

Feb. 19, 1924.

1,484,500

J. HOPE, JR

DOORLOCK

Filed Sept. 28. 1921

3 Sheets-Sheet 1

Fig. 1.

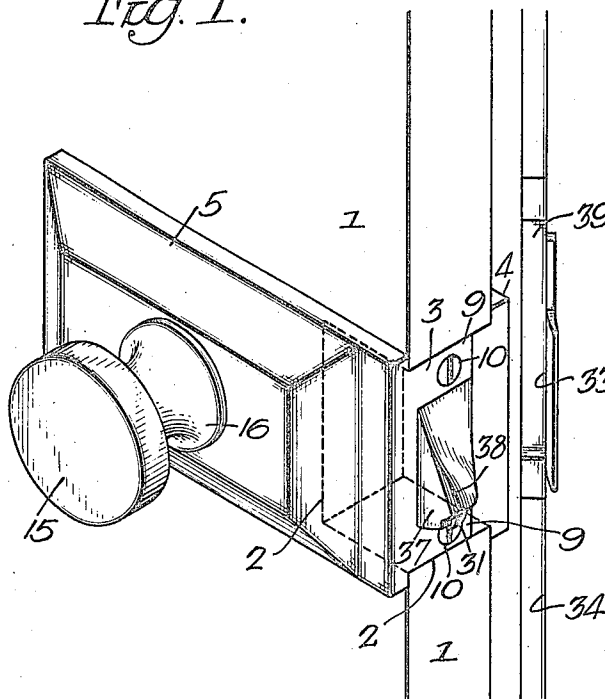


Fig. 3.

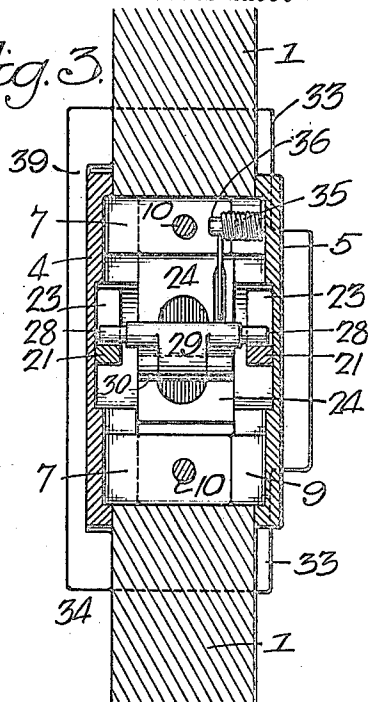
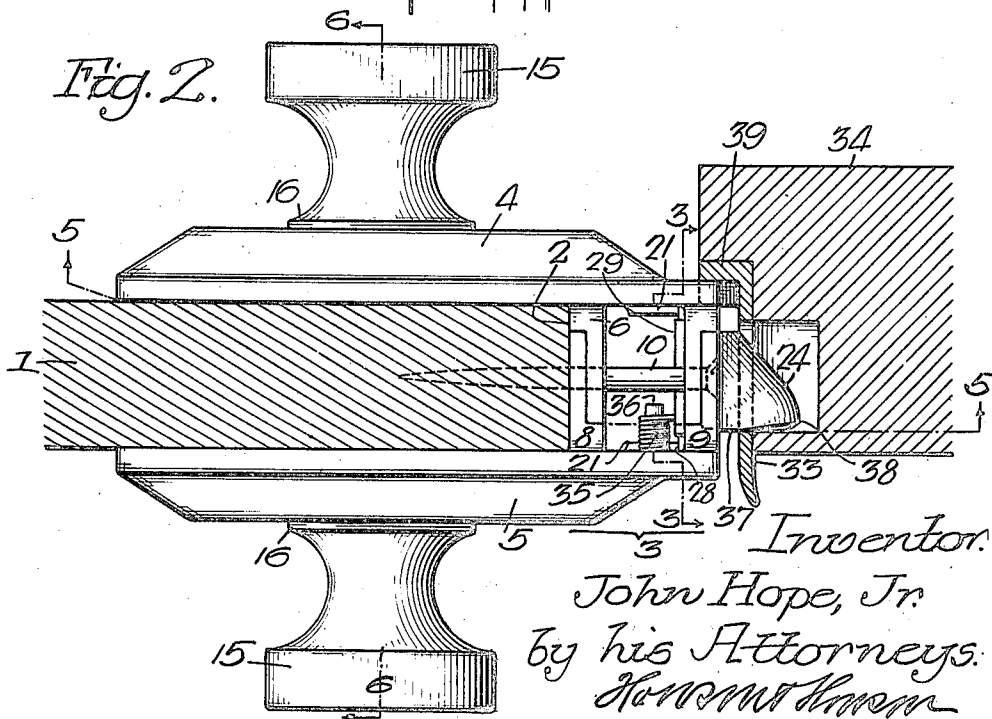


Fig. 2.



