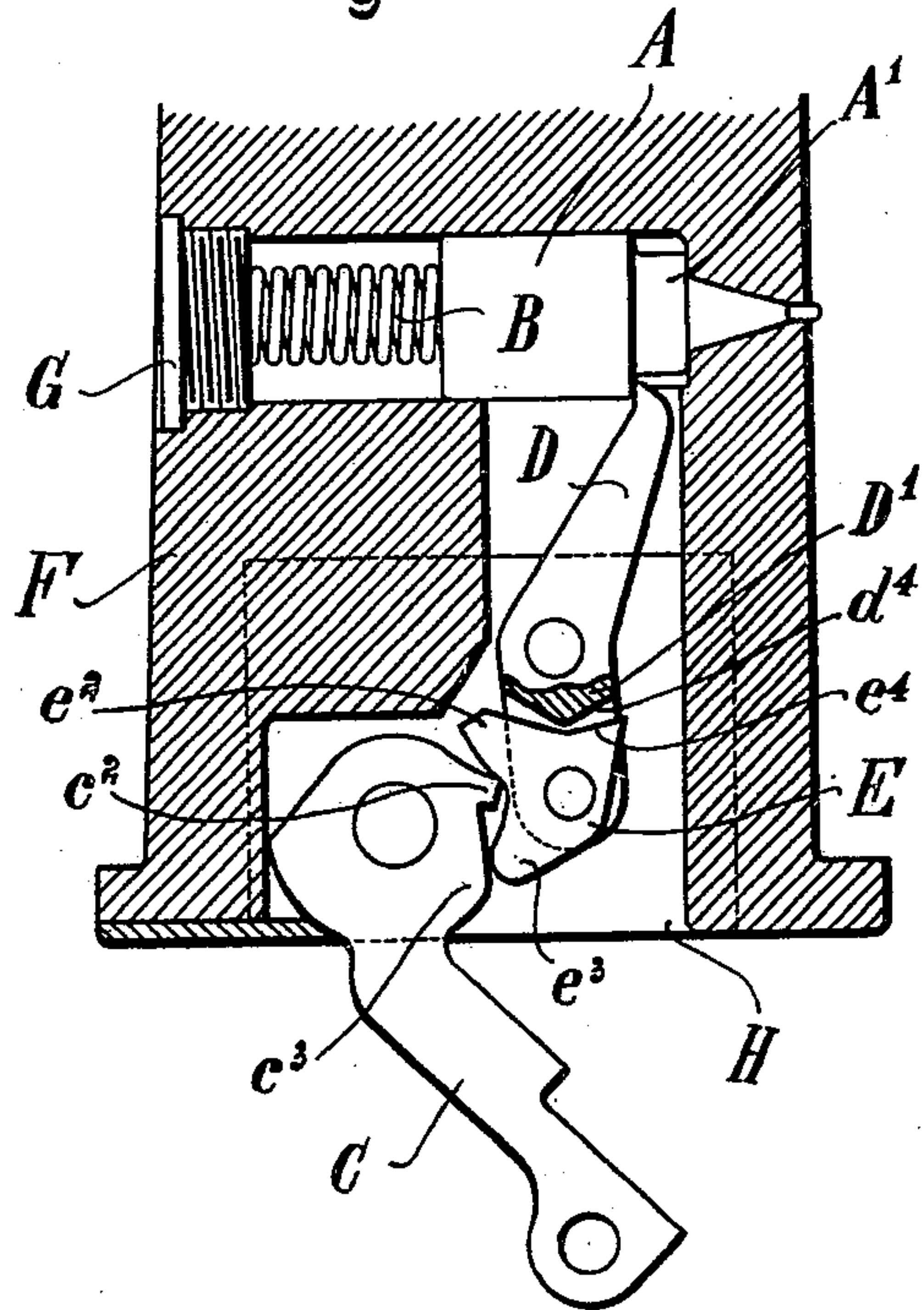
