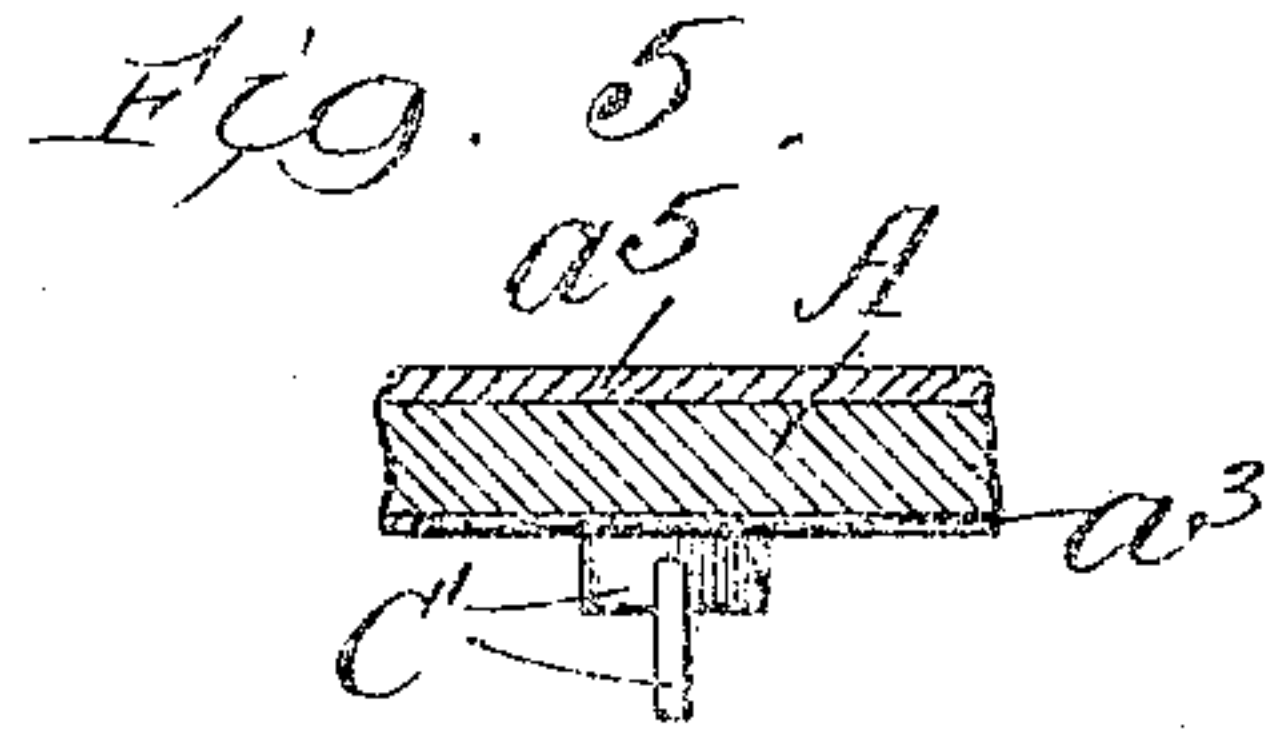
