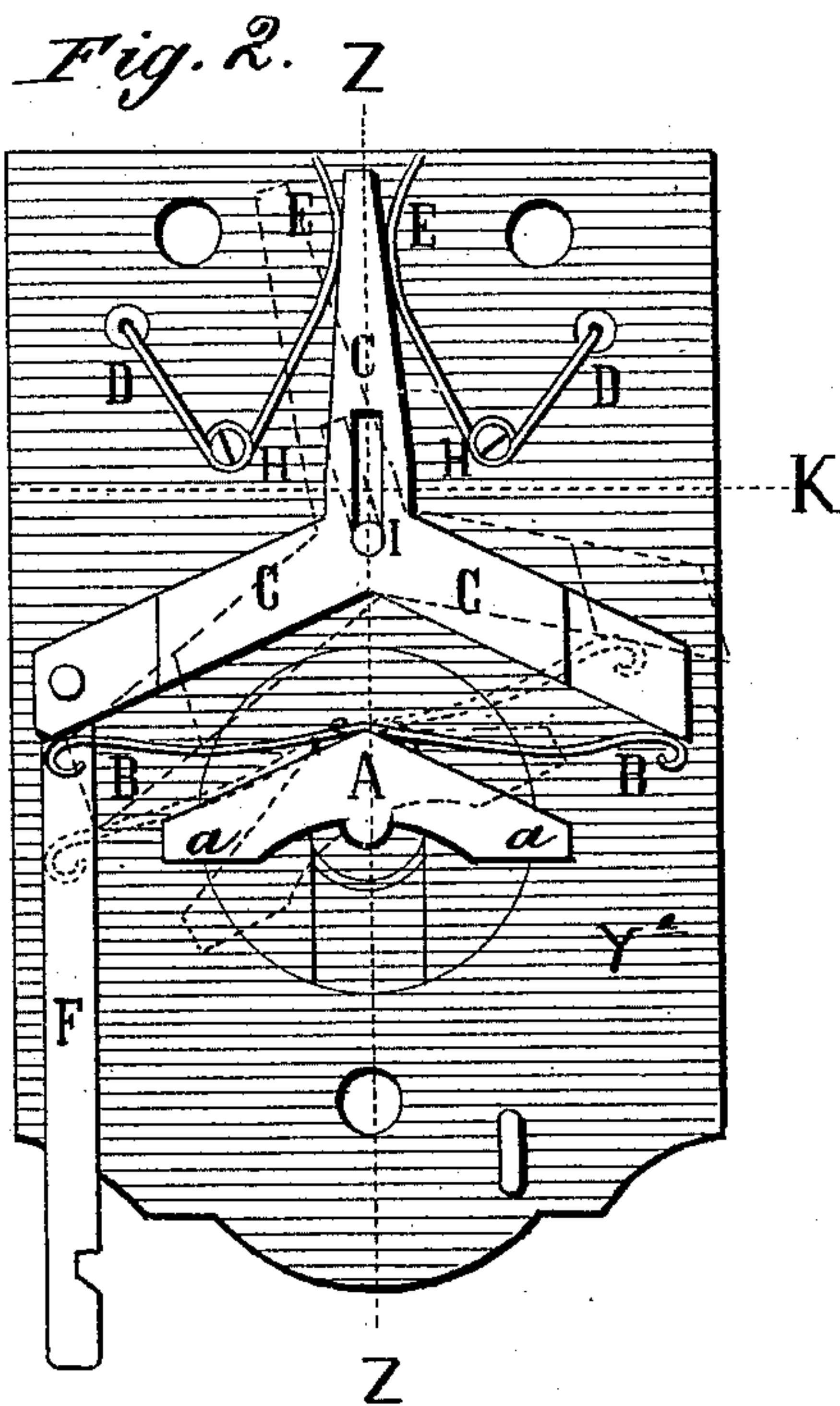