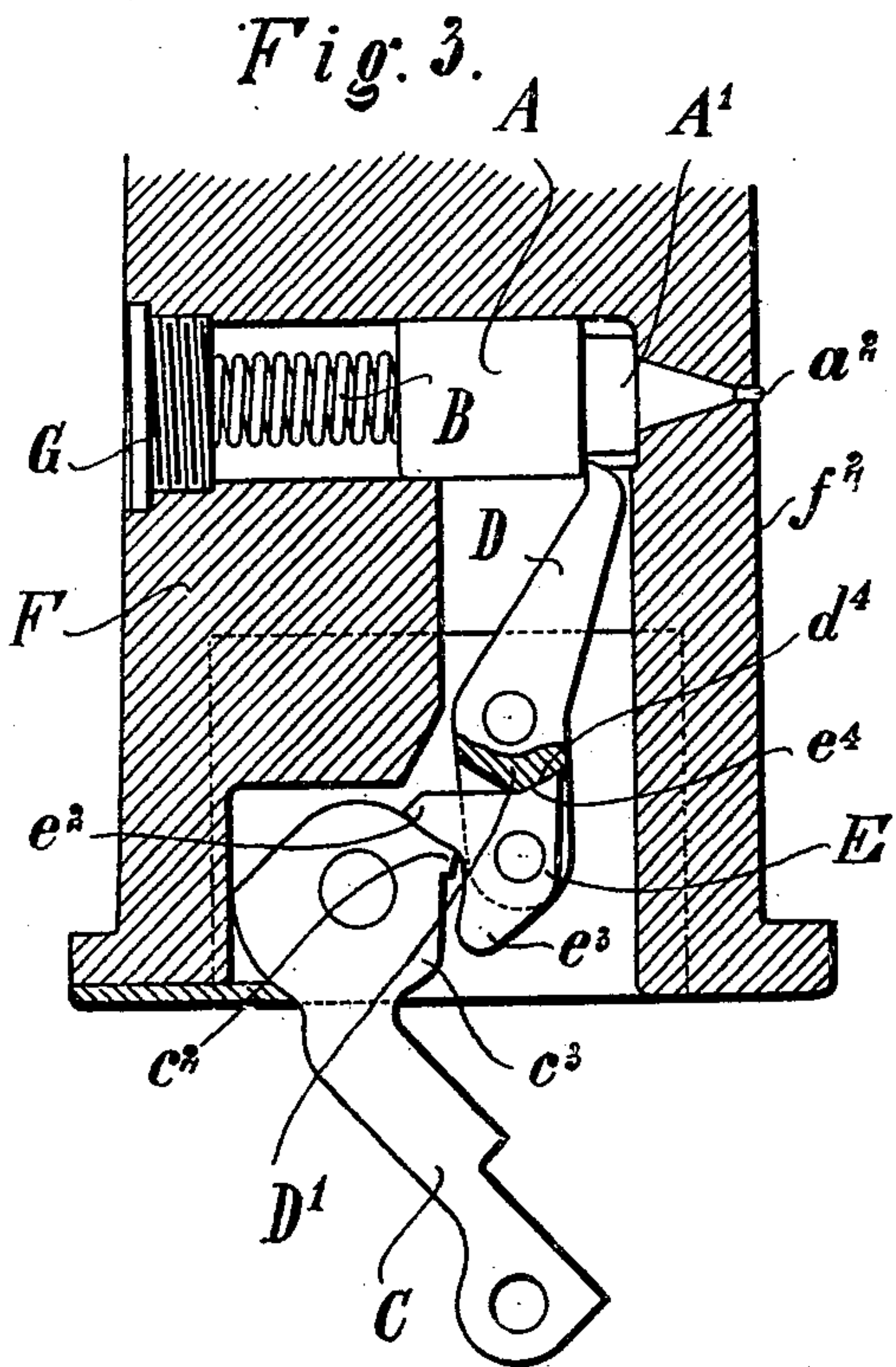
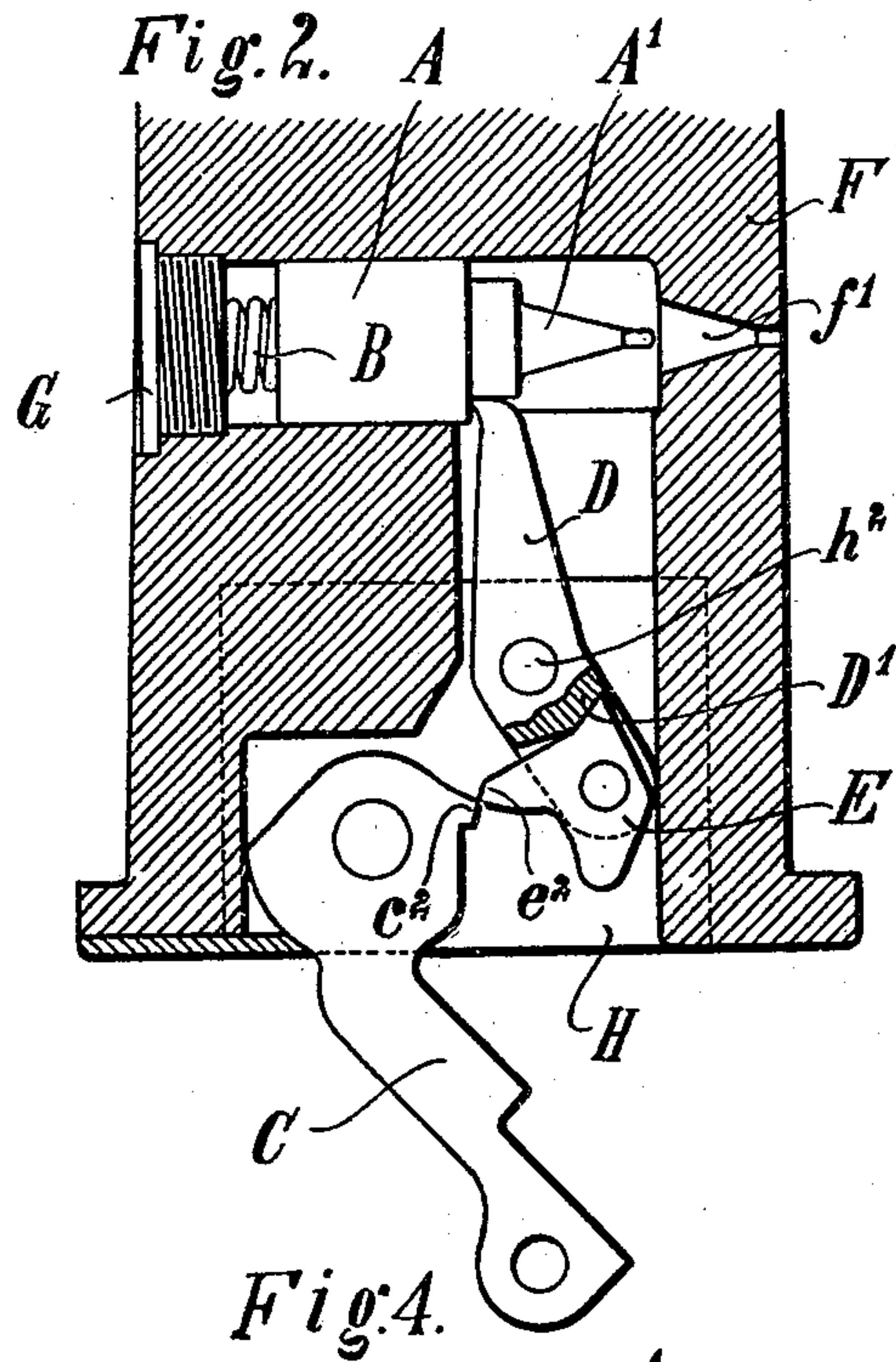
