

No. 854,065.

PATENTED MAY 21, 1907.

H. G. VOIGHT.

LATCH.

APPLICATION FILED OCT. 4, 1906.

2 SHEETS—SHEET 1.

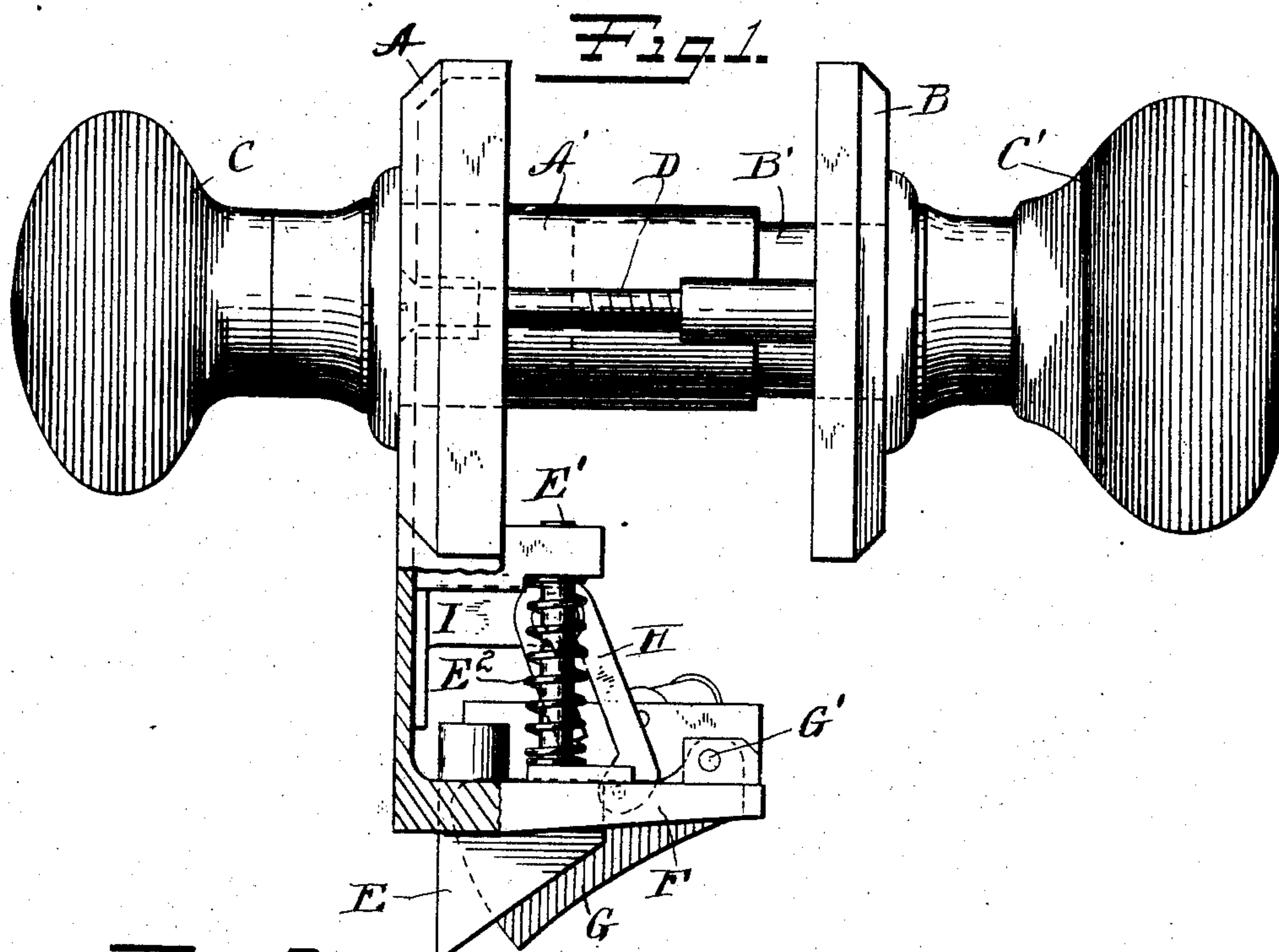


Fig. 3.

