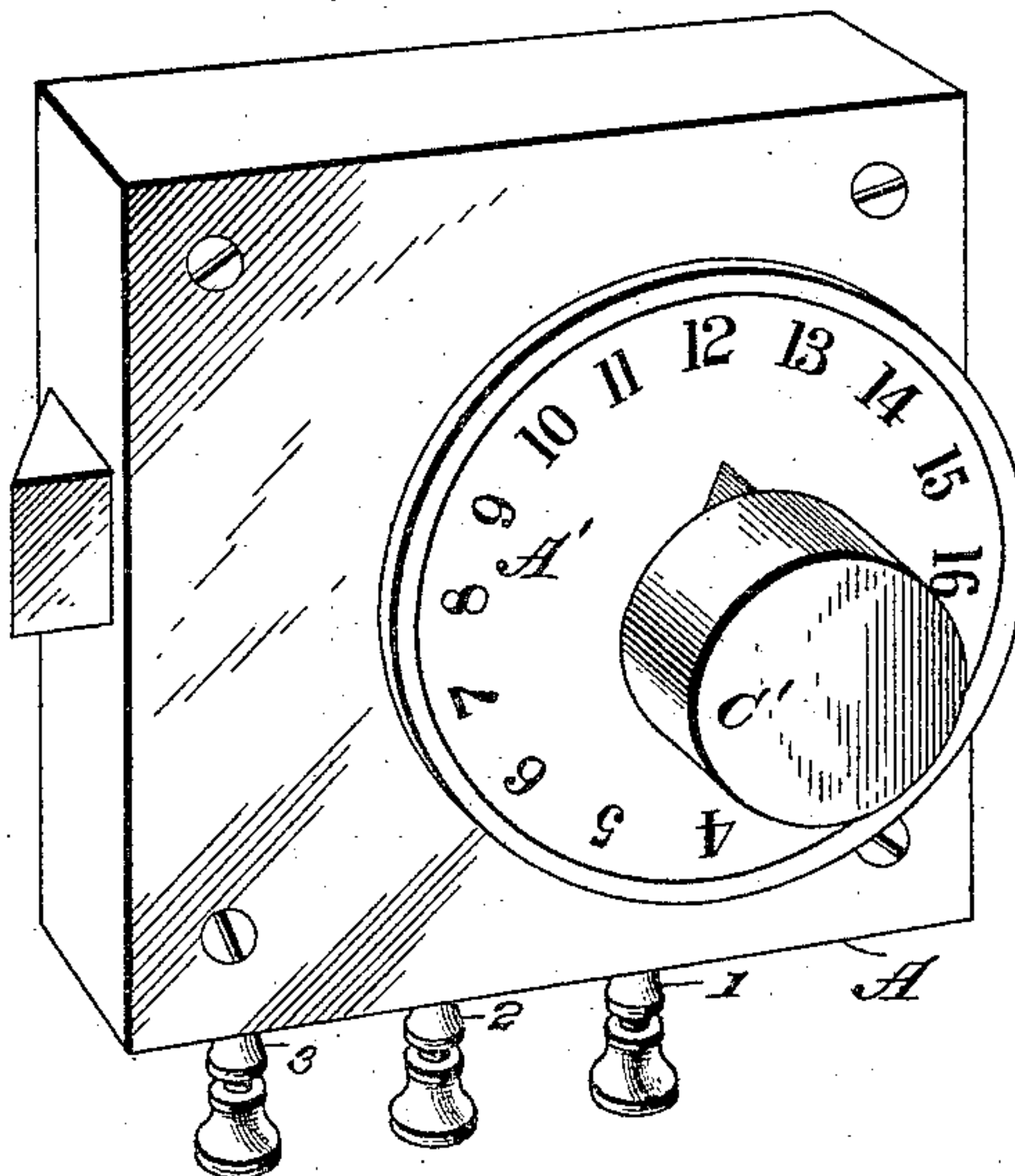
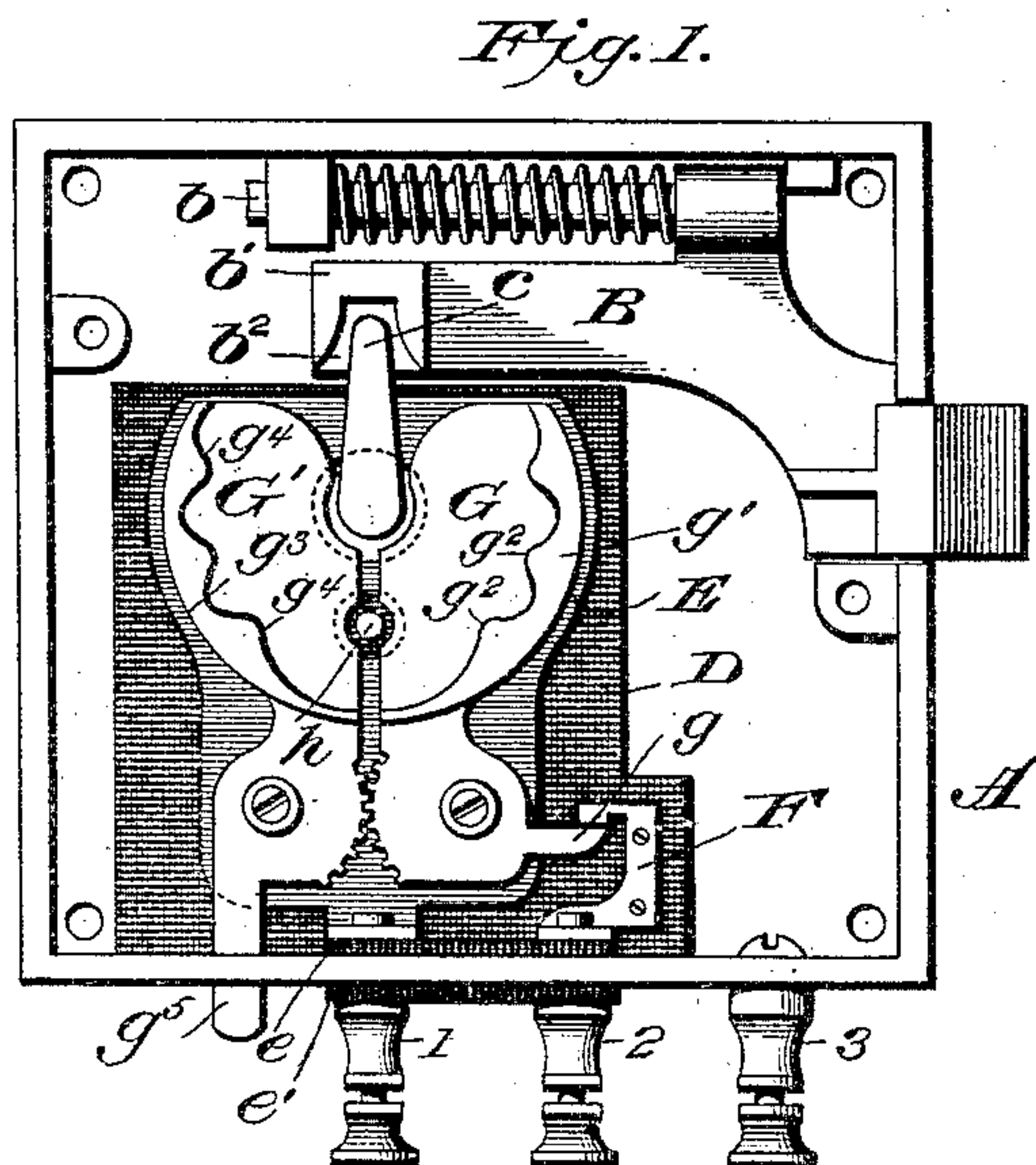