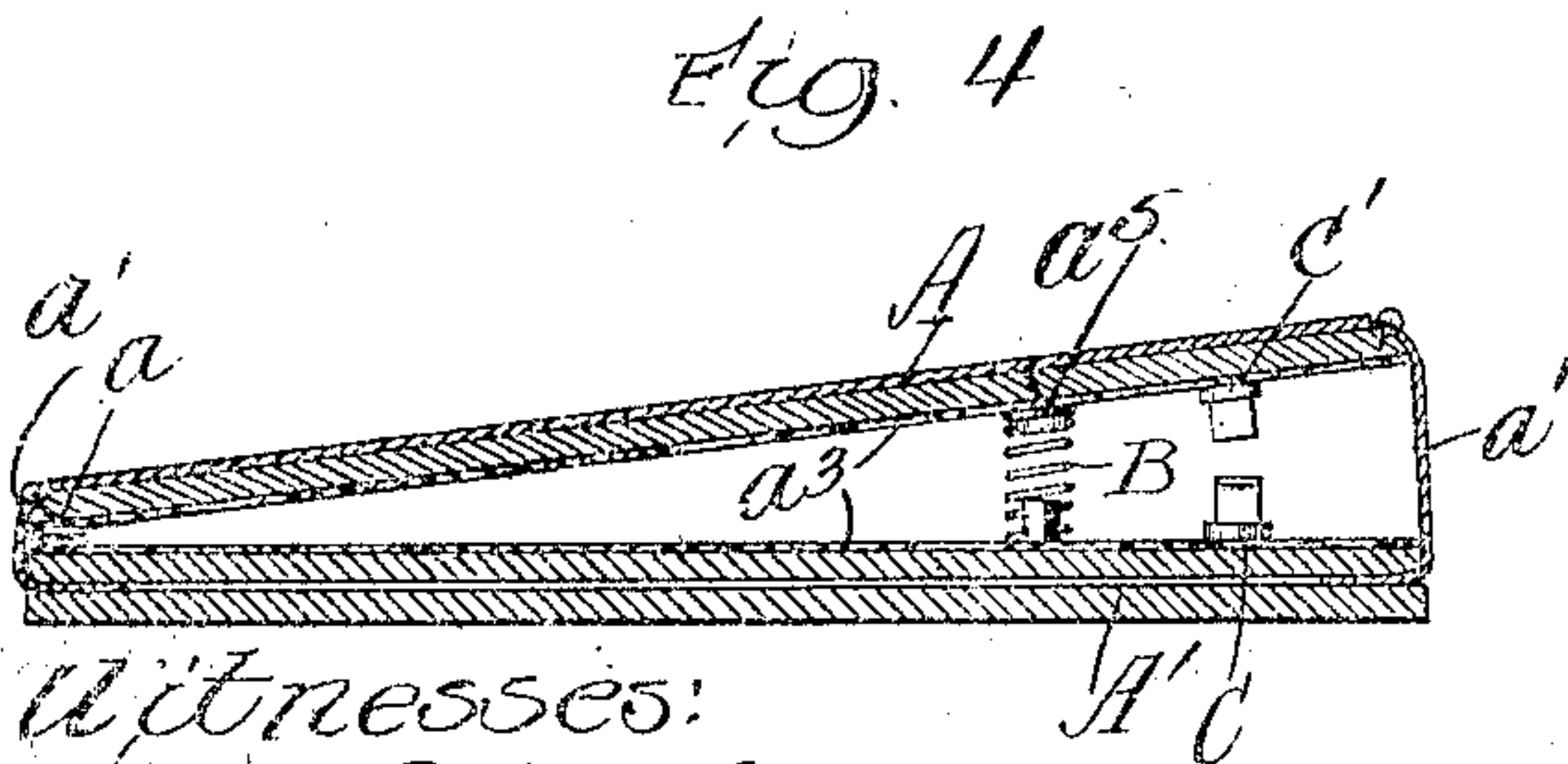
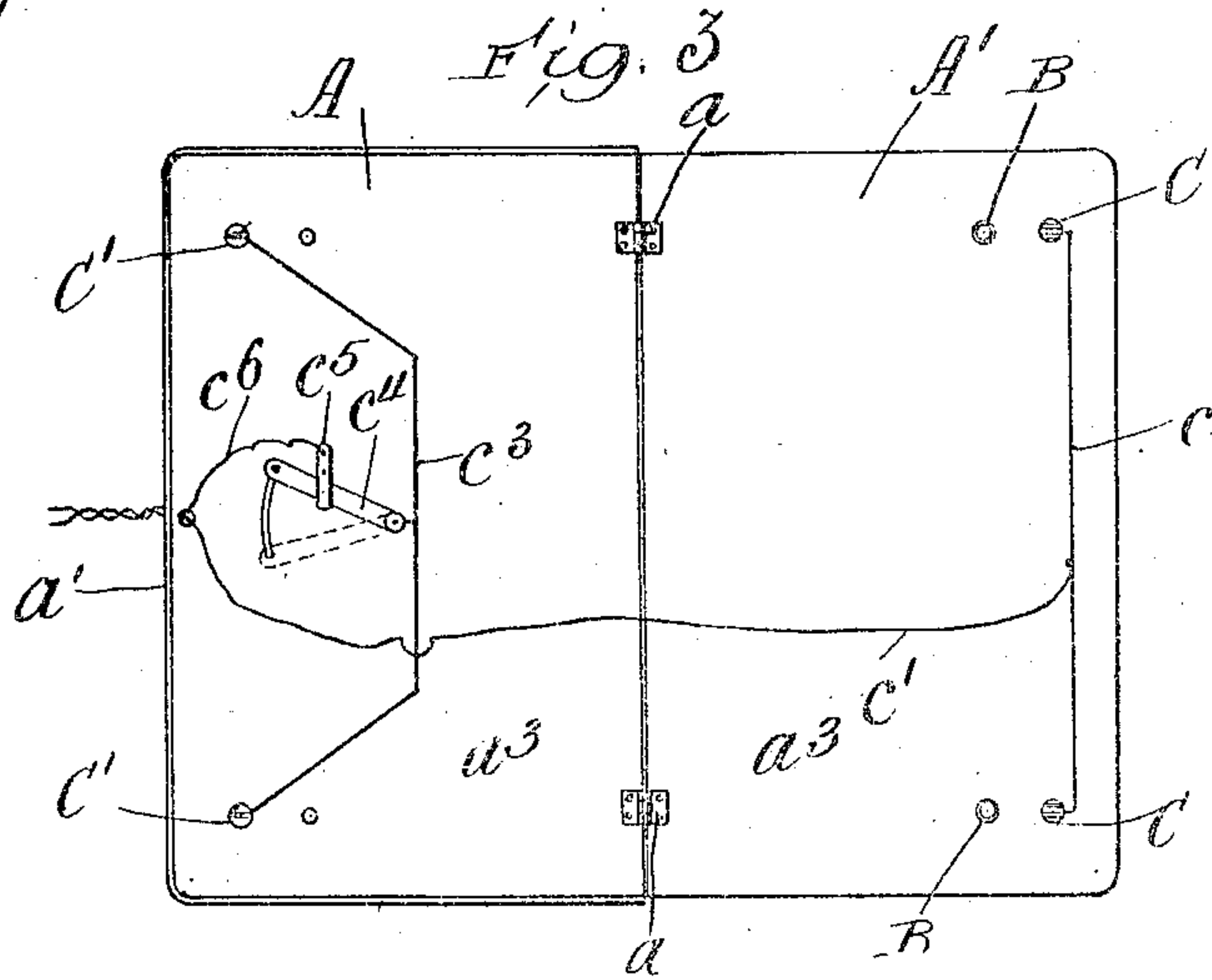