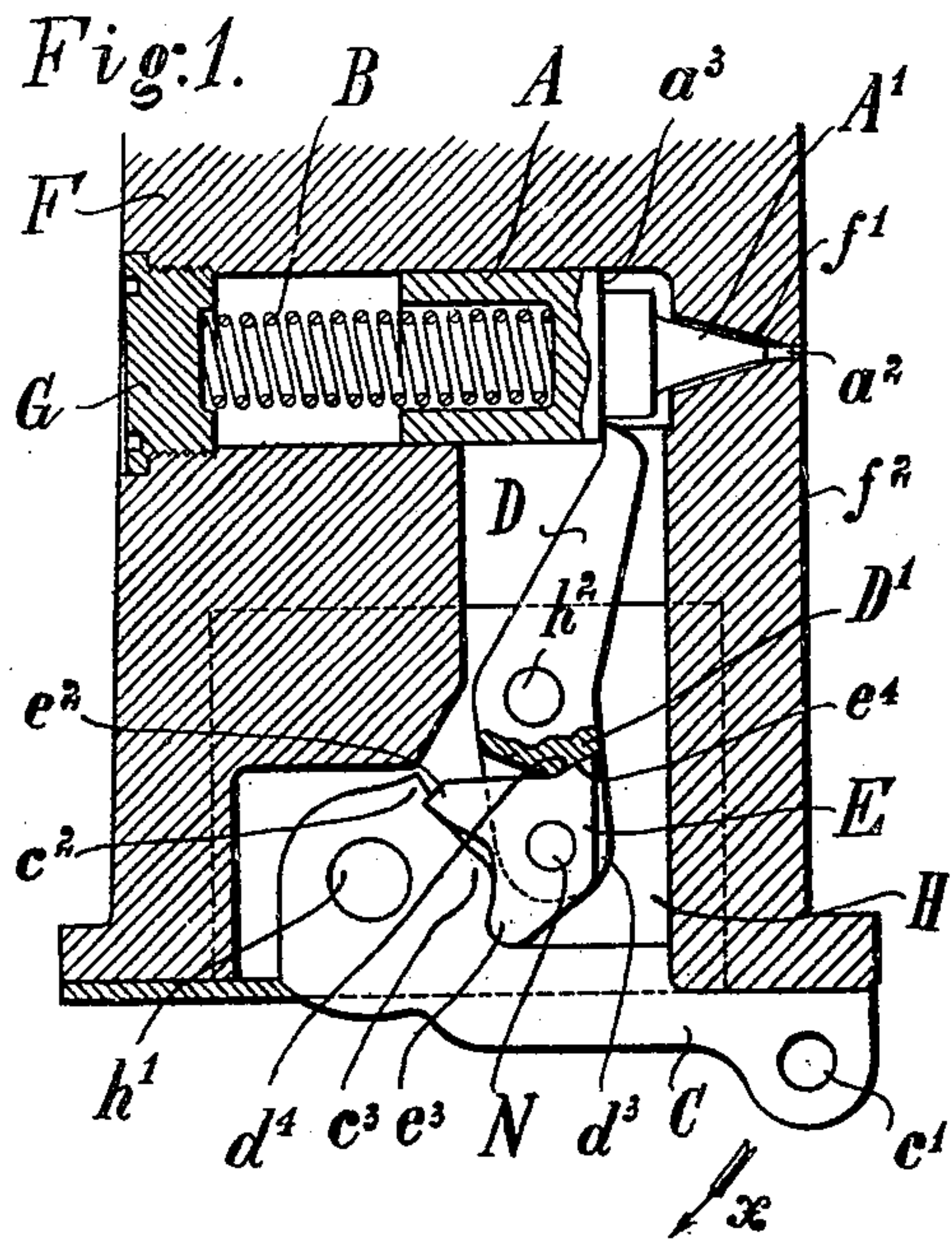