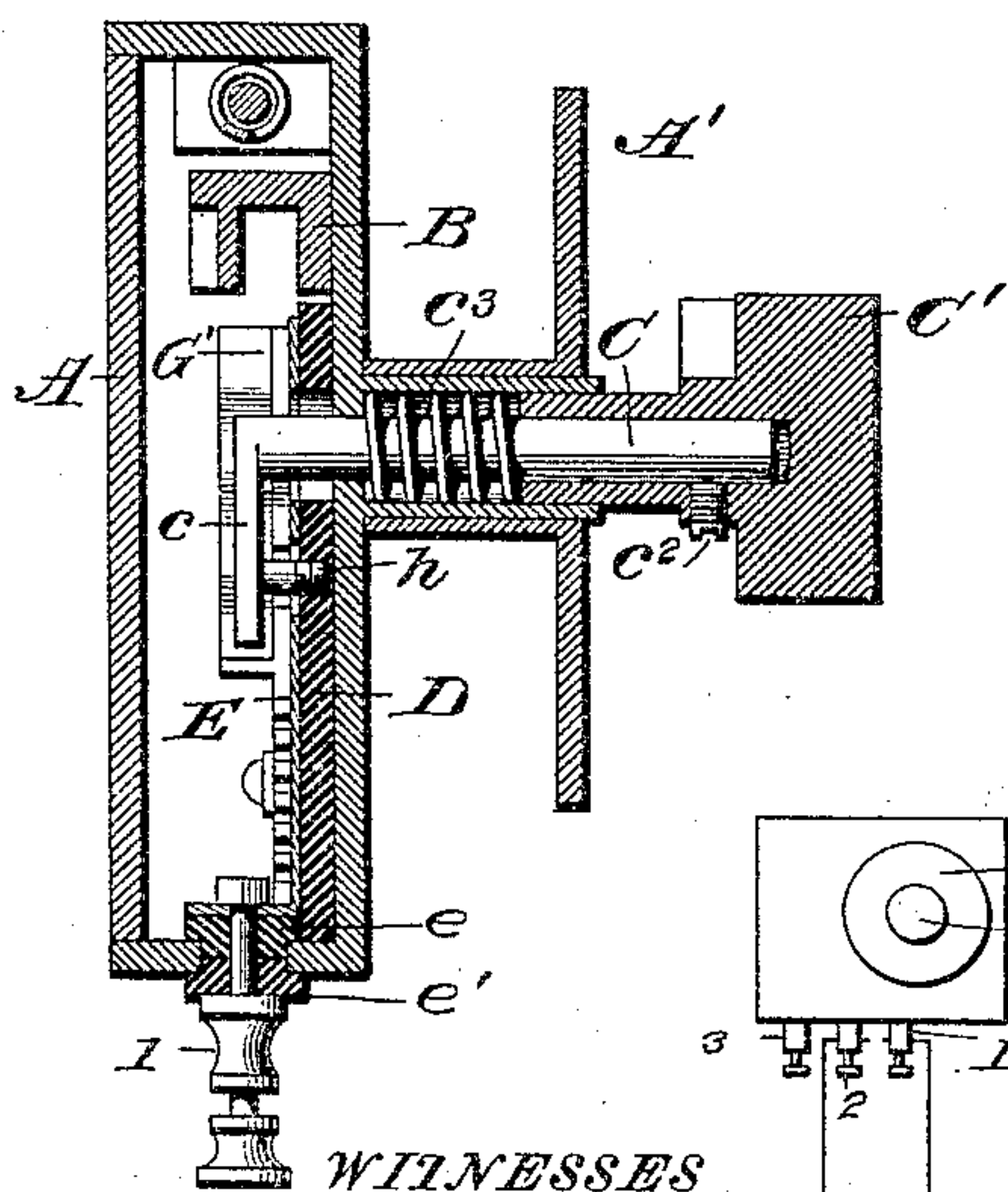