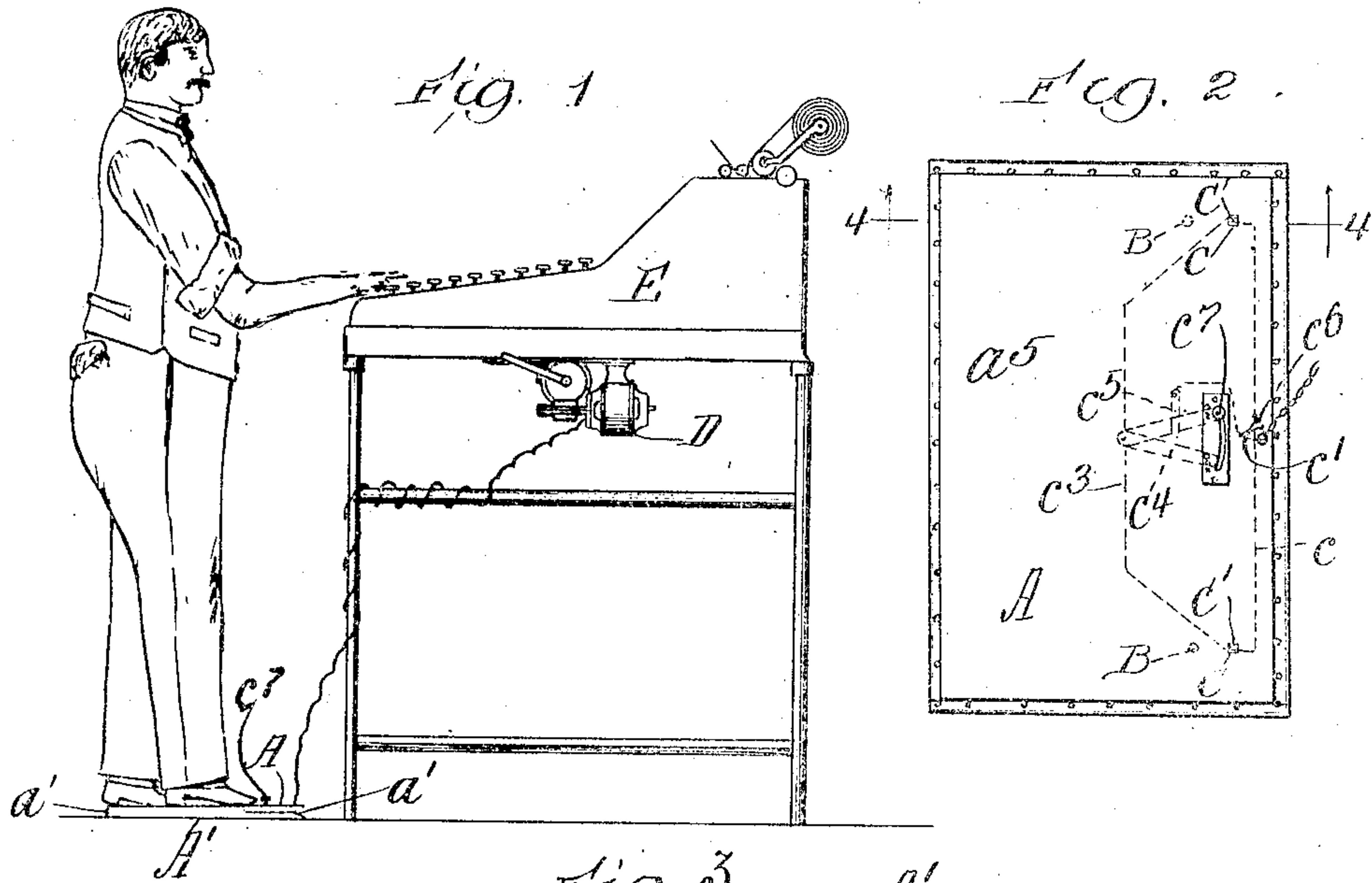


