

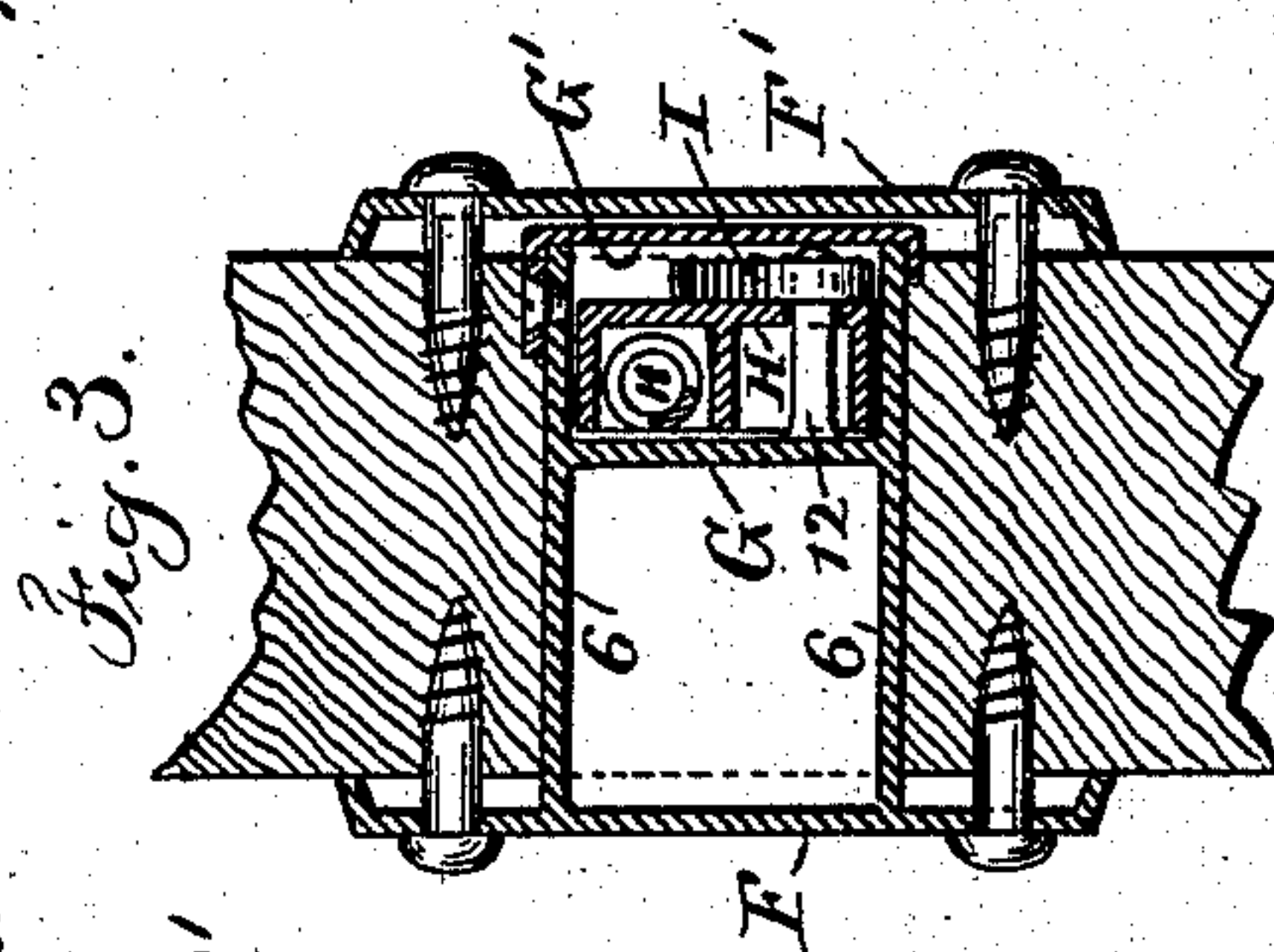
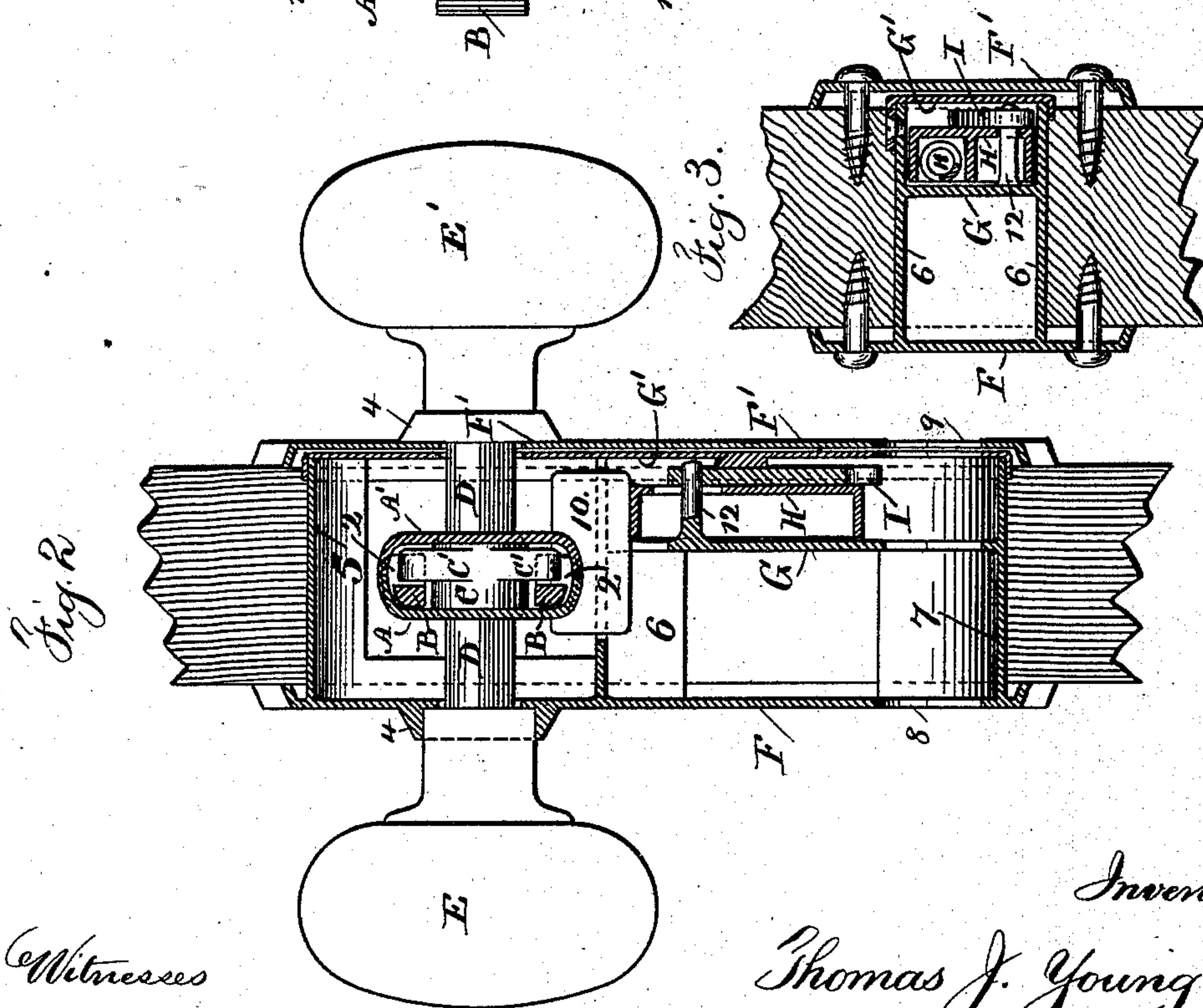