Fig. 3.



WITNESSES

L. S. Elliott
Horace S. Beall

Fig. 4.

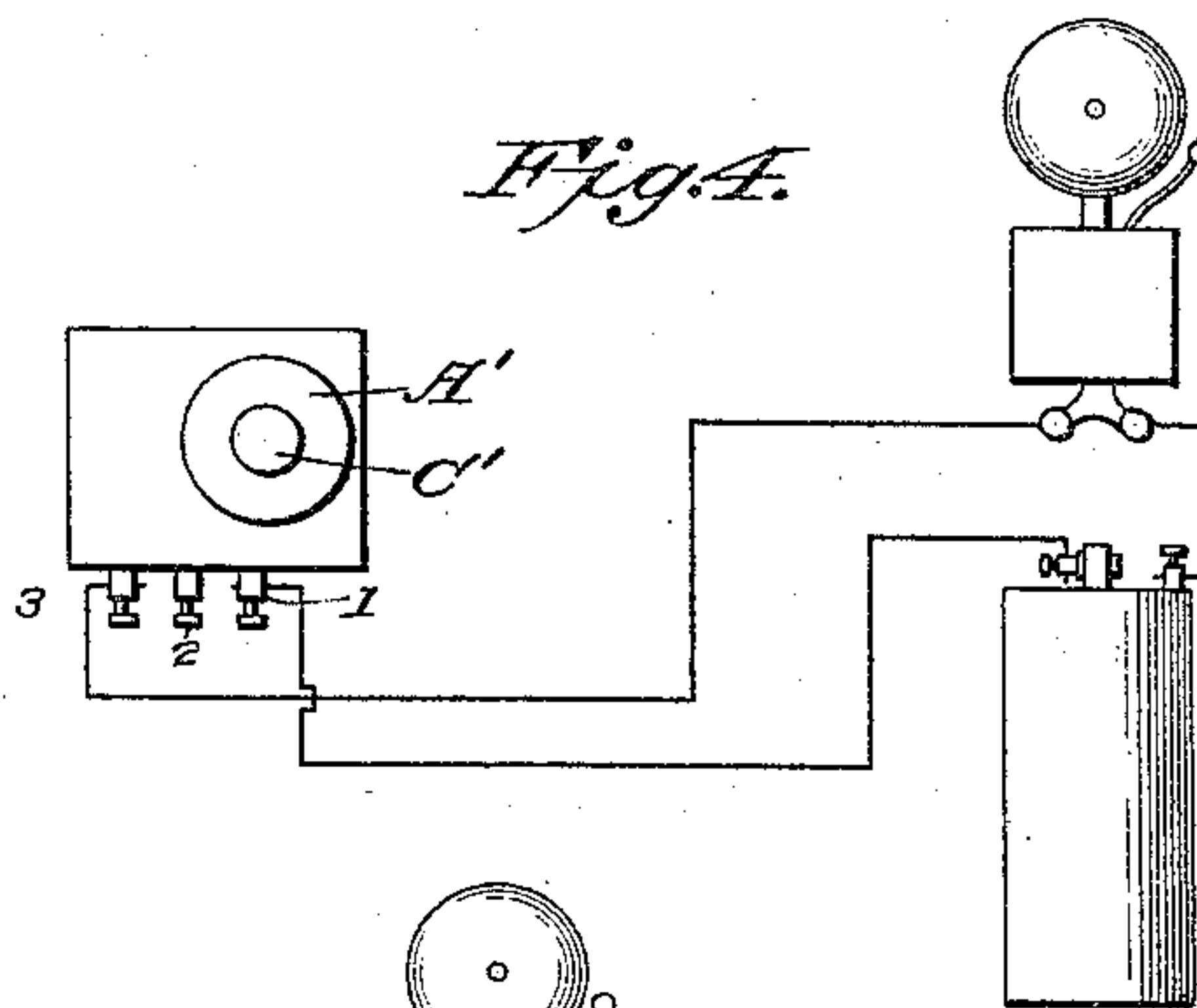
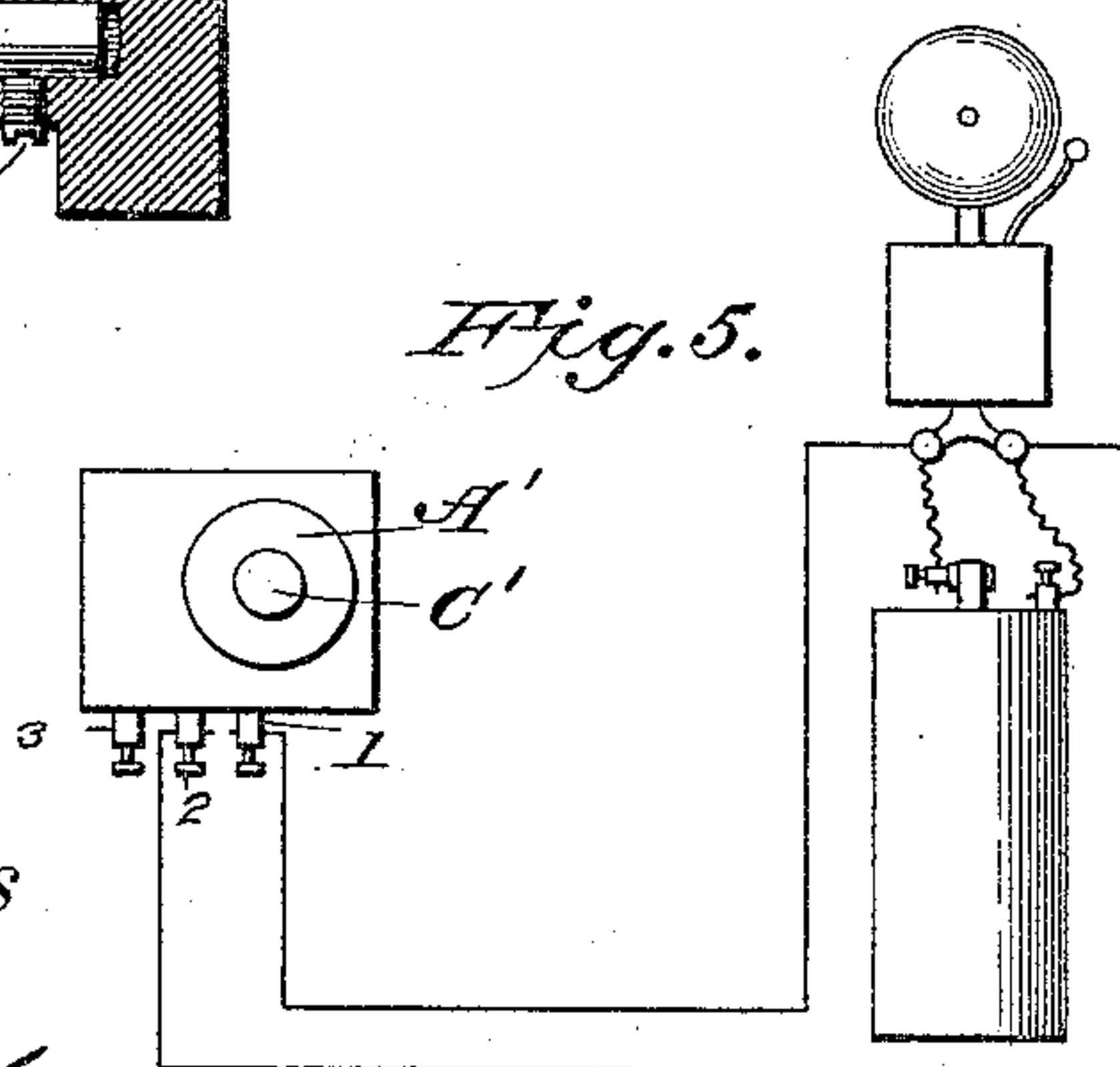