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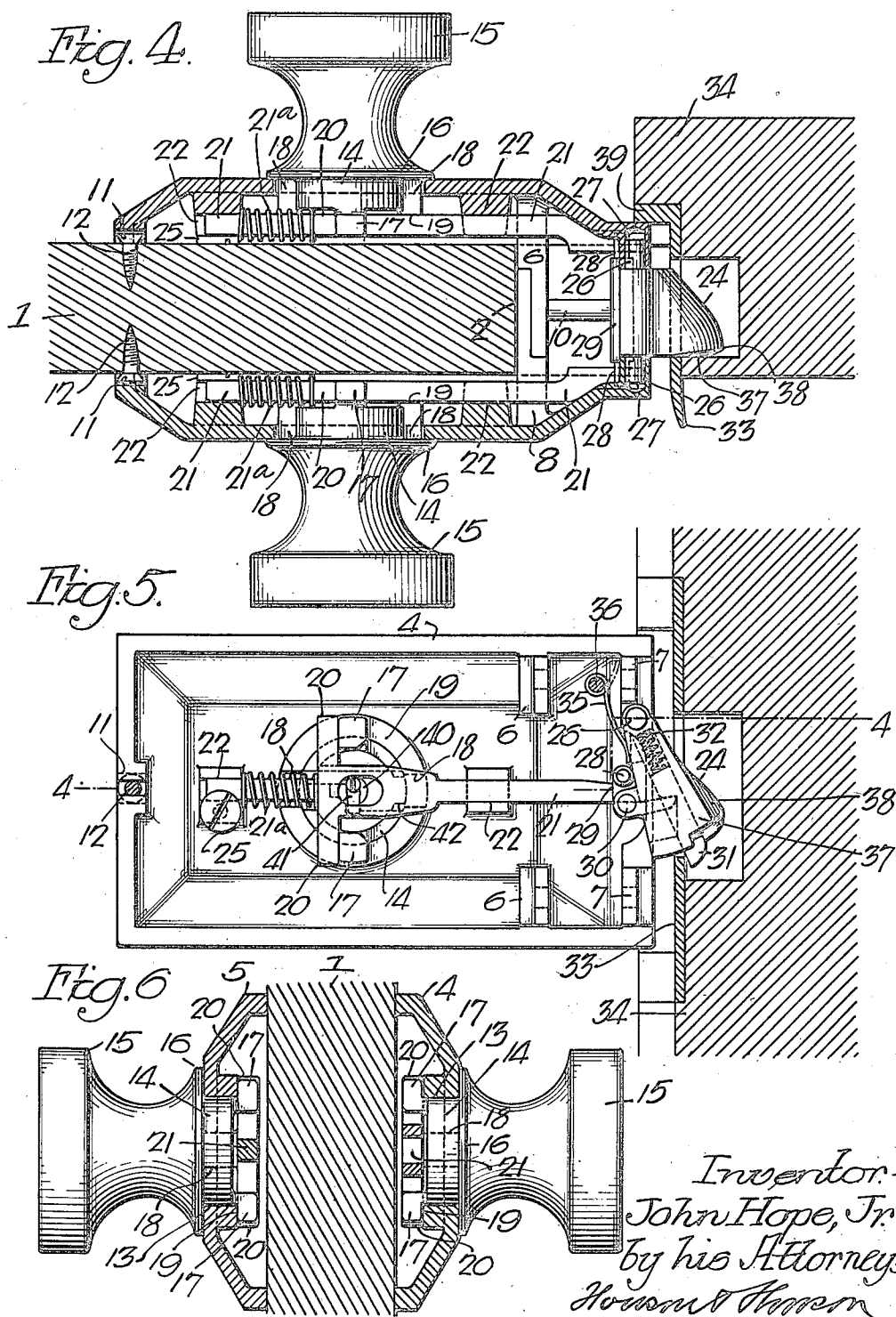
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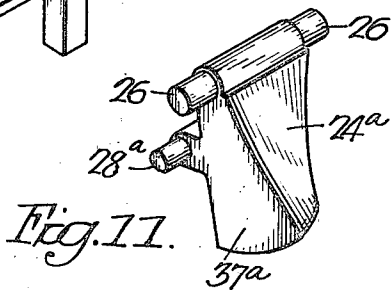