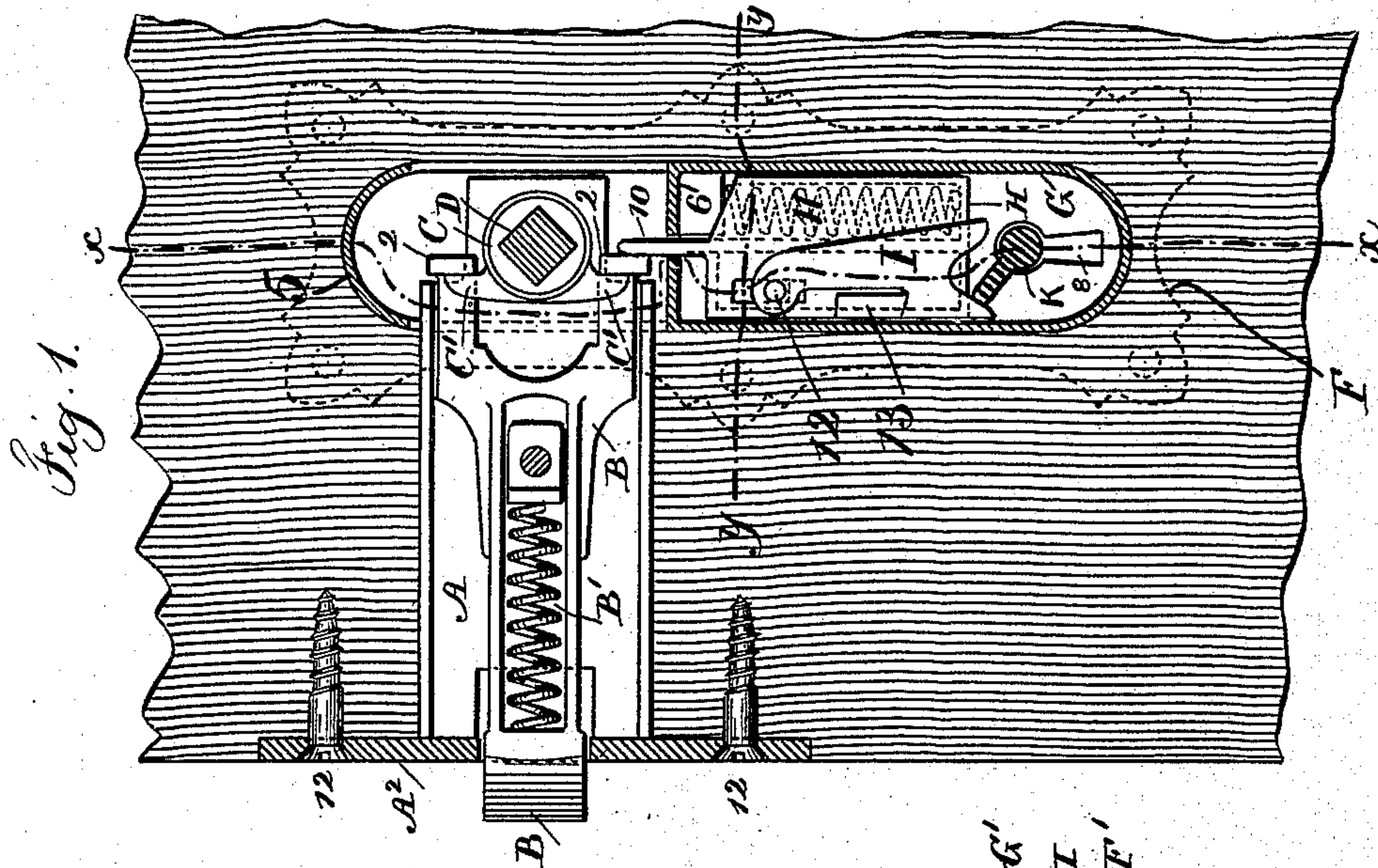
(Model.)