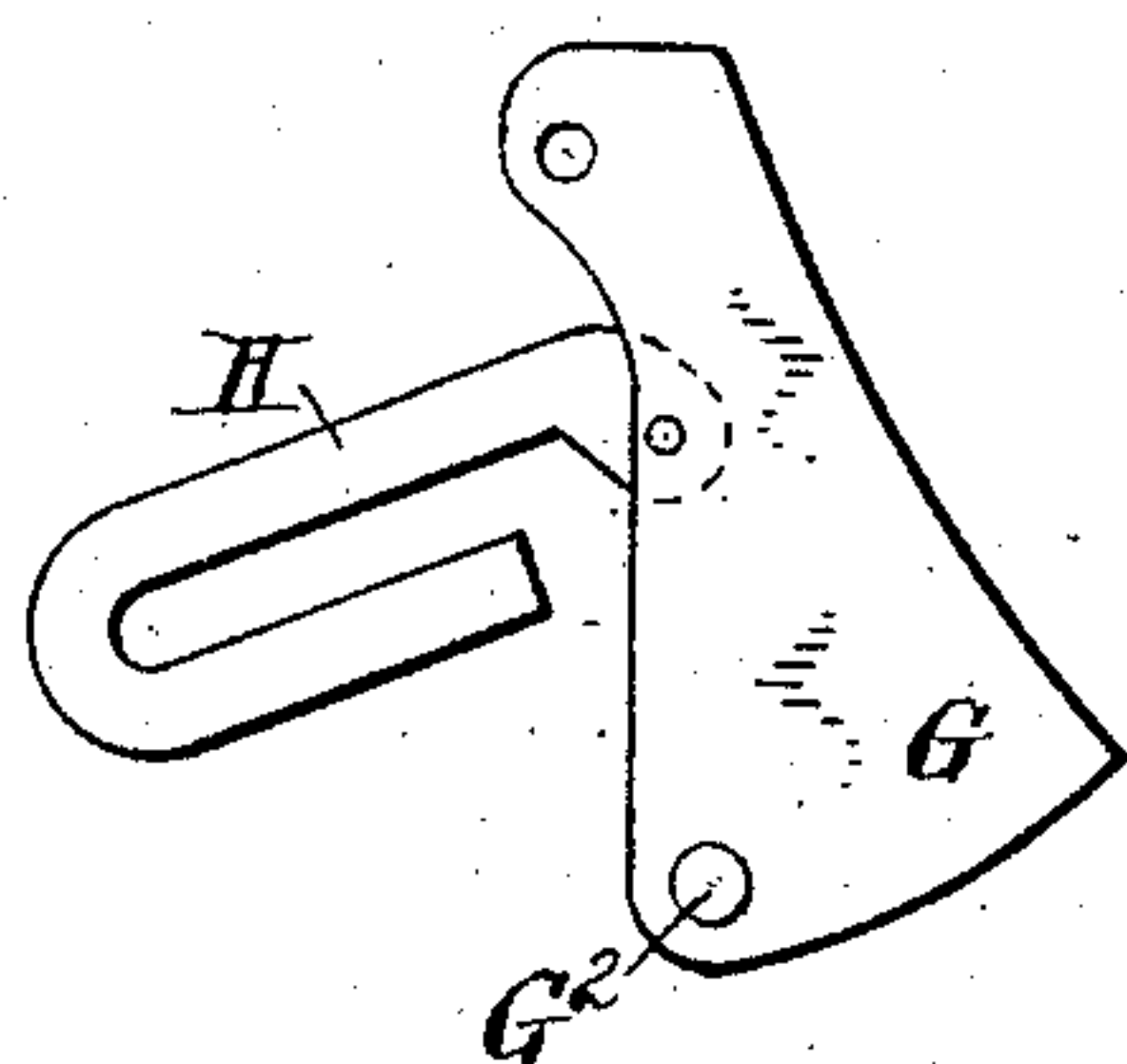


Fig. 5.

