

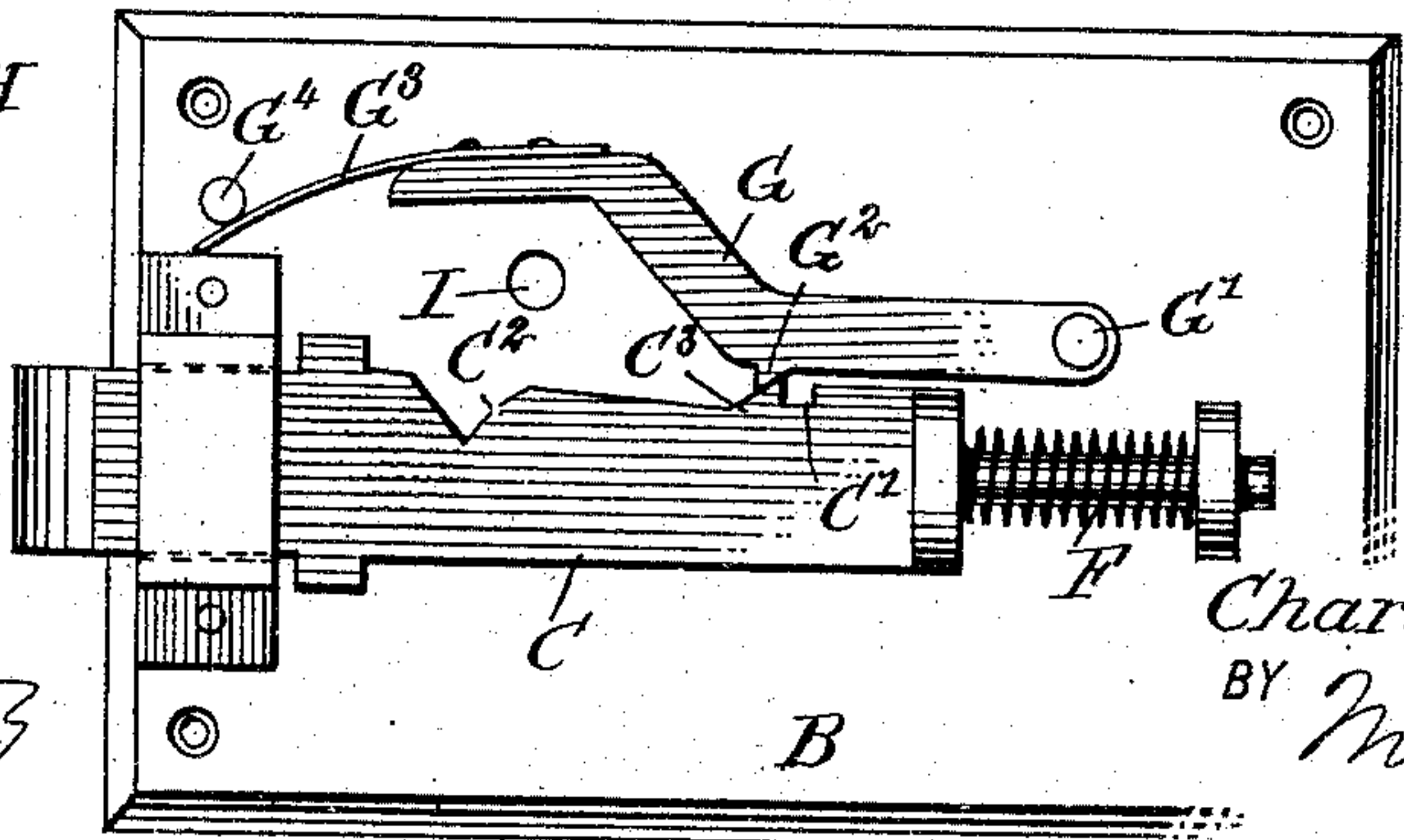
