

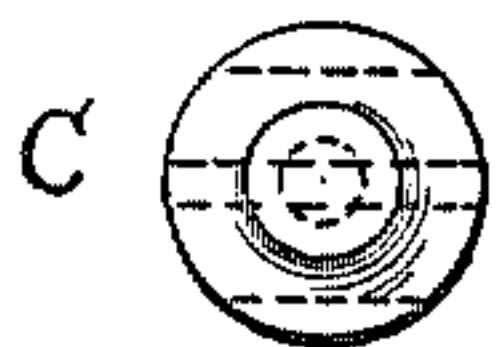
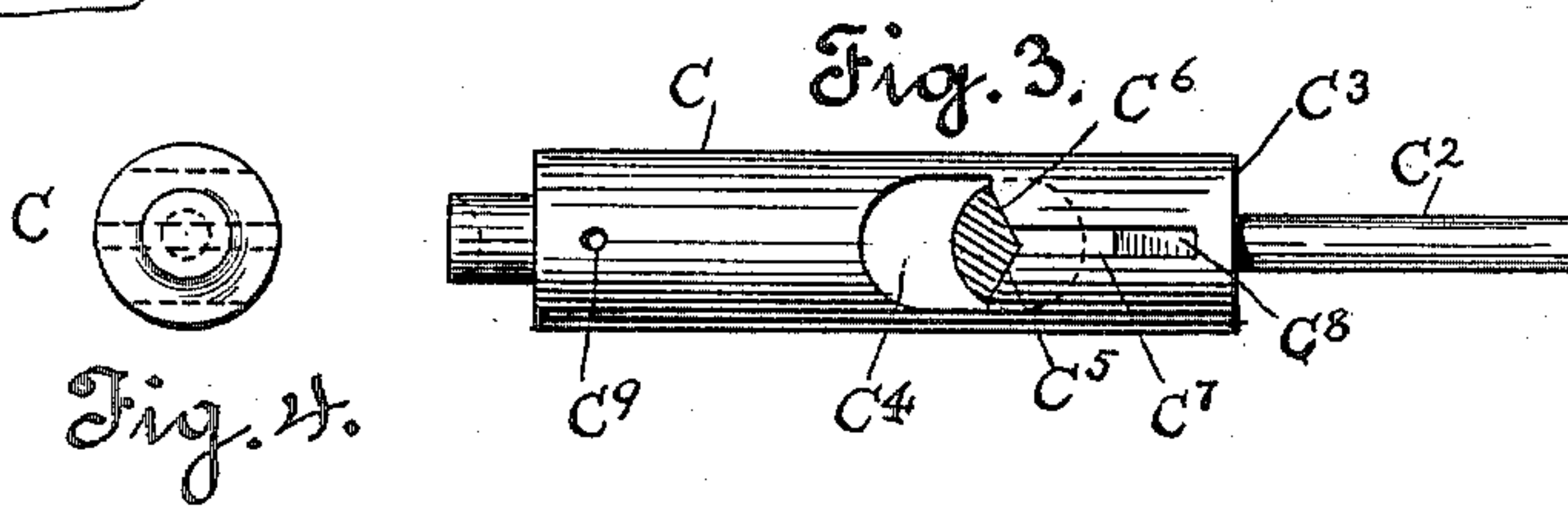