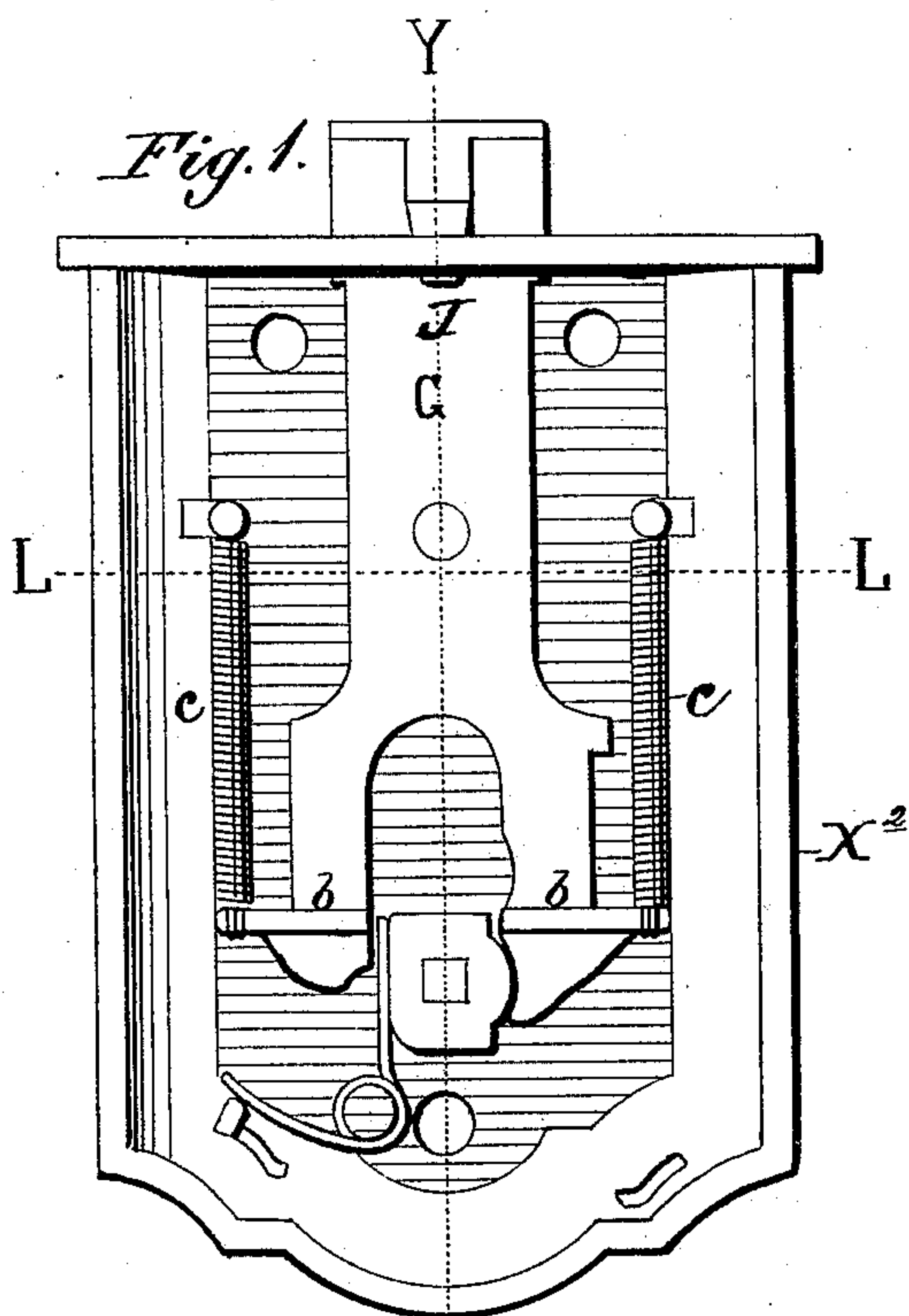