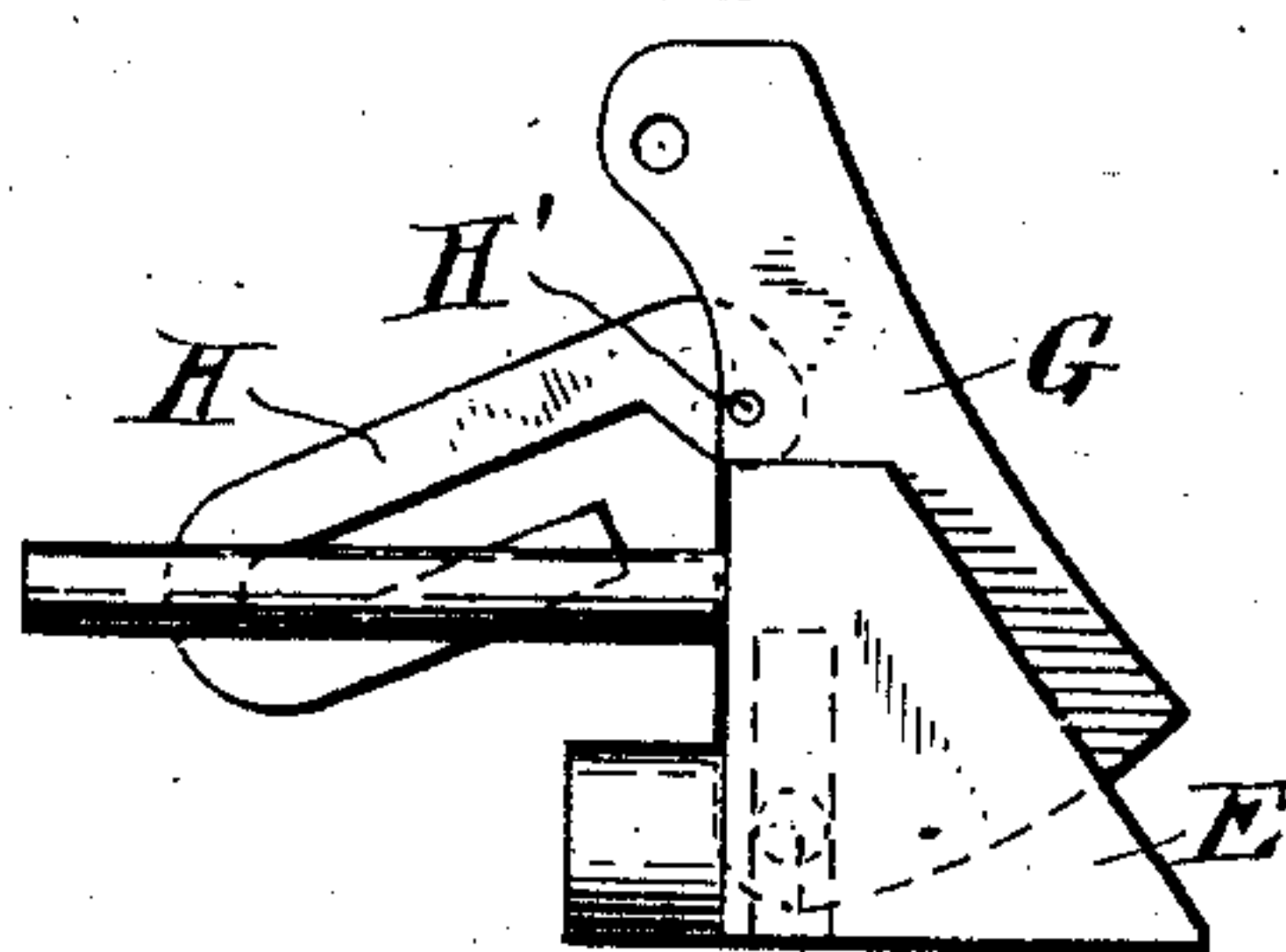


Fig. 4.