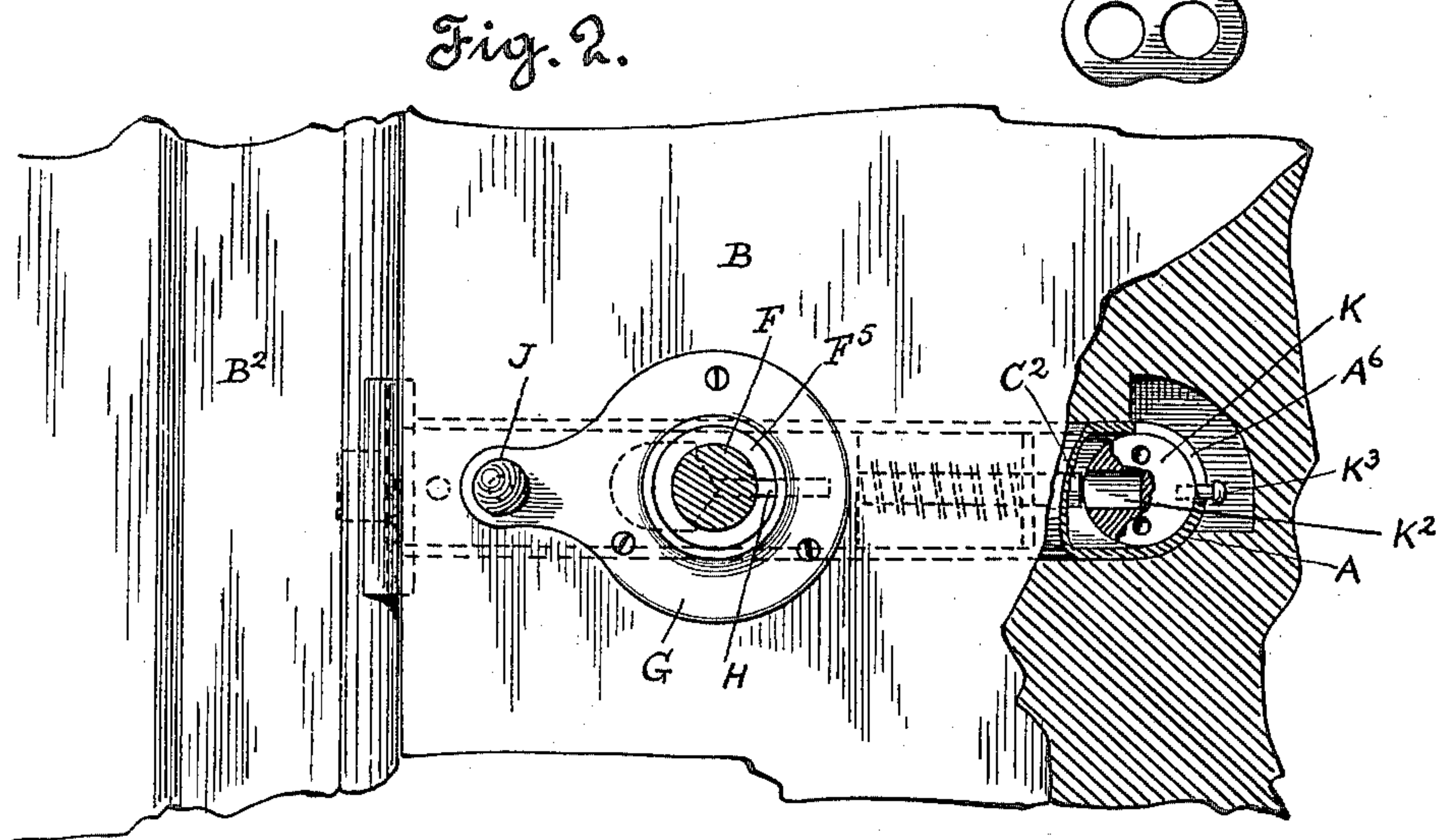
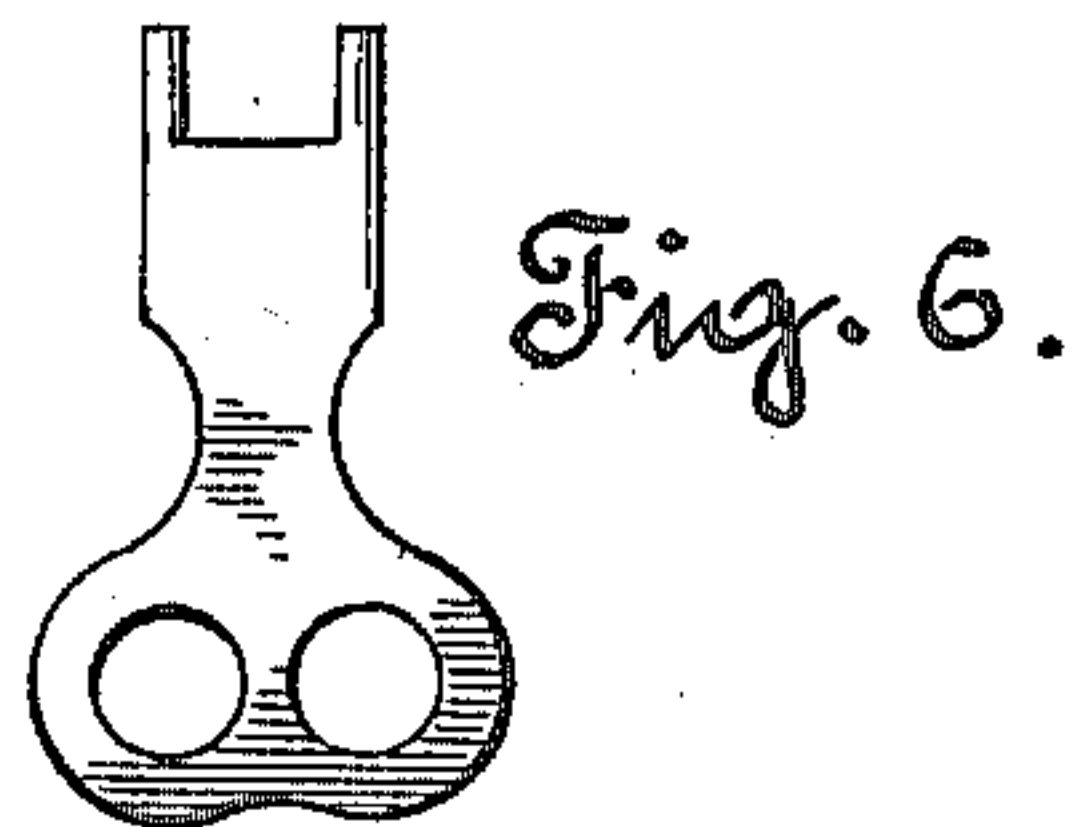