(Model.)

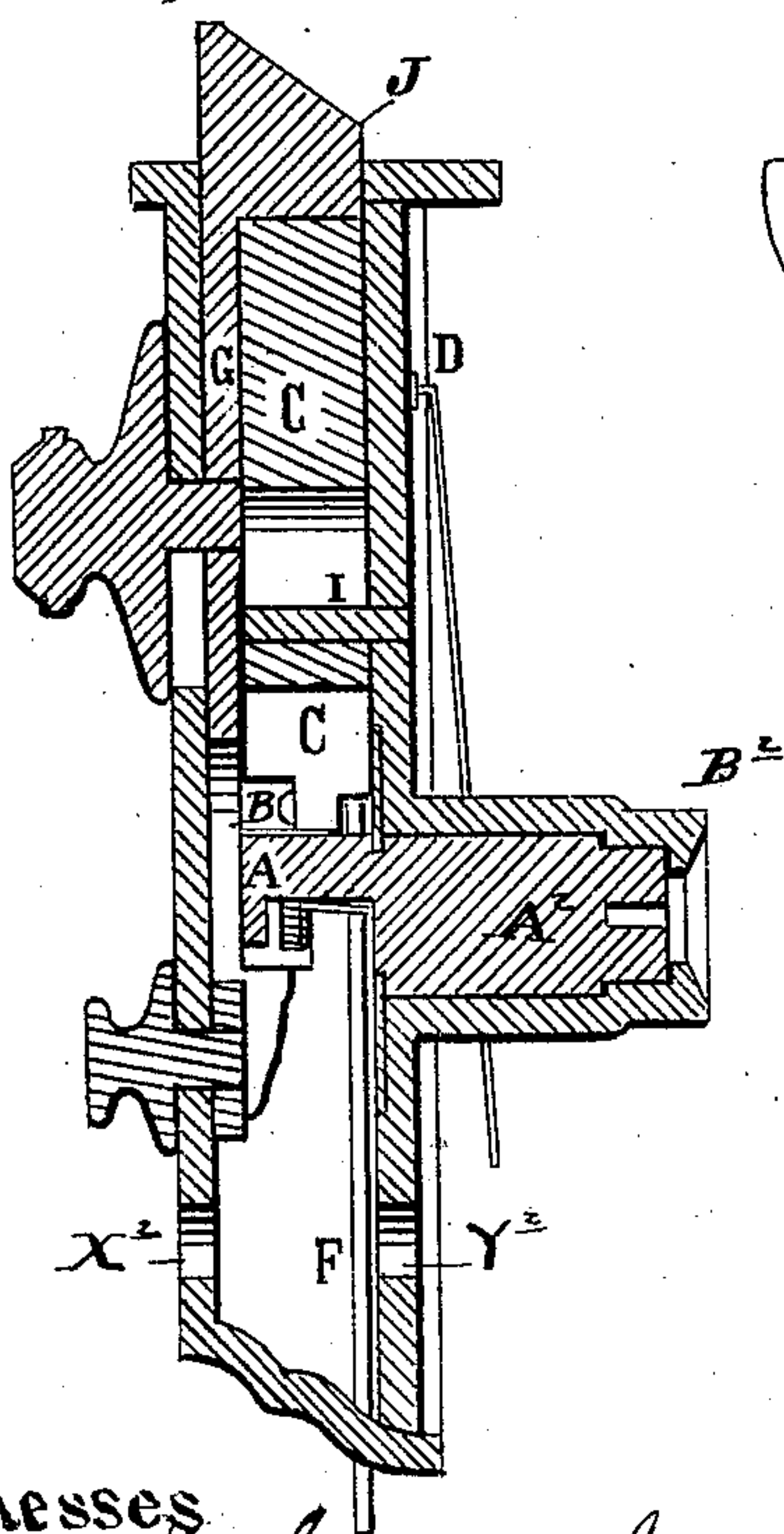
W. R. MANIERRE & H. B. PORTER.  
ELECTRIC LOCK.

No. 246,525.