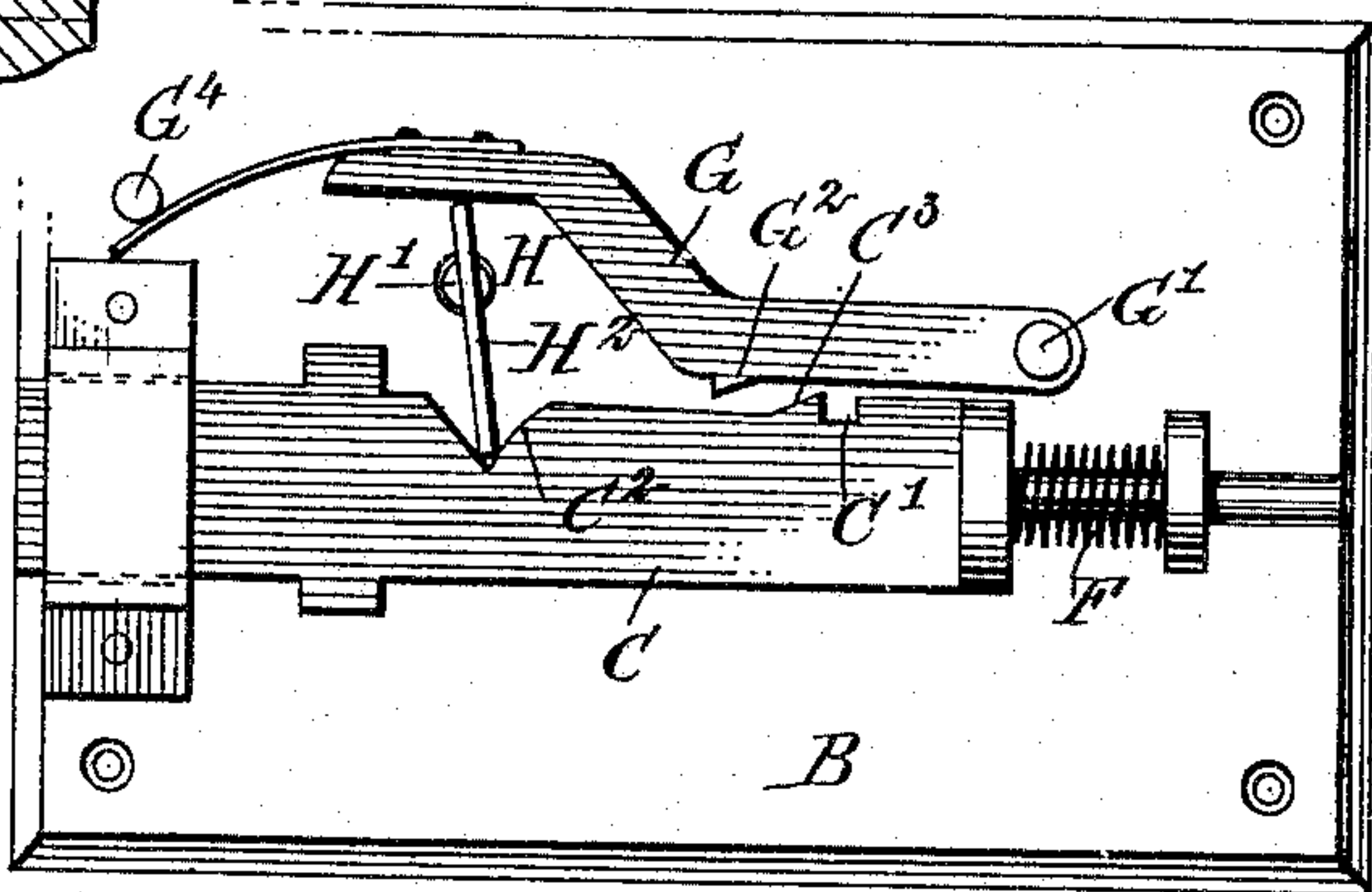
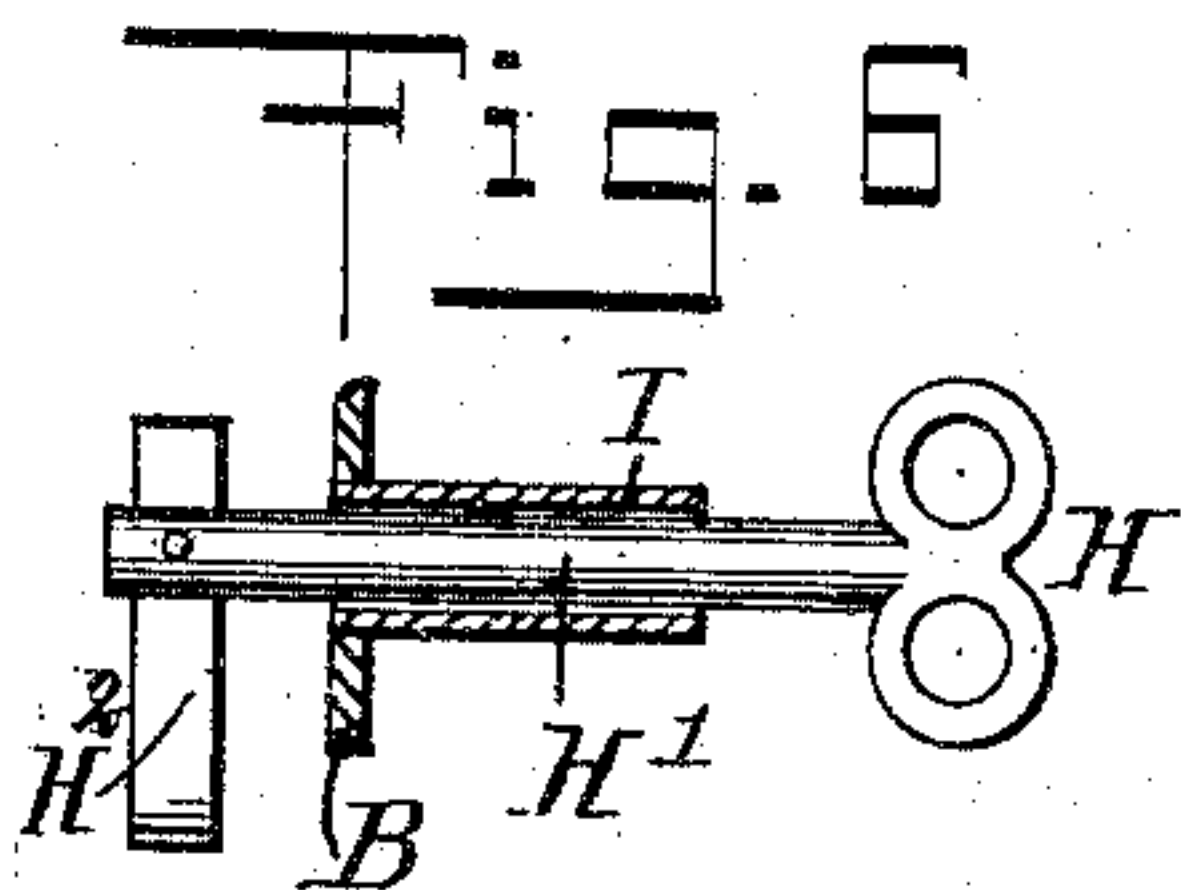