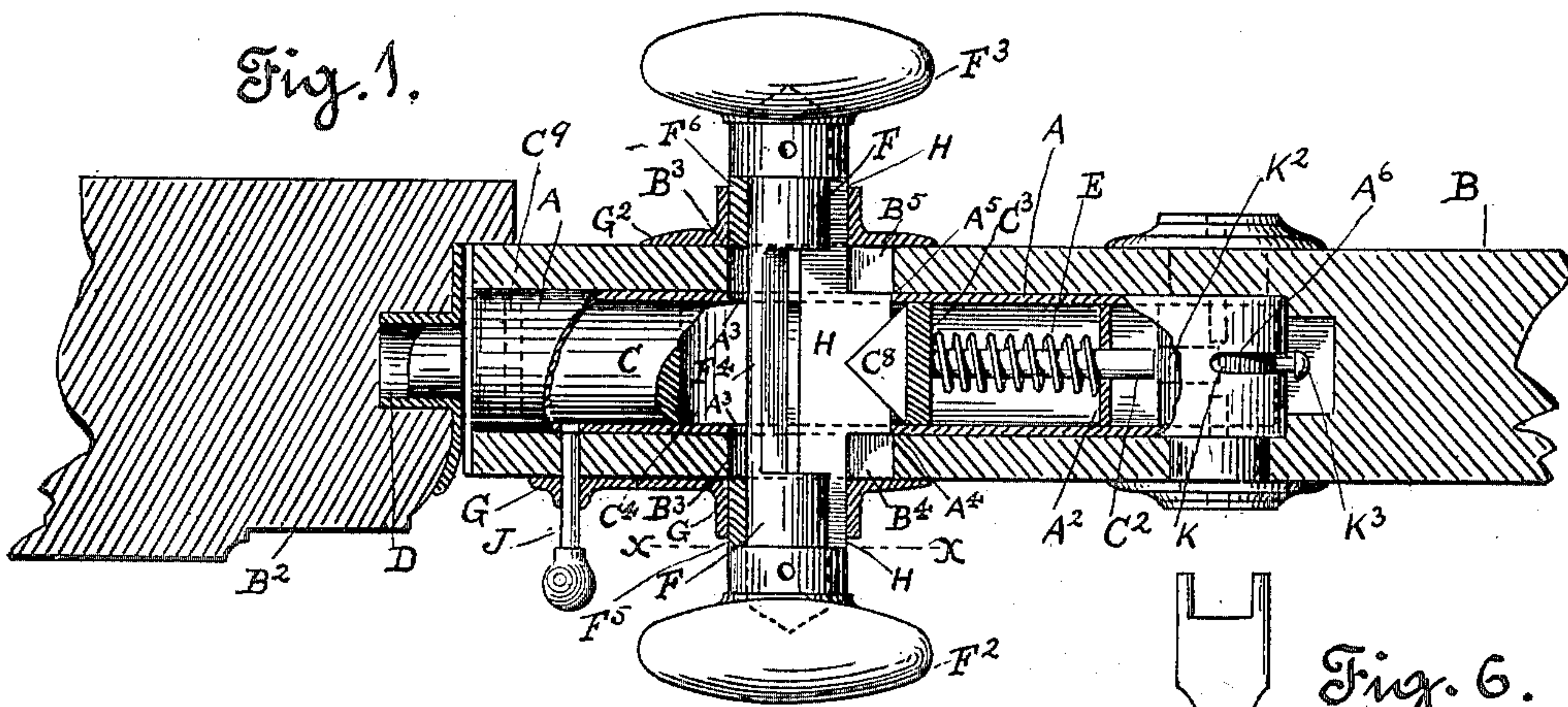
No. 660,061.