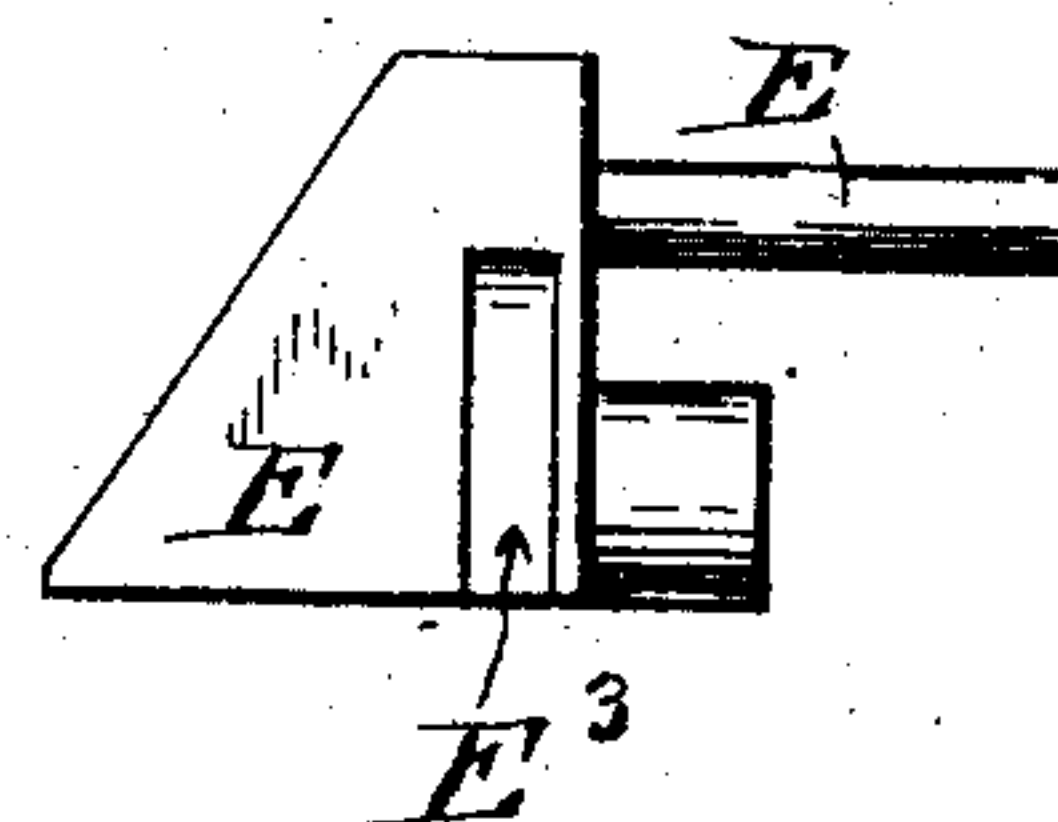
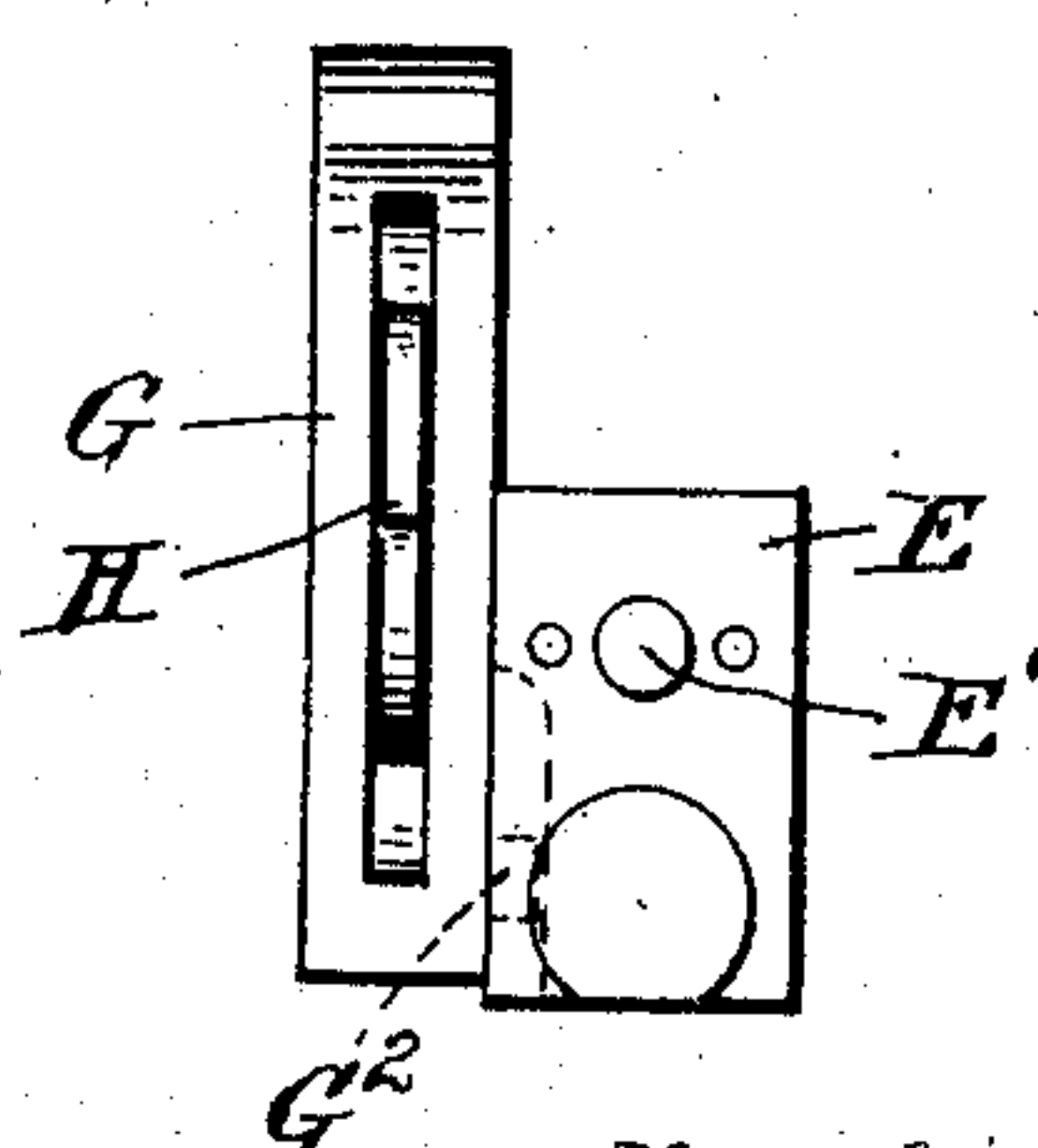