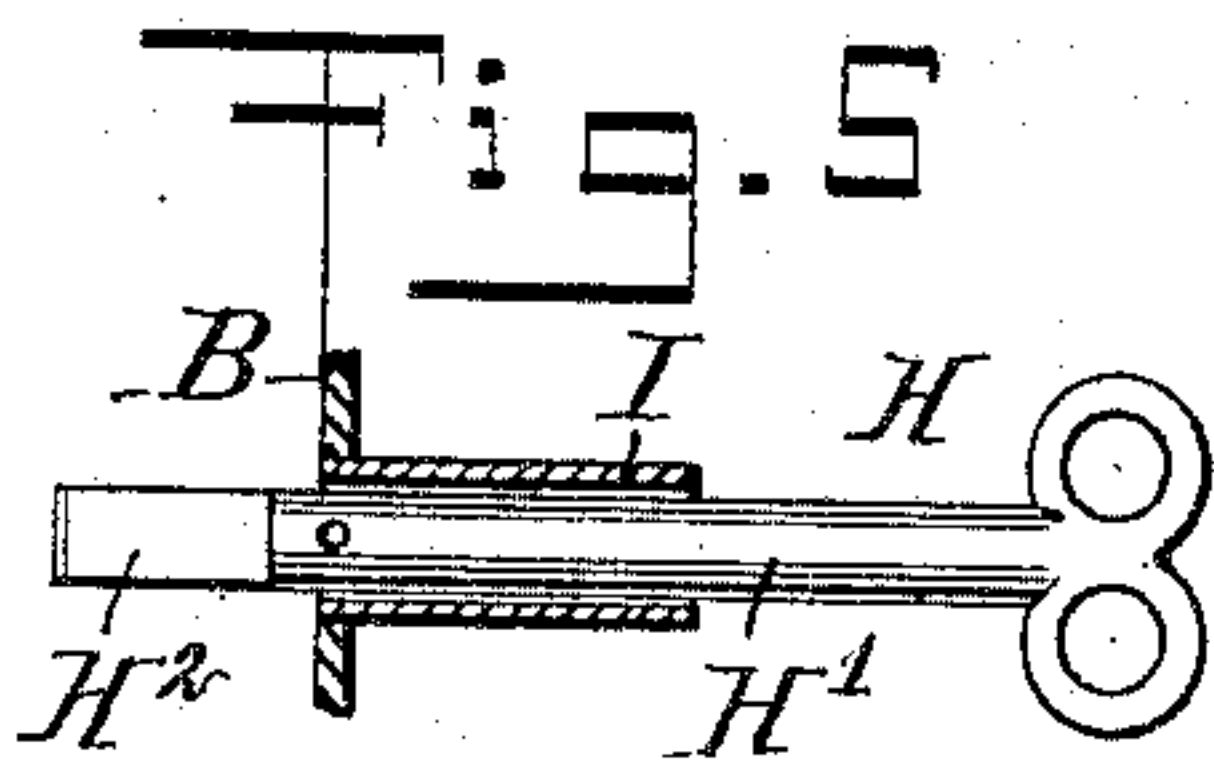