Patented Oct. 16, 1900.

J. B. E. MACNAMARA.  
LOCK AND LATCH COMBINED.

(Application filed Nov. 4, 1899.)

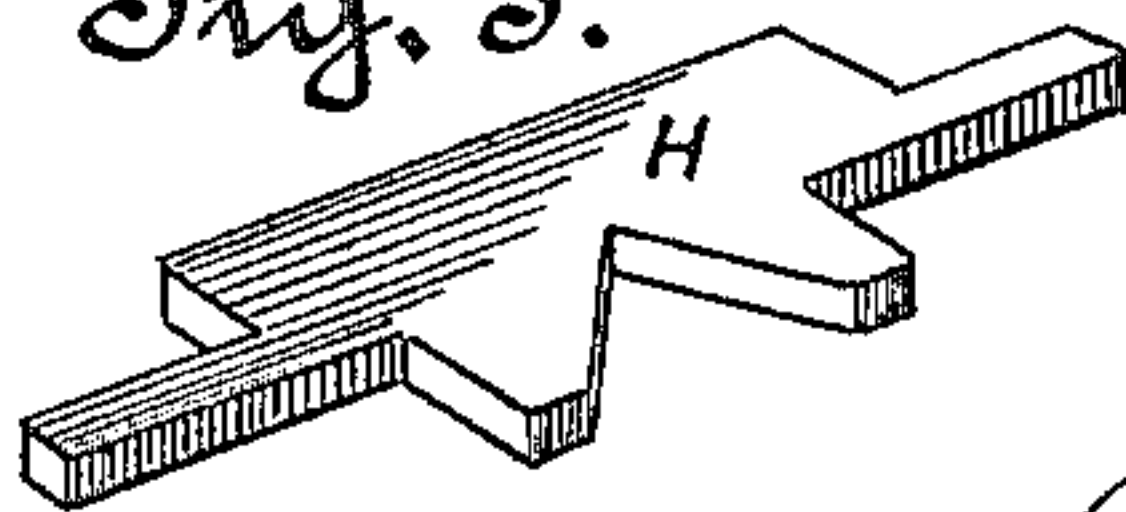
(No Model.)



Witnesses.

*F. H. Marten*  
*A. C. Smith*

Fig. 5.



Inventor.

J. B. E. Macnamara  
by A. H. St. Marie  
att'y



# UNITED STATES PATENT OFFICE.

JOHN B. E. MACNAMARA, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF  
ONE-HALF TO R. H. WARFIELD, OF SAME PLACE.

## LOCK AND LATCH COMBINED.

SPECIFICATION forming part of Letters Patent No. 660,061, dated October 16, 1900.