M. HERMSDORF.
PERCUSSION LOCK DEVICE.
APPLICATION FILED JUNE 16, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 5.

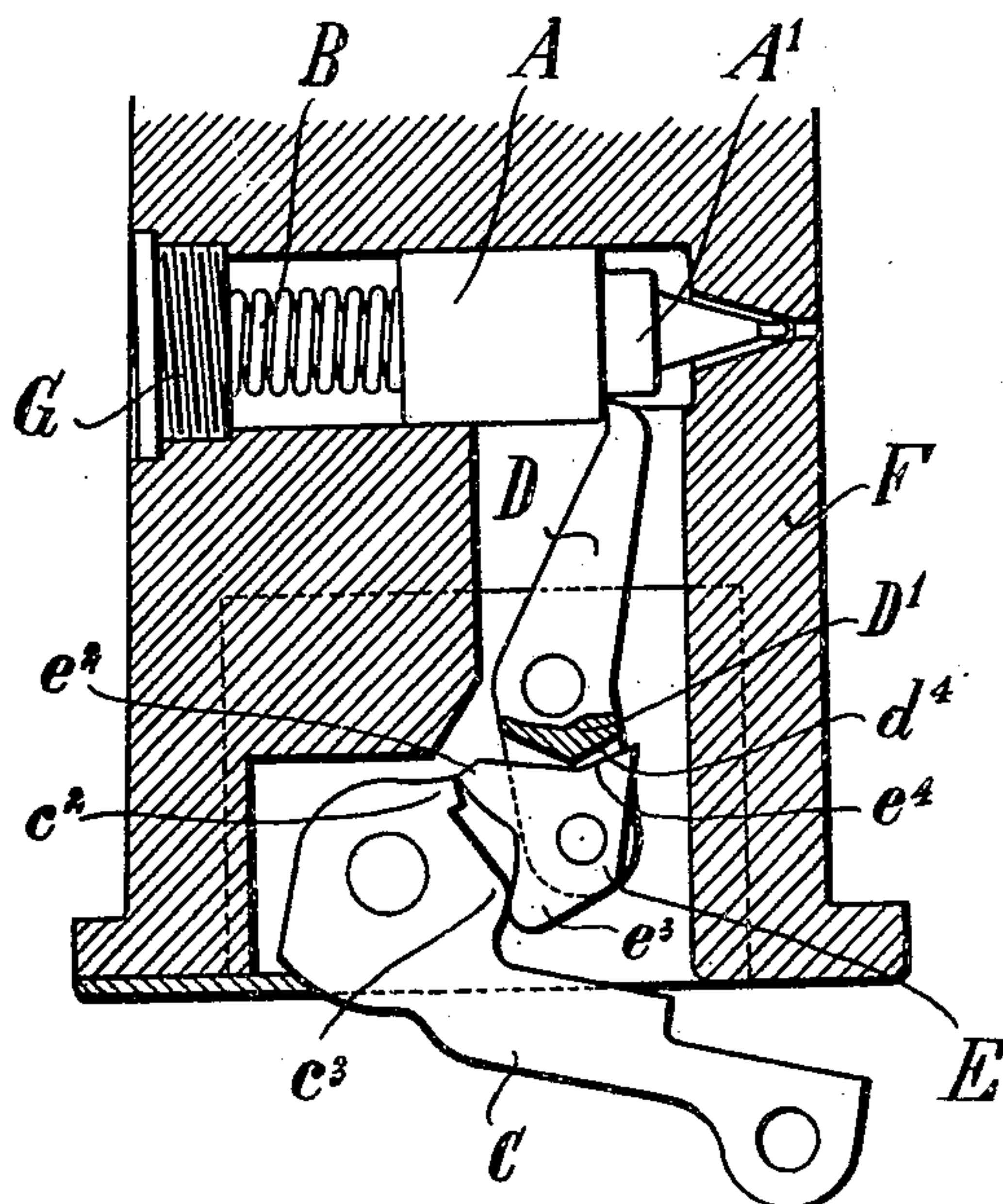


Fig. 7.