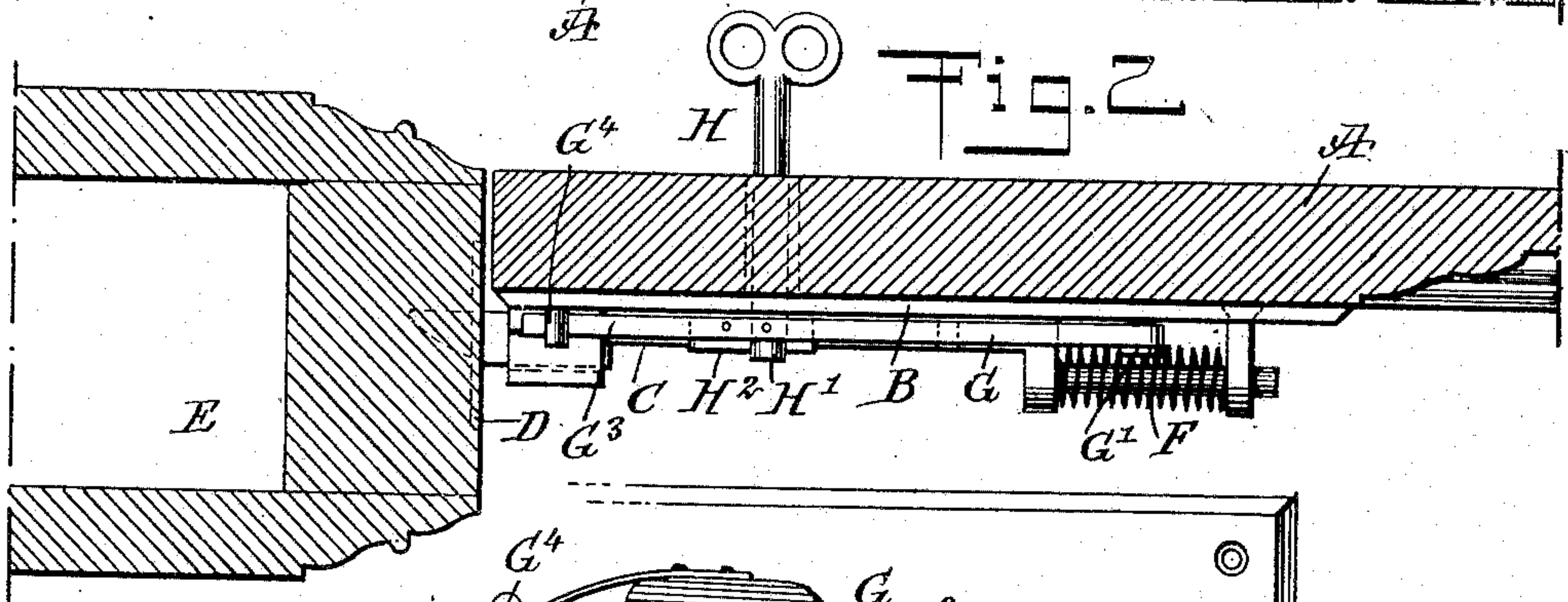