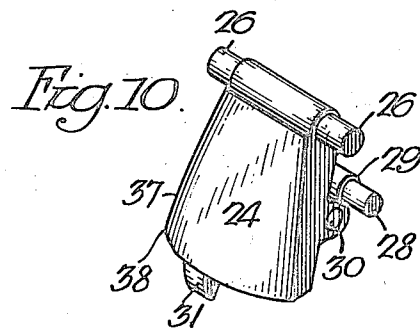
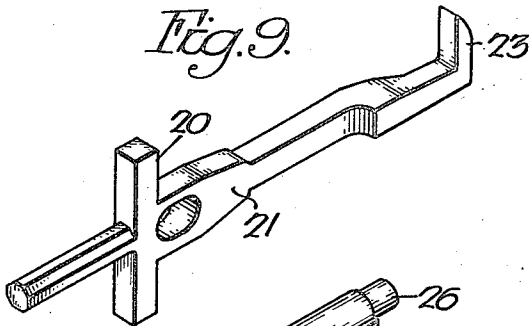
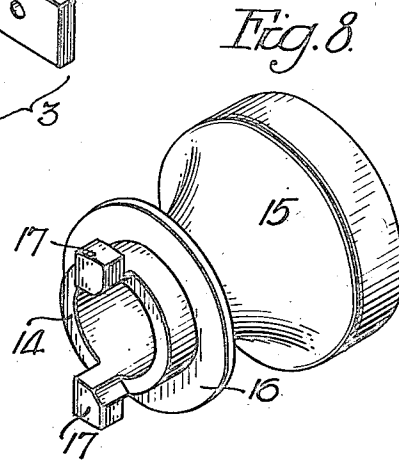
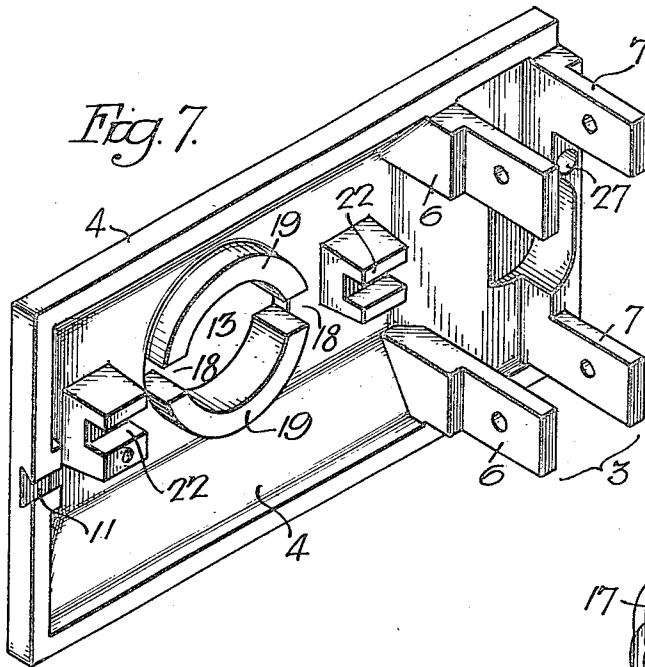
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DOORLOCK