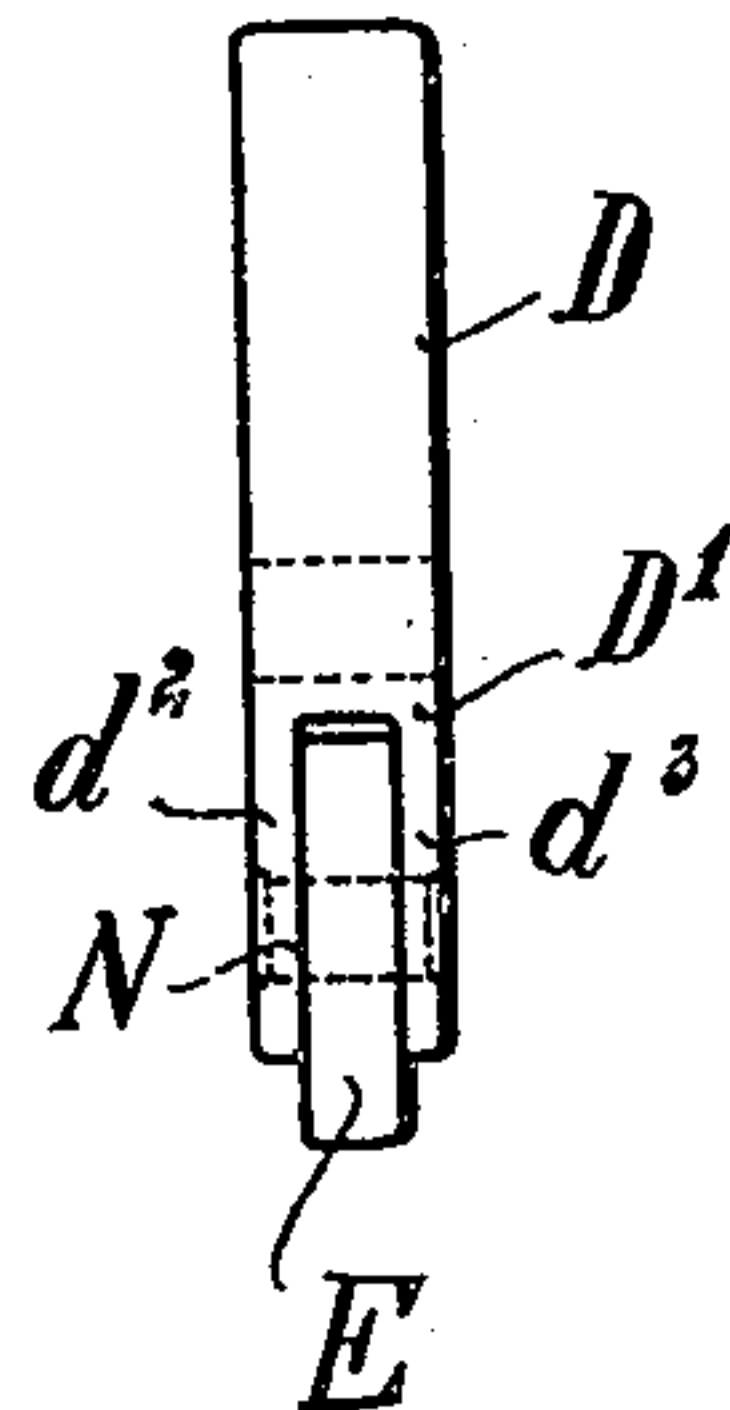