Fig. 6.



Witnesses  
*Chas. A. Pugh*  
*Wm. S. Allen*

Inventor  
 HENRY G. VOIGHT  
 By his Attorneys  
*Baileys, Brown & Mitchell*

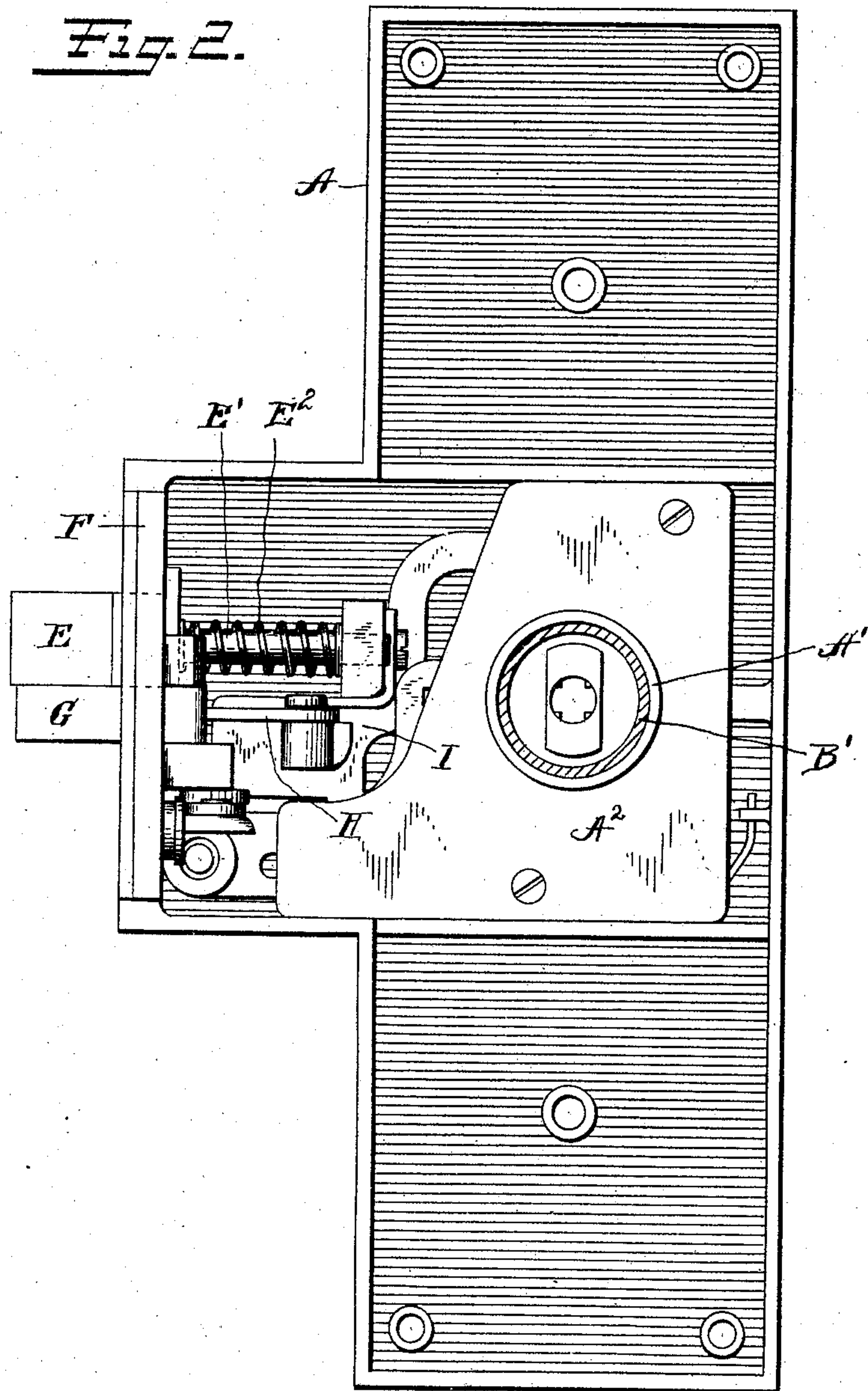
No. 854,065.