No. 828,373.

PATENTED AUG. 14, 1906.

H. A. BEYNON.  
ELECTRICAL SWITCH.  
APPLICATION FILED JULY 12, 1905.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HARRY A. BEYNON, OF CHICAGO, ILLINOIS.

## ELECTRICAL SWITCH.

No. 828,373.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed July 12, 1905. Serial No. 269,341.

To all whom it may concern:

Be it known that I, HARRY A. BEYNON, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Electrical Switches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to electrical floor-switches.

Heretofore with devices operated by electrical motors or from electrical-current supply from any source a great waste of current frequently occurs from the failure of the operator to switch off the current when leaving the instrument, and instances are frequent where current has been supplied for long periods of time without the knowledge of the operator or employer, owing to carelessness of this kind. Furthermore, in operating machines of any kind by electricity the operator, even if supplied with a convenient switch for the control of the circuit, usually does not switch off should it be necessary for him to leave the machine temporarily, and current is consumed without the machine being operated for any useful purpose.

The object of this invention is to afford a floor-switch in the form of a mat, upon which the operator stands or sits when in position to operate his machine and by means of which the current is supplied continuously as long as pressure is applied on the mat, but which instantly acts to break the circuit should the operator leave the operating position.

This invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a view in end elevation of an electrically-operated machine controlled by a switch embodying my invention and upon which an operator is shown as standing. Fig. 2 is an enlarged top plan view of the mat. Fig. 3 is a view showing the inclosing strip of the mat cut through and the upper leaf or top of the mat folded back to show the wiring. Fig. 4 is an enlarged section of the mat, taken on line 4 4 of Fig. 2. Fig. 5 is a fragmentary detail of the contacts.

In said drawings, said switch comprises, as shown, a flat top and a bottom board A A',

which may be, as shown, rectangular in form or of any convenient shape and which are connected along their rear edges by means of hinges *a*, as shown in Figs. 3 and 4. Connecting the margins of said top and bottom boards is a strip of leather or other flexible material, which affords a closing-strip and limits the degree of opening between said boards and collapses when the top is pressed down. As shown, the bottom board A' is formed of two layers or plates, which may be wood veneers or any suitable material and between which the edges of the flexible closing-strips *a'* are engaged, as shown in Fig. 4. Said bottom and top plates or boards are each lined on the inner side with asbestos or other suitable refractory and non-conductive material (indicated by *a''*.) Secured between the bottom A' and the top A is a spring B, which acts normally to hold the top elevated above the bottom and at the limit of its upward movement.