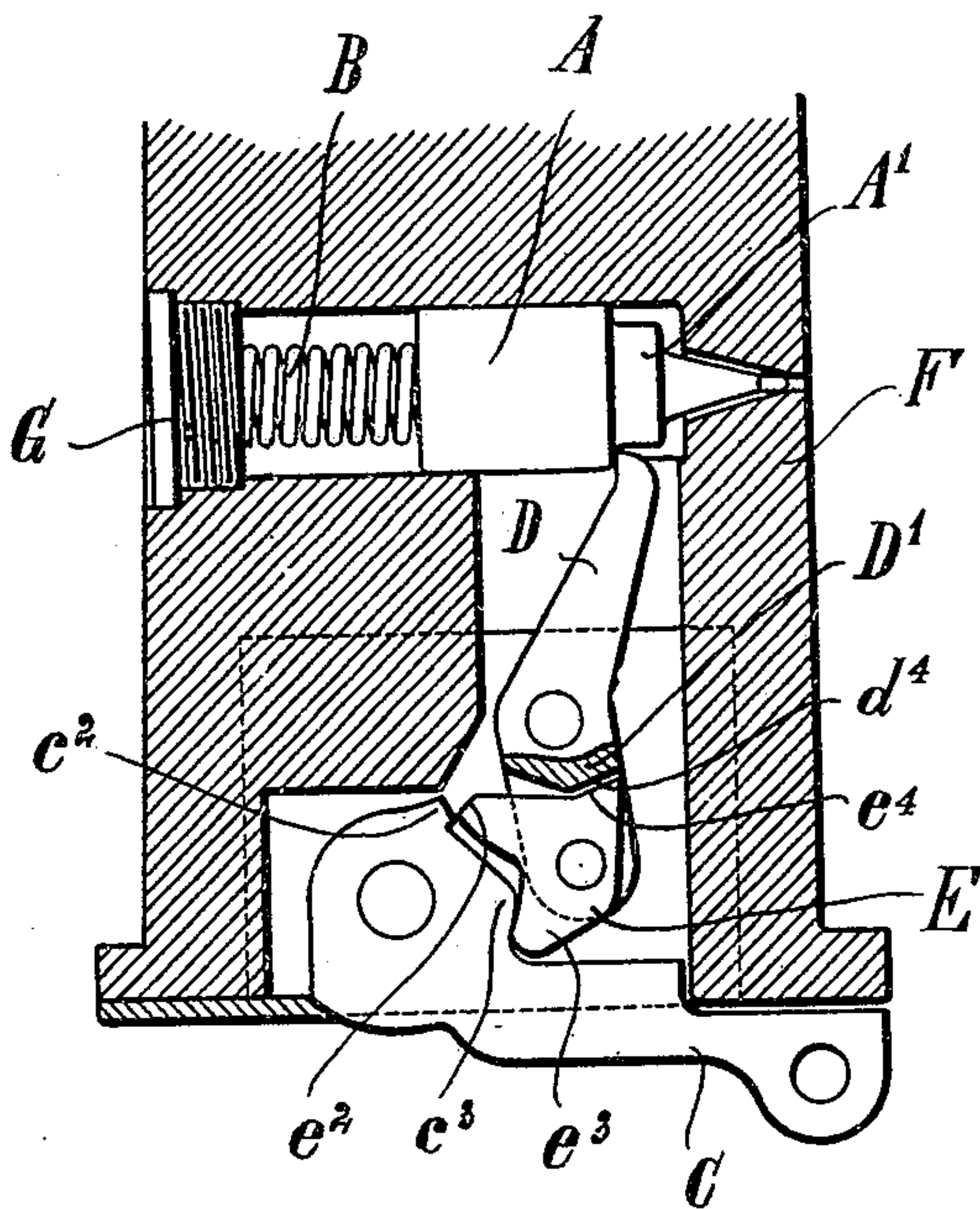