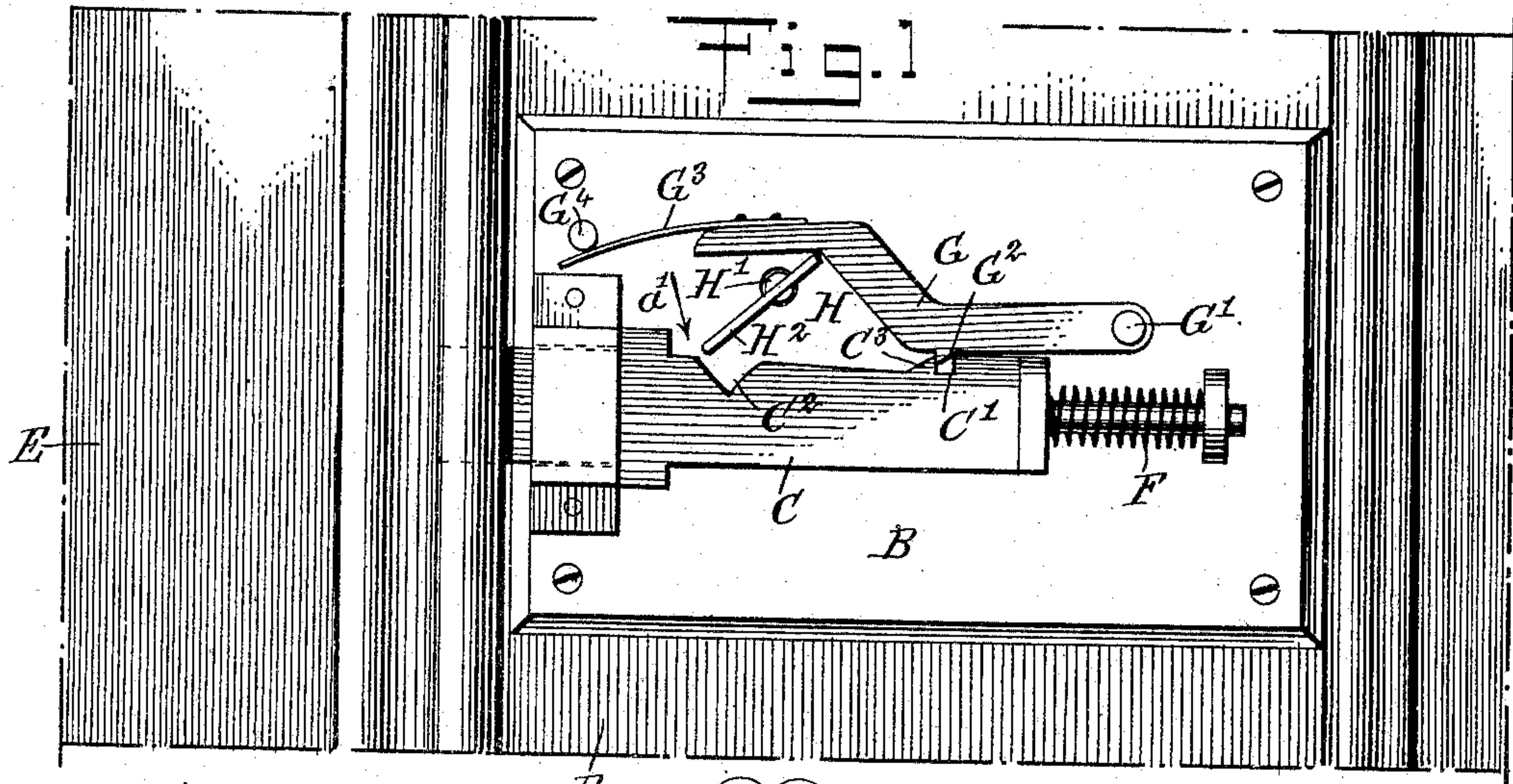
C. R. WALLIN.