Fig. 5.



John Slater
INVENTOR

by  Attorney

UNITED STATES PATENT OFFICE.

JOHN SLATER, OF HUTCHINS, PENNSYLVANIA.

ELECTRIC ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 525,291, dated August 28, 1894.

Application filed November 9, 1893. Serial No. 490,480. (No model.)

To all whom it may concern:

Be it known that I, JOHN SLATER, a citizen of the United States of America, residing at Hutchins, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Electric Alarm-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a lock or latch of such construction that when the spindle is not properly manipulated to engage the latch-bolt for the purpose of retracting the same an electric circuit is made or broken and sounds an alarm; and it consists in the construction of the lock and the connection of the wires thereto from the battery and bell, as will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a rear elevation of the lock or latch with the back plate removed. Fig. 2 is a perspective view, looking at the front part of the lock. Fig. 3 is a vertical sectional view. Fig. 4 is a diagram view showing the manner of connecting the wires when the device is used with an open circuit, and Fig. 5 is a diagram view showing the connection of the wires with a closed circuit.

A designates the lock or latch casing in which is located a spring-actuated latch-bar B, the spring for projecting the latch-bar encircling the pin *b* and bearing against the latch-bar and casing. The latch-bar B is provided with an enlarged portion *b'* having a recess *b²* with which the lug *c* of the spindle C engages in retracting the bolt. The spindle projects through the lock casing and is provided at its outer end with a knob C' for turning the same.

The part of the device so far described forms an ordinary latch, and to such a latch I have shown my electric alarm mechanism applied.

Within the casing against the front plate

thereof is attached a plate D of non-conducting material, as gutta-percha, and upon this plate is placed a metal plate E which is connected to a post 1 extending without the casing and insulated therefrom by means of the pieces *e* and *e'* of gutta-percha.