Application filed November 4, 1899. Serial No. 735,829. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN B. E. MACNAMARA, of the city and county of San Francisco, State of California, have invented a new and useful Lock and Latch Combined, of which the following is a specification.

This invention relates to a combined lock and latch—that is to say, a door-fastening whose bolt is controlled by a key and can be worked by a knob from either side of the door.

The object of the invention is to provide a door-fastening that is simpler, less expensive, more convenient and effective, and of easier application than either the common lock or latch.

My improved lock and latch requires no mortising, but only a small hole made in the edge of the door with an ordinary brace and bit.

Reference is had to the drawings hereto annexed for a detailed description of the invention.

In the said drawings, Figure 1 shows a horizontal section of an ordinary hinged door provided with my combined lock and latch. Fig. 2 is a front elevation, partly in section, of the construction shown in Fig. 1. Fig. 3 is a detailed view of the lock-bolt with the lock-spindle in section. Fig. 4 is an end view of the bolt shown in the preceding figure. Fig. 5 is a detailed view in perspective of a double wedge used in connection with the lock-bolt and lock-spindle. Fig. 6 shows one form of key that may be used for locking and unlocking the bolt.

Similar reference-signs refer to similar parts throughout the specification and drawings.

A represents the bolt-case, consisting in the form of my invention illustrated herein of a tube inserted in a bored hole or other suitable recess made in the edge of the door B and extending inward a suitable distance within the same. In the tube A is placed the bolt C, which is adapted to engage the keeper D in the door-jamb B<sup>2</sup> in the usual manner. This bolt is pressed outward normally by means of a spiral spring E, coiled around a diminished portion C<sup>2</sup> of said bolt and bearing at one end against the shoulder C<sup>3</sup> thereof and at the other end on a small perforated plate A<sup>2</sup>, running across the tube A. The said dimin-

ished portion of the bolt projects rearwardly through the plate A<sup>2</sup>. In the center of the bolt C is provided an aperture C<sup>4</sup>, having convergent inclined sides C<sup>5</sup> C<sup>6</sup>, and off the adjacent ends of said aperture is a slot C<sup>7</sup>, within which the bolt is formed into a wedge C<sup>8</sup>.

F is the lock-spindle, which is provided with the knobs F<sup>2</sup> F<sup>3</sup> on opposite sides of the door B. As shown in Fig. 1, this spindle passes through the flanged plates G G<sup>2</sup>, screwed to the door B on opposite sides thereof, through the openings B<sup>3</sup> and A<sup>3</sup>, respectively provided in the said door and in the tube A therein, and through the central aperture C<sup>4</sup> of the bolt C aforesaid. It is loose and therefore longitudinally movable across the door B and rotatable upon its own axis. The middle portion of it is cut away to form a pointed or angular segment F<sup>4</sup>, the sides of which are arranged to meet the inclined sides C<sup>5</sup> C<sup>6</sup> of the aperture C<sup>4</sup>, which are carried against them by the spring E.

Running across the door B, between the shanks of the knobs F<sup>2</sup> F<sup>3</sup>, within the flanged plates G G<sup>2</sup>, and through the case A and bolt C, is a double wedge H, the two points of which are made to engage the two sides of the wedge C<sup>8</sup>, hereinbefore referred to as being provided on said bolt within the slot C<sup>7</sup> thereof. The double wedge H projects at its rear edge into the cut-away portion of the lock-spindle F, bearing at opposite ends on the uncut round portions of said spindle. Outside of and beyond the extremities of the cut-away portions of the lock-spindle the ends of the wedge H are elongated and pass freely between the said round portions of the spindle and the flanged plates G G<sup>2</sup>. These two ends of the wedge are caught between the shanks of the door-knobs and held in place by rings F<sup>5</sup> F<sup>6</sup>, encircling the uncut portions of the spindle. Thus arranged the wedge H will move in the direction of its length across the door with the spindle if the latter is pushed or pulled, but will not rotate with it when it is turned either to the right or to the left. Slots are provided in the tube A and door B at A<sup>4</sup> A<sup>5</sup> and B<sup>4</sup> B<sup>5</sup> to allow the wedge H to be moved longitudinally with the spindle F in either direction. The effect of this longitudinal movement either way of the double wedge when taking place is to force back the single



wedge C<sup>3</sup> of the spring-pressed bolt C, and consequently to retract said bolt and permit the door to be opened, as will be readily understood.