DOOR LOCK.

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947,048.

Patented Jan. 18, 1910.



WITNESSES

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CHARLES R. WALLIN, OF NEW YORK, N. Y.

DOOR-LOCK.

947,048.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed October 20, 1908. Serial No. 458,694.

To all whom it may concern:

Be it known that I, CHARLES R. WALLIN, a citizen of the United States, and a resident of the city of New York, Mariner Harbor, borough of Richmond, in the county of Richmond and State of New York, have invented a new and Improved Door-Lock, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved door lock arranged to lock the main bolt against movement unless first unlocked by the key, to prevent withdrawal of the latter and duplication thereof by unauthorized persons.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claim.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the lock as applied to the inside of the door and showing the main bolt in locking position; Fig. 2 is a plan view of the same and showing the door and door casing in section; Fig. 3 is a face view of the lock showing the bolt in a withdrawn position; Fig. 4 is a similar view of the same, showing the key withdrawn and the bolt held in position for closing and locking the door; Fig. 5 is a transverse section of the lock plate at the keyhole and with the key in entering position in the keyhole; and Fig. 6 is a like view of the same, showing the key fully entered in the keyhole and the bit of the key in right angle position.

To the side of the door A is secured a lock plate B, on which is mounted to slide the main bolt C adapted to engage a keeper D held on the door casing E, as plainly indicated in Figs. 1 and 2. The main bolt C is pressed on by a spring F, to normally hold the bolt in a shot-out position, the head of the bolt being beveled, so that when the door A is closed the head thereof readily engages the keeper D by the action of the spring F.

The bolt C is held against withdrawal by a retaining device G, preferably in the form of a lever, fulcrumed at G' on the lock plate B, and having a lug or ward G² adapted to engage a notch C' in the top edge of the bolt C, to hold the latter against return move-

ment (see Fig. 1). The free end of the lever G is provided with a spring G³ bearing on a stop G⁴ held on the lock plate B, to allow of swinging the lever G but with a view to disengage the lug G² from the notch C', thus unlocking the main bolt C.