Fig. 6.



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UNITED STATES PATENT OFFICE.

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PERCUSSION-LOCK DEVICE.

No. 797,853.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed June 16, 1904. Serial No. 212,880.

To all whom it may concern:

Be it known that I, MAX HERMSDORF, a subject of the German Emperor, and a resident of Essen-on-the-Ruhr, Germany, have invented certain new and useful Improvements in Percussion-Lock Devices, of which the following is a specification.

The present invention relates to percussion-lock devices with continuous-pull mechanism having a cocking-nut pivoted to one of the oscillating parts of the percussion-lock and engaged by another part to impart movement from the trigger to the firing-pin, the object of pivoting the cocking-nut being to permit it to yield to the oscillating part of the firing device by which it is engaged during return movement of the trigger to its position of rest, and thus either completely avoid a rearward movement of the firing-pin (or striker) or make the rearward movement during the return of the trigger considerably shorter than the rearward movement imparted to the firing-pin when the device is operated for firing.

In firing devices of the kind just mentioned it has hitherto been customary to provide a special spring for the cocking-nut, which is put under tension when the cocking-nut is turned relatively to the part of the firing device upon which it is mounted and which will return the cocking-nut to normal position for engagement by the trigger when the latter is reset.

The object of the present invention is to do away with the spring for the cocking-nut; and the said object is attained by providing on the cocking-nut and on the oscillating part of the firing device coöperating therewith a second cam other than that by means of which the firing is effected, said second cam being so mounted that when the trigger is returned to its position of rest the two pairs of cams will coöperate and effect the return of the cocking-nut to its position of rest.

In the annexed drawings my invention is illustrated by way of example as used in a wedge breech-block for guns.

Figure 1 shows the percussion-lock in its position of rest. Fig. 2 shows the same as positioned when the firing-pin is under highest tension. Fig. 3 shows the position after the firing. Figs. 4, 5, and 6 show three consecutive positions of the firing device during

the return movement of the trigger, and Fig. 7 is a detail view.

The firing device consists of the firing-pin A A', the firing-spring B, with its fixed abutment G, the trigger C, the two-armed cocking-lever D D', and the cocking-nut E, which in the form of construction illustrated is pivoted to the cocking-lever D D'. The firing-pin A A' and the firing-spring B are arranged in the known manner. In the breech-block F a bore f' , Fig. 2, is provided for the head A' of the firing-pin, and the said bore is so constructed that in the firing position of the pin, Figs. 3 and 4, the conical head fills up the bore f' and the point a^2 of the firing-pin projects a little beyond the front face f^2 of the breech-block. The trigger C and the cocking-lever D D' are journaled on pivot-pins h' and h^2 , secured in a plate H, located in the breech-block. The trigger is provided with a perforation c' and with two cams c^2 c^3 , which are constructed and arranged as shown in the drawings. The free end D of the cocking-lever D D' rests against the shoulder a^3 of the firing-pin. The lower end of the arm D' of the cocking-lever is bifurcated, and the two branches d^2 d^3 , Fig. 7, straddle the cocking-nut E, journaled on pivot-pin N, secured in said branches. A shoulder d^4 is provided in the arm D' between the branches d^2 d^3 for the shoulder e^4 of the cocking-nut E. The shoulders d^4 and e^4 are so constructed that when the cocking-nut is in its position of rest, Figs. 1 to 3, they prevent the cocking-nut from turning backward with relation to the cocking-lever. The cocking-nut is provided with two cams e^2 e^3 , that are constructed and arranged as shown in the drawings.