Adjacent to the plate E and upon the gutta-percha plate D is secured a short strip of metal F which is connected to a post 2 extending without the casing and insulated therefrom the same as post 1. The wires from the battery and bell are attached to the posts 1 and 2 when the device is to be used with a closed circuit, the contact between the plates E and F to complete the electric connection being formed by a plate G which is in contact with the plate E and has a projecting finger *g* in contact with the metal strip F.

The plate G is pivoted to the plate E so that should the lug on the spindle be moved against the same it would be turned upon its pivot and the contact of the finger *g* with the metal strip F would be broken and the whole electric current pass into the bell (diagram Fig. 5). The end of the plate G opposite the finger *g* is provided with a raised wall *g'* having inwardly projecting portions *g²* which when the finger is in contact with the plate F lie in the path of the lug *c* of the spindle when said lug is on a line therewith. Adjoining the plate G is a plate G', which is a duplicate of the plate G, having a raised wall *g³* with projections *g⁴* and a finger *g⁵*, the finger projecting through the casing to provide for operating the plates directly. The plates G and G' are connected to each other so as to move in unison by means of the teeth *g⁶* which are formed on each plate and are in mesh.

Between the plates G and G', out of possible contact therewith, and on the opposite side of the spindle from the latch-bolt, is located a stud *h*, upon which the lug on the spindle normally rests.

The knob C' is provided with a pointer which indicates the position of the lug *c*, and the knob is adjustable upon the spindle by means of the set-screw *c²* so that the position of the pointer with relation to the lug can be changed, and in connection with the pointer is used a dial-plate A', as shown in Fig. 2.

Surrounding the spindle is a helical spring c^3 which is interposed between the knob and casing to force the spindle outward.

To operate the latch-bolt without sounding an alarm the spindle is pushed in until the lug c thereon is out of line with the projecting walls on the plates G and G' and the spindle turned until the said lug is over the recess b^2 in the latch-bolt, indicated by the pointer and dial-plate, when it is caused to engage the recess and by further turning the spindle the latch-bolt will be retracted. Any one unfamiliar with the construction of the lock turning the spindle would cause the lug to engage either the plate G or G' and move the same, breaking the circuit and sounding an alarm as hereinbefore described, and it will be noted that with this connection should the wires be cut in an attempt to manipulate the lock the breaking of the circuit would sound an alarm.

In providing the device with an open circuit a post 3 is attached directly to the metal lock casing and the wires from the battery and bell led thereto and to the post 1, and with this connection the circuit is not completed to sound the alarm until the lug c of the spindle, which is electrically connected to the casing by means of said spindle, contacts with either one of the plates G and G' , both of which are connected to the post 1 as hereinbefore described.

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

1. An alarm lock having an actuating spindle with a lug which projects therefrom, a bolt adapted to be moved by said lug and spindle, together with pivoted plates G and G' having intermeshing teeth, said plates being con-

nected to a binding-post and adapted to contact with a plate insulated therefrom and attached to another binding-post, substantially as shown and for the purpose set forth.

2. In a lock for the purpose set forth, the combination, of the pivoted plates G and G' insulated from the casing and electrically connected to a binding-post, as 1, and a metal plate F connected to a binding-post, as 2, together with a spindle having a lug which is adapted to engage with one of said plates to open or close an electric circuit, substantially as shown and for the purpose set forth.

3. In an alarm lock, the combination with a lock casing and latch-bolt operating mechanism, a pivoted plate, or plates, G G' , connected to a binding-post, as 1, and a metal plate F insulated from the plate, or plates, G G' and connected to a binding-post, as 2, the mechanism operating the latch bolt being adapted to move the plate, or plates, G G' , to the plate, or plates, having a projection which extends beyond the casing, substantially as shown, and for the purpose set forth.

4. In combination with a lock casing constructed substantially as shown and adapted to be used with an electric bell or alarm, of a rotatable spindle C spring-actuated in one direction and provided with a lug c , said lug being adapted to engage with a latch-bolt and with a stud h , the lug also being adapted to engage with plate which is insulated from the lock casing, and electric connections, substantially as shown and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN SLATER.

Witnesses:

JOHN A. MELL,
S. LEROY WINSLOW.