T. J. YOUNG.

DOOR LOCK.

No. 413,333.

Patented Oct. 22, 1889.



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS J. YOUNG, OF NORTH PLAINFIELD, NEW JERSEY.

## DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 413,333, dated October 22, 1889.

Application filed March 16, 1889. Serial No. 303,618. (Model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. YOUNG, of North Plainfield, in the county of Somerset and State of New Jersey, have invented an  
5 Improvement in Door-Locks, of which the following is a specification.

Locks have been made with a latch passed in from the edge of the door and containing a bolt by which the latch may be held for locking the door, and the spindle of the latch has  
10 been connected with the rose or plate upon the face of the door and provided with an arm acting upon the latch.

In my improvement the latch is within an  
15 independent case and it is inserted from the edge of the door, and there is a plate or rose at each surface of the door, through which the latch-spindle passes, and there is upon one of these door-plates a bolt acted upon by a key  
20 to prevent the latch being withdrawn when the bolt is thrown, and the parts of the lock-case upon the door-plate are constructed so that the latch may be properly received and the parts adapted to different thicknesses of  
25 doors.

In the drawings, Figure 1 is a section of the door-stile with the latch and lock in place, the case of the lock being in section and the cap-plate of the latch removed. Fig. 2 is a  
30 section at the line  $x x$ , and Fig. 3 is a section at the line  $y y$ , of Fig. 1.

The latch is made with a case A and cap-plate A', and with the usual face-plate A<sup>2</sup>, that is recessed into the edge of the door. The  
35 latch B is beveled at the outer end, as usual, and it is projected by a spring B'.

C is a hub for the spindle D, and there are cams C' on the hub for acting upon the flanges or claws 2 of the latch B, for drawing back  
40 such latch, as usual, and these flanges or claws 2 preferably extend laterally to the outside of the case, the case being removed at the inner end, so as to allow these flanges or claws to slide back and forth freely; but they are  
45 within range of the bolt hereinafter described, so that when such bolt is brought up behind either of the flanges or claws the latch cannot be withdrawn. This latch-case and face-plate are similar on each side of a central  
50 plane, so that the latch can be turned over and inserted into the door with the beveled end

of the latch in either direction and retained in place by screws 12, as usual.