PATENTED MAY 21, 1907.

H. G. VOIGHT.  
LATCH.

APPLICATION FILED OCT. 4, 1906.

2 SHEETS—SHEET 2.



Witnesses

*Chas. A. Reed*  
*R. P. Allen*

Inventor

*HENRY G. VOIGHT*

By his Attorneys

*Barth B. Moore*



# UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## LATCH.

No. 854,065.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed October 4, 1906. Serial No. 337,344.

*To all whom it may concern:*

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, Hartford county, Connecticut, have  
5 invented certain new and useful Improvements in Latches, of which the following is a full, clear, and exact description.

My invention relates to improvements in latch mechanism.

10 Among the objects of my invention are to provide for means to properly aline the various parts of the lock so as to guarantee the free action of the knobs; and to cause the latch proper to have a direct or straight throw  
15 action and combining therewith an anti-friction and retracting device by which the latch proper may be forced back when the door is shut, or drawn back by the knobs or other equivalent devices provided for that  
20 purpose.

In the accompanying drawings Figure 1 is a plan view, partly broken away, the various parts being assembled, Fig. 2 is a view of the inner side of the inside escutcheon plate  
25 and associated parts, the outside being removed. Fig. 3 is a detail of the anti-friction latch-retracting device. Fig. 4 is a detail view of the latch bolt proper detached. Fig. 5 is a view of the anti-friction device and  
30 latch combined, but independent of the other parts. Fig. 6 is a view of the inner end of the latch bolt proper and the anti-friction retractor.

A B are two escutcheon plates, one of  
35 which is hollowed out at the inner side to afford room for the latch slide and the usual roll-back (not shown). These plates A and B have internally projecting telescopic tubular connecting and alining members A' B'.  
40 In line with these members A' B' are the spindles (not shown) for the knobs C C'. The axis of rotation of the knobs C C' is concentric with the telescopic connecting members A' B', and hence when the lock is in place on  
45 a door the knobs are always arranged in perfect alinement, irrespective of the thickness of the door to which they are applied and their alinement cannot be disturbed in the slightest by reason of any careless applica-  
50 tion of the plates to opposite sides of the door.

D is the usual clamping screw by which the plates are drawn together into tight contact with the door. Any desired number of these screws is permissible.

A<sup>2</sup> is a plate or equivalent device rigidly 55 carried at the inner side of the inner plate A. This plate A<sup>2</sup> is spaced away from the inner surface of said plate A so as to afford room for the latch slide and roll-back to the rear thereof. This plate A<sup>2</sup> may also act to carry 60 the tube A' or act as a support therefor.