In order to manipulate the lever G and withdraw the main bolt C, use is made of a key H having a shank H' provided near its outer end with a gravity bit H², arranged to extend lengthwise of the key, for conveniently entering the key in the keyhole I attached to the lock plate B and extending through the door A to the outside thereof. The bit H² is adapted to swing into a right angle position, as shown in Fig. 6. For this purpose the bit H² is pivoted to the shank H' unequal distances from the ends of the bit so that one end is longer than the other, but both ends project beyond opposite sides of the shank H' when the bit H² is in the angular position above mentioned and shown in Fig. 6. After the shank H' of the key H is inserted in the keyhole I and the bit H² has swung into angular position, then about a quarter turn and an outward pull is given to the key H, so that the bit H² abuts against the face of the lock plate B and extends between the bolt C and the free end of the lever G, as indicated in Fig. 1. Now when the key is turned in the direction of the arrow a' then the short end of the bit H² engages the free end of the lever G, and thus swings the latter upward, to move the lug G² out of engagement with the notch C', thus unlocking the main bolt C. On the further turning of the key H in the direction of the arrow a', the long end of the bit H² engages a notch C² in the top edge of the bolt C, thus pushing the bolt C rearward against the tension of its spring F and moving the head of the bolt out of engagement with the keeper D, to unlock the door. The door is now swung open and the operator withdraws the key, but in doing so, it is necessary first to push the key H inward to about the position shown in Fig. 6 and to then swing the bit H² into alinement with the shank H' to allow of withdrawing the key from the keyhole I. When the operator withdraws the key, the bolt C and the lever G move back to their normal position, as shown in Fig. 1, and in order to allow the operator to close the door the lever G is swung upward by the operator, and the bolt C is slightly moved back so that the lug G²

engages a beveled shoulder C^3 adjacent to the notch C' (see Fig. 4), and then the operator swings the door shut, and in doing so the main bolt C is first pushed inward
5 against the tension of the spring F at the time the head of the bolt comes in contact with the keeper D , and when the head is opposite the keeper opening, then the bolt C is shot out by the action of the spring F , to
10 engage the head of the bolt with the keeper, as indicated in Figs. 1 and 2. When this takes place, the lug G^2 of the lever G re-engages the notch C' , thus locking the bolt C against return movement, as shown in
15 Fig. 1.

From the foregoing it will be seen that the key H cannot be withdrawn until the door is opened and the operator has swung the bit H^2 into alinement with the shank H'
20 of the key H . It will further be seen that by the arrangement described the bolt C is locked against withdrawal movement, so that the door cannot be opened by an unauthorized person pushing a knife or the like
25 between the door and the door casing and pushing back the bolt C for unlocking the door. As the key cannot be withdrawn by unauthorized persons, it is evident that the key cannot be duplicated by such parties.

30 It will be understood that the plate B is arranged on the inner face of the door, and

that the locking mechanism is not covered to permit the necessary manipulation of the key-bit.

Having thus described my invention, I 35 claim as new and desire to secure by Letters Patent:

A lock provided with a main bolt, a spring normally retaining said bolt in locked position, a retaining device for locking the bolt 40 in such position, a key having a pivoted bit capable of extending at right angles to the key shank and projecting beyond both sides thereof, one of said projecting ends being of greater length than the other and adapted 45 to engage the main bolt to move it into retracted position, the other end being adapted to engage and move the retaining device out of engagement with the main bolt before the bolt is retracted, said retaining device 50 and bolt having cooperating lugs whose one face is squared and the other inclined for retaining said retaining device in inoperative position in certain positions of the bolt. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES R. WALLIN.

Witnesses:

THEO. G. HOSTER,
JOHN P. DAVIS.