Two sets of parallel spring contact-plates C are secured on the bottom, as shown, at approximately equal distances from the hinged edge thereof, and, as shown, near the front edge of said bottom and electrically connecting the same is a conductor-wire *c*, with which is connected one of the lead-conductors *c'*. Said lead-conductor passes through an aperture in the top A and to the motor.

Secured on the under side the top A in register with the spring contact-plates on the bottom are complementary blades C', which are normally held out of contact with said plates by said springs B, but which engage therebetween when the top is forced downwardly. A wire *c''* connects said blades C' and is connected with the blade *c''* of a switch, the contact-plate *c''* whereof is electrically connected with the lead-conductor *c''*, which passes through the top A and to the motor D. Said switch-blade *c''* is provided with an operating-handle *c''*, which passes through a suitable slot in the top into position to be externally engaged.

The operation is as follows: When properly connected and the switch-blade *c''* engaged with the contact-plate *c''*, pressure on the top A forces the top down, bringing the blades C' into engagement with and between the contact-plates C, completing the circuit with the motor and driving the machine E, in this instance shown as an adding-machine. Should the operator step off the top A, the springs B lift the top immediately, breaking the circuit.



Should the operator desire, he can of course break the circuit by shifting the blade  $c^4$ , using his foot for this purpose.

Said devices may be ornamented in any 5 desired manner and, as shown, an ornamental and protective cover  $a^5$ , of rubber, is provided on the top  $A$ . This also is restful to the feet of the operator.

Though I have shown but one construction 10 embodying my invention, I do not purpose limiting this application for patent otherwise than necessitated in the prior art, as many details of construction may be varied without departing from the principles of my 15 invention.

I claim as my invention—

1. In a device of the class described the combination with upper and lower boards 20 hinged together at one margin, of a plurality of contacts arranged near the margins thereof, springs acting to normally hold said contacts out of engagement, a contact-plate rigidly engaged on the inner face of the upper board, a contact-plate pivoted adjacent there- 25 to and adapted to engage the same, a handle on said plate projecting upwardly through a slot in said board and electrical connections on said contacts.

2. In a device of the class described the 30 combination with a lower section having an insulated inner surface, of an upper section hinged thereon and having an insulated inner surface and an elongated slot therethrough, a contact-plate engaged to said upper section, 35 a switch-blade pivoted to said upper section and having a handle thereon projecting through said slot adapted to move the blade into or out of engagement with said contact-plate.

40 3. In a device of the class described, hinged top and bottom boards adapted to fold together a spring engaged therebetween and holding the same separated, contacts adapted for engagement when the spring is compressed 45 and a switch positioned to break the circuit and to be actuated by the foot of the operator when standing on the top board.

50 4. An electric switch comprising two boards hinged together at one margin and arranged one above the other, means closing the opening between the other margins, inwardly-directed, registering contact-points on the inner sides of said boards adapted to contact when the upper board is depressed by

the weight of the operator and coiled springs 55 between said boards acting to raise the forward margin of the upper board when the weight of the operator is removed.

5. A device of the class described having two corresponding hinged sections, a plurality 60 of means engaged thereon for controlling a circuit one comprising a plurality of oppositely-disposed contact-points adapted to be closed by the weight of the operator, the other comprising a fixed contact-plate on one 65 of said sections, a switch-blade pivoted on the same section and projecting therethrough adapted to be thrown into or out of engagement with said fixed contact-plate manually by the operator and means for operating said 70 sections upon the weight of the operator being removed.

6. In a device of the class described the combination with insulated section of a plu- 75 rality of contact-points arranged near the front thereof, an insulated section hinged thereto and having a slot therethrough, a plurality of contact-points on said section arranged to engage the contact-points on the first-named section, a spring adapted to nor- 80 mally force said sections apart, means connecting the front ends of said sections thereby limiting the movement of one of said sections, a fixed contact-plate engaged to said slotted section and a switch-blade engaged to 85 said section and projecting through said slot adapted to be manually operated to engage said fixed contact-plate.

7. In a device of the class described the combination with a top and a bottom board 90 hinged together at their rear margin, of a plurality of sets of parallel spring-contacts on the bottom board, a plurality of blades on the top board in register with said spring contact-plate and adapted to contact therewith when 95 the top board is depressed, springs on the bottom board adapted to normally hold the top board elevated and a flexible strip engaged on the front and side margins of said boards and adapted to close the opening 100 therebetween.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

HARRY A. BEYNON.

Witnesses:

W. W. WITHEMBURY,  
Wm. C. SMITH.