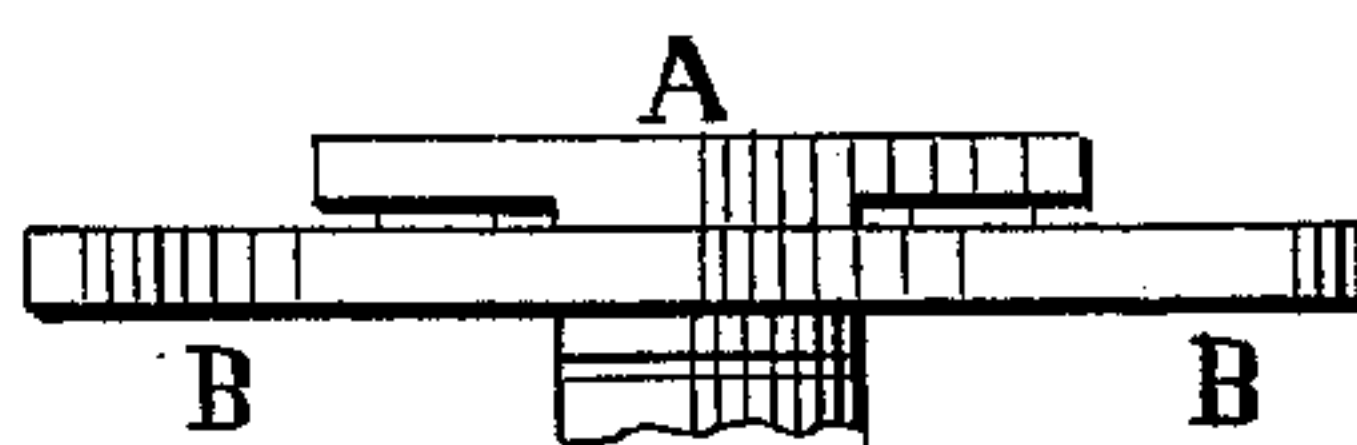
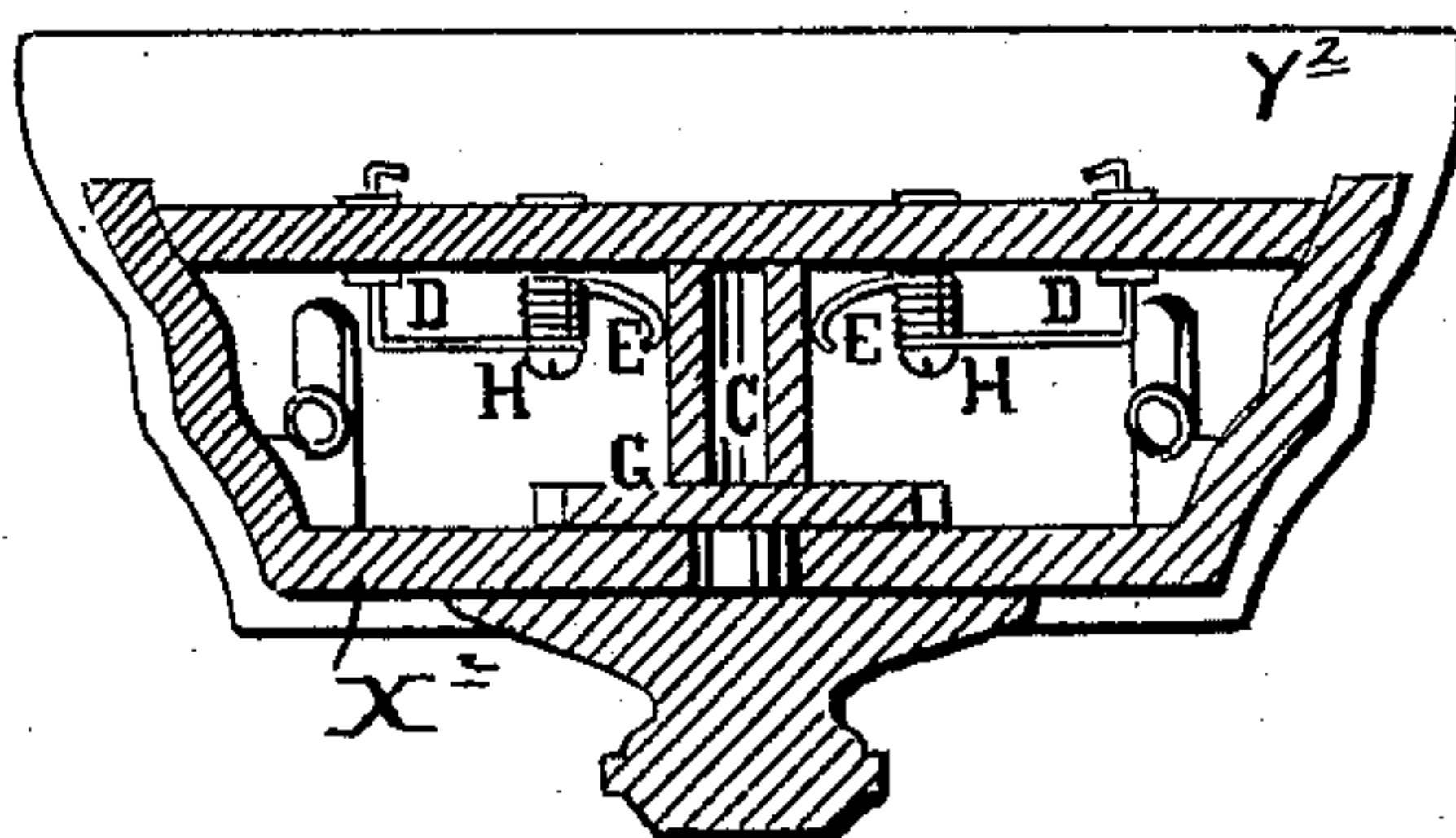
Patented Aug. 30, 1881.