E is the latch proper, the same having a bearing in the end or face plate F. This latch E partakes only of a reciprocal motion and has the guiding stem E' with the latch 65 extending easy spring E<sup>2</sup>.

G is an anti-friction latch-retracting device pivotally mounted at one end at G' to the face plate F. This retracting device or retractor, as I shall term it, partakes only of an 70 oscillating motion, and in the articular form shown there is a pin and groove connection between the free end of the oscillating retractor G and the reciprocating bolt. This pin is shown at G<sup>2</sup>, while the groove in the 75 latch bolt is indicated at E<sup>3</sup>. The position of these parts when assembled is indicated in dotted lines, Fig. 5.

H is a sliding link pivotally connected at H' to the retractor G. At the other end this 80 link makes a sliding connection with a pin carried by a latch-slide I. This latch-slide is connected to the actuating spindle in the space between the plates A and A<sup>2</sup> in such a manner that said slide may be retracted at 85 will. The pivoted portion of the retractor G is well in advance of the edge of the latch-bolt E, see Fig. 1, so that when the door closes, the inclined face of the retractor will first engage the usual striker-plate and be 90 forced back thereby, so that, by reason of the pin and groove connection with the bolt E, the latter will be pressed back in a direct line. The face of the retractor which engages the 95 striker-plate (not shown) may be curved or concaved so as to operate freely and easily. The retraction of the latch-bolt E is always effected through the medium of the retractor G. In other words, the latch slide has no 100 connection with the latch bolt save through the medium of the retractor. While this anti-friction retracting device is operable in connection with a lock such as shown in the drawings, it is not confined to this particular 105 type. By this arrangement the swelling and shrinking of the door will have no effect upon the snugness with which the door is held closed. When the lock is properly fitted at



the outset any shrinkage which would tend to draw the face-plate or lock E away from the striker-plate will not, as in the case of the usual oscillating latch, result in loose play and rattling. For convenience in assembling, the link H is opened at one side, as shown in Fig. 3. The slot in the link H permits the retractor to be pressed back without moving the latch slide I, and hence permits of the use of a so-called "easy spring." This is the preferable construction.

What I claim is:—

1. In a latch mechanism, a latch bolt, two escutcheon plates, one of said plates being hollowed out at its inner side, a non-rotatable tubular connection carried by each of said plates, said connections being telescopic to admit of the adjustment of said plates to and fro, a rotatable knob spindle passing through said telescopic connection and concentric with the same, and means carried in the hollowed out portion of said plate connecting said spindle and said latch bolt.

2. In a lock and latch mechanism, a reciprocating latch bolt, a supporting plate therefor, a manually controlled slide, an oscillating retractor pivoted to said supporting plate and having an inclined front end slightly in advance of the adjacent inclined front end of the latch bolt, means to directly connect the latch bolt and retractor, and means to directly connect said retractor and said slide, said slide being connected to said bolt only through the medium of said retractor.

3. In a lock and latch mechanism, a reciprocating latch bolt, a supporting plate there-

for, a manually controlled slide separate from said bolt, an oscillating retractor pivoted to said supporting plate and having an inclined front end slightly in advance of the adjacent inclined front end of the latch bolt, means to directly connect the latch bolt and retractor, and means to directly connect said retractor and said slide, the last mentioned means permitting the retractor and latch bolt to be moved independently of the slide, said slide being connected to said bolt only through the medium of said retractor.

4. In a latch mechanism, two escutcheon plates, one of said plates being hollowed out at its inner side to afford room for latch retracting mechanism, including a slide, an interior cover plate for said hollowed out escutcheon plate overstanding said latch retracting mechanism, two telescopic non-rotatable tubular connecting devices carried by said plates respectively and arranged concentric with the axis of rotation of the latch actuating devices.

5. In a latch mechanism, two separable escutcheon plates, rotatable latch actuating mechanism carried by and at the inner side of one of said plates, a telescopic tubular non-rotatable connection between said plates, said connection being concentric with the axis of the rotatable latch actuating mechanism.

HENRY G. VOIGHT.

Witnesses:

M. S. WIARD,  
W. R. STONE.