When the parts are in their position of rest, they occupy the position shown in Fig. 1. The firing-spring, which is under initial tension, causes the trigger to be forcibly held against the face of the breech-block through the medium of the firing-pin, the cocking-lever, and the cocking-nut. In the opposite way the position of the trigger when the firing device is in the position of rest prevents the firing-pin from passing forward beyond the position shown in Fig. 1, and the point a^2 of the firing-pin is thus held within the breech-block and cannot impinge the primer of the cartridge. When it is desired to fire the gun, the trigger C, by means of a cord passing through the perforation

ration c' , is swung in the direction of the arrow xx , Fig. 1, and by means of the cams $c^2 e^2$ and the shoulders $d^4 e^4$ the cocking-lever is thrown backward and the firing-pin thereby pressed rearwardly and tension imparted to the firing-spring. When the parts have reached the position shown in Fig. 2, the firing-spring is under highest tension, and if the trigger is turned beyond the position shown in Fig. 2 the cam c^2 releases the cam e^2 , and the firing-pin is driven forward through the medium of the firing-spring. The point a^2 then passes beyond the front face of the breech-block and the cartridge is discharged. When firing has taken place, the parts occupy the position shown in Fig. 3. When it is desired to return the firing device to its position of rest, the trigger is drawn forward by means of the cord. As a result of the turning of the trigger, the cocking-nut piece, through the medium of the cam c^2 of the trigger coöperating with the cam e^2 of the cocking-nut, is first turned relatively to the cocking-lever, and the shoulder e^4 is consequently moved from the shoulder d^4 . When the cam c^3 of the trigger hits the cam e^3 of the cocking-nut, Fig. 4, the two cam pairs $c^2 e^2$ and $c^3 e^3$ coöperate and cause a turning of the cocking-lever in the direction to compress the firing-spring, and the different parts reach the position shown in Fig. 5. The movement of the firing-pin is, however, but small, as the cocking-nut has turned with relation to the cocking-lever and the cam e^2 has to a certain extent yielded to the cam c^2 . When the trigger thereupon is carried completely back to its position of rest, the spring expands and turns the cocking-lever back to its position of rest through the medium of the firing-pin. The result hereof is that the two cam pairs $c^2 e^2$ and $c^3 e^3$ coöperate in such a manner that the different parts of the firing device reach the position shown in Fig. 6, the cocking-nut having been turned backward with relation to the cocking-lever. During the remainder of the return movement of the cocking-lever to its position of rest the cocking-nut is turned still farther in the direction just mentioned by reason of the cam e^3 pressing against the cam c^3 , and the parts will thus again occupy the position of rest shown in Fig. 1.

The nature of my invention will of course not be altered by causing a spring to return the trigger in any well-known manner.

Having described my invention, what I claim is—

1. In a percussion-lock for guns, the combination with the cocking-lever and the trigger, of a cocking-nut pivoted to the cocking-lever and having a shoulder adapted to engage the cocking-lever to transmit motion from the trigger to the cocking-lever, impinging cams on the cocking-nut and the trigger for imparting movement to the cocking-nut causing it through the shoulder thereon engaging the cocking-lever, to move the firing-pin when the trigger is operated for firing, and other impinging cams on said cocking-nut and said trigger for returning the cocking-nut to its initial position upon the return movement of the trigger.

2. In a percussion-lock for guns, the combination with a firing-pin, of a cocking-lever pivoted intermediate its ends, bifurcated at one end and at the other end engaging the firing-pin, a cocking-nut pivoted between the arms of the bifurcation and of the cocking-lever and having a shoulder adapted to engage the cocking-lever to transmit motion to it, impinging cams on the cocking-nut and the trigger for imparting movement to the cocking-nut causing it through the shoulder thereon engaging the cocking-lever to move the firing-pin when the trigger is operated for firing, and other impinging cams on the cocking-nut and said trigger for returning the cocking-nut to its initial position upon the return movement of the trigger.

3. In a percussion-lock for guns, the combination with the cocking-lever and the trigger, of a cocking-nut pivoted to the cocking-lever, impinging cams on said cocking-nut and the trigger, transmitting movement from the trigger to the cocking-lever when the device is operated for firing and an additional cam through which said cocking-nut impinges said other part for returning the cocking-nut to its initial position upon the return movement of the trigger both sets of cams being located between the pivot of the trigger and the pivot of the firing-nut when the parts are in normal position, thereby providing a compact arrangement.

The foregoing specification signed at Düsseldorf, Germany, this 16th day of May, 1904.

MAX HERMSDÖRF.

In presence of—

WILLIAM ESSENWEIN,
PETER LIEBER.