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*

Witnesses  
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William L. Sullivan

Inventors  
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# UNITED STATES PATENT OFFICE

WILLIAM R. MANIERRE AND HENRY B. PORTER, OF CHICAGO, ILLINOIS.

## ELECTRIC LOCK.

SPECIFICATION forming part of Letters Patent No. 246,525, dated August 30, 1881.

Application filed May 23, 1881. (Model.)

*To all whom it may concern:*

Be it known that we, WILLIAM R. MANIERRE and HENRY B. PORTER, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Electric Lock; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an inside view of the main shell with the inner plate removed. Fig. 2 is an inside view of the inner plate, showing the parts which are carried by the same. Fig. 3 is a longitudinal section of the lock, taken through the lines *y y* and *z z* of the detached parts. Fig. 4 is a transverse section of the lock, taken through the lines *L L* and *K K* of the detached parts. Fig. 5 is a detail.

The object of our invention is to provide an electrical attachment for locks which will indicate at once the surreptitious opening of the lock by other means than the key.

To this end our invention consists in a peculiar construction and arrangement of parts co-operating with the bolt-and-key mechanism, whereby the retraction of the bolt by the key has no effect upon an electric circuit, while the retraction of the bolt by other means is made to break an electric circuit and sound an alarm upon an electric alarm mechanism or annunciator placed at any desired distance from the lock.

In the drawings,  $X^2$  is the main shell of the lock-case, and  $Y^2$  is the plate which fits upon and closes in the open side of the shell. In the main shell  $X^2$  is carried the bolt  $G$ , which is projected by the tension of two parallel spiral springs, *c c*, arranged upon opposite sides of the same. In the plate  $Y^2$  (see Fig. 3) is formed the barrel  $B^2$  containing the rotary cylinder or tumbler shaft  $A^2$ , slitted to receive the key, and having a cross-head,  $A$ , (see Fig. 2,) upon its inner end. By turning the cylinder  $A^2$  by means of the key the ends *a a* of the cross-head  $A$  are made to bear against projections *b b* of the bolt, (see Fig. 1,) and means are thus afforded for withdrawing the bolt.