The door-stile is to be bored through for the passage of the spindle D, as usual, and at the  
55 ends of the spindle D are the handles E E', and the spindle passes through the door plates or roses F F', and usually there are sockets 4 for the inner ends of the handle-shanks. The plate F' is similar to the plate F, and has  
60 through the same a key-hole; but upon the back of the plate F there is a lock-case G, with a cap-plate G', and the door-stile is to be bored into or mortised for the reception of this lock-  
65 case.

The lock-case is provided with the lateral  
connections 5 6 7 to the door-plate F, and these parts may all be cast in one with the lock-case and door-plate F; or, where such  
70 door-plate F is of brass and the lock-case of iron, the portions 5, 6, and 7 of the lock-case will be fitted with ears for the reception of rivets, by which the lock-case is attached to the door-plate.

Within the lock-case there is a suitable  
75 bolt H, acted upon by the key K, inserted through either key-hole 8 or 9. I prefer to use the bolt represented, which is formed with a stop-plate 10, passing vertically through a slot in the lock-case, so as to come up be-  
80 hind the lower flange or claw 2 upon the latch B when such bolt is projected to lock the door, and when the parts are unlatched this stop 10 is drawn down below such flange or claw 2, so that the latch may play freely.  
85 I have shown a helical spring 11, that serves to draw the bolt down when relieved from the tumbler-hook I, and this tumbler-hook is on a pivot-pin 12 and acts against a projec-  
90 tion or stud 13 upon the bolt H, and at the bottom end of this tumbler-hook is a notch that is acted upon by the key. When the key is rotated in one direction, the bolt H is first raised against the action of the spring,  
95 and then the tumbler-hook is swung so that the hook thereof comes below the stud 13 and holds the bolt in its locked or elevated position. When the key is turned in the oppo-  
100 site direction, the bolt is raised slightly and sufficiently to allow the tumbler-hook to be released and swung away from the stud 13, and the further movement of the key allows



the spring 11 to throw down the bolt H and release the same from the latch.

It will be observed that there is a lateral opening in the lock-case for the introduction 5 of the latch-case A A', and this lateral opening is by preference much wider than the thickness of the latch-case, in order that the latch-case may be placed centrally into the edge of the door, regardless of the thickness of 10 said door, the width of the mortise in the lock-case G being such that with a thin door the latch-case will come close up to the door-plate F, and with a thick door the other surface of the latch-case will come adjacent to the cap- 15 plate G', and where the lateral opening is of the shape represented the latch-case is adapted to occupy a central position with a door of any thickness from about one and one-quarter to two inches. With a thin door the mortise for 20 the reception of the lock-case G G' will pass entirely through the door-stile; but with a thick door such mortise should only be made deep enough to receive the lock-case, and in consequence of the latch-case being compara- 25 tively small the door-stile will not be cut away and weakened as much as is usual with ordinary mortise-locks.

I claim as my invention—

1. The combination, with the spindle-hub, 30 latch, and case adapted to be inserted in the edge of the door, of the door-plates, a lock-case connected with one of the door-plates, and having a lateral opening in the lock-case for the reception of the latch-case, the knob- 35 spindle passing through the door-plates, lock-case, latch-case, and hub, and a bolt within

the lock-case and adapted to retain the latch when projected, substantially as set forth.

2. The lock-plate F, lock-case G, and cap- 40 plate G', in combination with the vertically-moving bolt H, having a stop-plate 10, a spring for moving the bolt in one direction, and the hanging tumbler hook and stud upon the bolt, for retaining the bolt when projected against the action of the spring, substantially as set 45 forth.

3. The latch-case A A' and latch B, adapted to be inserted in the edge of the door, and having the flanges or claws 2 on the latch that projects through the latch-case, in com- 50 bination with the lock-case adapted to be inserted into the face of the door, and having a bolt and stop-plate passing behind the flange or claw of the latch when the bolt is projected, and the spindle-hub and spindle, 55 substantially as set forth.

4. The combination, with the lock-case G G' and the door-plate F, to which the lock-case is connected, of a vertical bolt H, hav- 60 ing a plate 10 sliding through an opening in the case, the helical spring 11 for moving the bolt toward the key-hole, the tumbler-hook I, pivoted at 12, and the stud 13 upon the bolt, with which the hook of the tumbler engages, and the latch-case and latch to be inserted 65 through the edge of the door, the spindle-hub, and knob-spindle, substantially as set forth.

Signed by me this 4th day of March, 1889.

THOMAS J. YOUNG.

Witnesses:

WM. E. JONES,

JOHN A. POWLISON.