5 Besides being adapted to withdraw the bolt C through the wedges H and C<sup>8</sup> by a sliding movement across the door in the manner above indicated, the lock-spindle F is also capable of exerting a direct action on said  
10 bolt, as may have been observed, owing to the connection of its segment F<sup>4</sup> with the inclined sides C<sup>5</sup> C<sup>6</sup> of the bolt-aperture C<sup>4</sup>. Such action will result from the rotary movement of the spindle F on its axis in either direction, as then either edge of the segment  
15 F<sup>4</sup> will press against one of the inclined sides C<sup>5</sup> or C<sup>6</sup> of the bolt-aperture and push the bolt back against its spring E, thereby leaving the door free to open again. The double  
20 wedge H remains at rest during the rotation of the spindle either way, as above noted.

It will now be seen that my invention provides four different ways of retracting the fastening-bolt of a door—to wit, by either  
25 pushing or pulling on the lock-spindle or by turning the same in either direction. The movement in each instance is positive and cannot fail to bring about the result sought to be accomplished.

30 In order to keep the bolt C retracted whenever it is desired to leave the door open, I provide a pin J, which passes through an extension of the plate G and the door B and can be inserted in a hole C<sup>9</sup>, drilled for it  
35 across the bolt C. Other means of keeping the bolt withdrawn may, however, be adopted, if preferred, as this is not an essential or important feature of my invention.

To lock the door and prevent it from being  
40 opened from either side except by a key, I place at the bottom or inner end of the tube A a rotary stop K opposite the inner end of the bolt C therein. As will be seen by reference to Fig. 2, the stop K is made with a  
45 cavity or hole K<sup>2</sup> in one side, which the inner end of the bolt C will enter when the same is facing it; but the remainder of said stop is solid, so that when the cavity or hole K<sup>2</sup> is out of line with the bolt the latter cannot be  
50 withdrawn. A small pin or screw K<sup>3</sup>, passing through a slot A<sup>6</sup> in the tube A, guides and limits the movement of the stop K. This stop is given a quarter-turn at the inner end of the bolt to lock or unlock it. It could be  
55 given a half-turn either way and operate to lock and unlock the bolt in the same manner

if the perforation were carried through. It may be reached from either side of the door by a suitable key—such, for example, as is shown in Fig. 6.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A combined lock and latch comprising an apertured bolt formed with an inside  
65 wedge, a non-rotating double wedge passed through the aperture in said bolt and engaging the sides of said first-named wedge, and a rotary spindle also passed through said aperture and longitudinally slidable through  
70 the bolt with said double wedge, substantially as set forth.

2. A latch comprising a bolt provided with a wedge, a non-rotatable wedge engaging said first-mentioned wedge, and a rotary spindle  
75 longitudinally slidable with said non-rotatable wedge, substantially as described.

3. A latch comprising a bolt having an inclined face, a rotatable spindle having a segment-shaped portion adapted upon the rotation of the spindle, to engage said inclined  
80 face and operate the bolt, and a non-rotatable wedge adapted upon a longitudinal movement of the spindle, to engage an inclined face on the bolt and operate the same, substantially as described.

4. A combined lock and latch comprising a tube inserted in a suitable hole or recess in the edge of a door, a spring-pressed bolt therein, said bolt having a central aperture  
90 and slot with a wedge in said slot, a non-rotating longitudinally-slidable double wedge passing through said aperture and slot and through corresponding openings in said tube and door and engaging the sides of said first-named wedge, a spindle also passing through  
95 the apertured bolt, tube, and door, and controlling the longitudinal movements of said double wedge, said spindle having its middle portion formed into a segment the edges of  
100 which bear on inclined sides of the bolt-aperture, and suitable knobs or handles whereby said spindle can either be pushed or pulled or turned in either direction, substantially as set forth.

Signed by me at San Francisco, California, this 28th day of October, 1899.

JOHN B. E. MACNAMARA. [L. S.]

Witnesses:

L. C. FRASER,

A. H. STE. MARIE.