We will now proceed to describe our improvements.

The outer or beveled end of the bolt we cut

away on each side, leaving a high or full middle portion,  $J$ . On the plate  $Y^2$  is arranged a three-pronged piece,  $C$ , made of some material which is a non-conductor of electricity. This piece is slotted and secured to the plate  $Y^2$  by means of a pin,  $I$ , passing through said slot, so that said piece can both slide bodily and turn upon the pin  $I$  like a pivot. This non-conducting piece is held on plate  $Y^2$  with one of its prongs between spring-contacts  $E$ , so that that prong shall be directly in line with the part  $J$  of the bolt whenever the plate  $Y^2$  is fastened to the shell. These spring-contacts  $E$  are secured to plate  $Y^2$  by insulated screws  $H H$ , and connect, respectively, with wires  $D D$ , which pass with proper insulation through the metal plate  $Y^2$  and constitute the two terminals of a wire having a battery and electric alarm or annunciator in its circuit, which battery, circuit-wire, and electric alarm we have not shown, for the reason that any of the ordinary alarm-circuits may be used, as will be well understood by those familiar with this art. The other two prongs of the non-conducting piece  $C$  approach the cross-head  $A$ , and between them and said cross-head is interposed a spring,  $B$ , fastened to the cross-head or the shaft carrying the cross-head. This spring serves to transmit the pressure or influence of the cylinder or shaft to the piece  $C$  in a yielding or elastic manner. Now, when the lock is opened in the legitimate way by the rotation of cylinder  $A^2$  from the key one of the faces *a* of the cross-head  $A$  bears against the corresponding face *b* of the bolt to retract it, while the opposite end of spring  $B$  bears against and turns the piece  $C$  about pin  $I$  as a pivot, as shown in dotted lines, thereby throwing the outer prong of the piece  $C$  to one side of the part  $J$  of the bolt, and allowing the bolt to be retracted without establishing electrical connection between the two terminal contact-springs  $E E$  of the circuit. The result is that when the lock is opened in this way no alarm is given. If, on the other hand, the bolt  $G$  is retracted or pushed back in an irregular manner, as by a knife-blade inserted at the crack of the door, or other opening, then the part  $J$  of the bolt pushes against the outer insulating-prong,  $C$ , and as soon as it passes back far enough (which is permitted by the slot) then the metallic part



J of the bolt passes between the two contact-springs E, establishing the circuit and sounds an alarm.

In order that the part C may be permanently deflected to render the alarm attachment inoperative a bar, F, is jointed to one of the prongs and is allowed to project through the shell. This bar may be pushed in to throw the outer prong, C, permanently out of range of the part J of the bolt, and when the bar is so adjusted it is held by its notch engaging with the edge of the case. In this connection the spring B has also a separate value, in that it permits the part C to be rigidly locked without locking the cross-head A.

We do not confine our invention to any particular form of lock or key mechanism.

Having thus described our invention, what we claim as new is—

1. The combination, in a lock, of a pair of contact-springs, a piece of non-conducting material arranged between said springs to insulate them, a sliding bolt adapted to displace the insulating piece, and a key mechanism adapted to act upon both the bolt and the non-conducting insulator, as described, where-

by the circuit is maintained open when the lock is opened by the key, and is closed when opened through other agency, as described.

2. The combination, with the bolt G, having elevated portions J, of the sliding three-pronged insulator C, the terminal contact-springs E E, arranged upon opposite sides of the insulating piece, and the main shaft or cylinder, having a cross-head adapted to deflect the three-pronged piece, as described.

3. The combination, with the three-pronged insulating piece C and the shaft or cylinder having cross-head A, of the spring B, interposed between the cross-head A and the three-pronged piece C, as and for the purpose described.

4. The notched bar F, jointed to the three-pronged piece C and combined with the same, the spring B, and the cross-head A, substantially as and for the purpose described.

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