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

JOHN HOPE, JR., OF PROVIDENCE, RHODE ISLAND.

DOORLOCK.

Application filed September 28, 1921. Serial No. 503,725.

To all whom it may concern:

Be it known that I, JOHN HOPE, Jr., a citizen of the United States, residing in Providence, Rhode Island, have invented certain Improvements in Doorlocks, of which the following is a specification.

One object of my invention is to simplify the construction of locks that are applied to doors so that very little cutting of the door is required to locate the lock on a door.

Another object of the invention is to design the casing containing the operating mechanism so that one section will be on one side of the door and the other section will be on the opposite side of the door. The operating mechanism of each section is connected to the latch and a further object of the invention is to design the lock so that it will be unnecessary to cut the door at the knobs.

A still further object of the invention is to design the locking casing so that the fastening means will not be exposed on either side of the door.

Another object of the invention is to design the latch so that it will swing on a horizontal axis.

Still another object of the invention is to construct the casing and the knobs so that the knobs can be mounted in the casing without additional fastenings.

In the accompanying drawings:

Fig. 1 is a perspective view of my improved door lock;

Fig. 2 is a plan view of the lock, showing a door in section;

Fig. 3 is a sectional view on the line 3—3, Fig. 2;

Fig. 4 is a sectional view on the line 4—4, Fig. 5;

Fig. 5 is a sectional view on the line 5—5, Fig. 2;

Fig. 6 is a sectional view on the line 6—6, Fig. 2;

Fig. 7 is a perspective view showing the interior of one of the casings;

Fig. 8 is a perspective view of one of the knobs;

Fig. 9 is a perspective view of one of the bolts;

Fig. 10 is a perspective view of the latch; and

Fig. 11 is a view of a modification of the latch.

Referring to the drawings, 1 is a door notched at the edge, as shown by dotted lines 2, Fig. 1, to receive the outer end por-

tion 3 of the casing of the lock. This casing is made in two parts 4 and 5, one part being mounted on one side of the door and the other part being mounted on the opposite side of the door. On the part 4 of the casing are projections 6 and 7, which overlap the projections 8 and 9, respectively, on the portion 5. The projections have openings through which the securing screws 10 extend, which fasten the lock casing on the door. At the rear of each part of the casing is an undercut slot 11, which receives the head of a screw 12, or other fastening. The casing covers the screw so that there are no exposed fastenings for the lock when the door is in the closed position.

It will be noticed, on referring to Figs. 4 and 7, that each part of the casing is recessed. The operating mechanism is located in these recesses.

13 is an opening for the cylindrical portion 14 of the knob 15, which has a flange 16 fitting against the outer surface of the casing. Projecting inwardly and laterally from this cylindrical portion 14 are lugs 17. These lugs pass through slots 18 in the casing, and, when in position and turned, they travel over the flat surface 19 and act upon the cross members 20 of the bolt 21, as illustrated in Fig. 9. This bolt is adapted to ways 22 in the casing. On the rear end of the bolt is a coiled spring 21^a tending to force the bolt forward. At the extreme forward end of the bolt is a hook 23, which engages and actuates the latch 24. In the present instance, the rear end of the bolt is held in its guides by a screw 25. The latch is made in the peculiar shape shown in Fig. 1 and 10 and has trunnions 26, which extend beyond the edges of the latch, as shown in Fig. 10. These projecting ends of the trunnions are mounted in bearings 27 in the parts of the casing. By this construction, the latch is mounted on a horizontal pivot and is projected by a spring 35 mounted on a post 36 on one of the parts of the casing.

The hook 23 is shown as engaging the projecting pins 28 of a lever 29 pivoted at 30 to the rear of the latch. The other arm of this lever actuates a bolt 31, which projects beyond the end of the latch and is pressed outwards by a spring 32, shown clearly in Fig. 5. This bolt, when the latch is projected, rests back of the keeper 33 secured to the door jamb 34 so that it will be impossible to force the latch in by passing an instrument

through the slot between the door and the jamb. When either bolt 21 is actuated, the latch bolt 31 is retracted and the latch is withdrawn.

5 It will be noticed, on referring to Figs. 1 and 2, that the latch is beveled diagonally on one side and has a flat face 37 on the opposite side with the exception of the extreme end 38 where it is slightly beveled so that it
10 will tend to free itself from the keeper when it is withdrawn by the operating mechanism. The keeper 33 is made, in the present instance, as shown in Fig. 1, with a flange 39 on the outside against which the door strikes
15 so that, when the door is in the closed position, as in Fig. 4, it will be impossible to pass any instrument between the door and the keeper.

By the above construction, it will be seen
20 that I am enabled to make a simple and effective door lock, which can be mounted on a door with a minimum of cutting of the woodwork of the door. The parts can be readily assembled and there are no exposed
25 fastenings when the door is in the closed position. The lock can be reversed for either a right or a left hand door by inverting the lock, as the latch can swing irrespective of the position of the pivot.

30 By providing hidden screws for holding the rear portions of the lock casing and by providing lugs at the forward ends for the passage of the main retaining screws, the hidden screws can be adjusted so as to hold
35 the rear end of the lock casing firmly to the door, while the forward end can be adjusted to accommodate doors which vary slightly in thickness.

In Fig. 11 a latch 24^a is shown without
40 the latch bolt 11, the pins 28^a projecting laterally from the body of the latch. This form of latch may be used in many instances, especially when a door closes against a strip on the jamb.

45 When it is desired to combine with the lock illustrated in the drawings a key lock for locking the latch lock in a projected or in a retracted position, the key lock is preferably mounted within one of the knobs, as
50 shown at 40, Fig. 5. This lock has a lever 41 at its inner end, which actuates the sliding locking bolt 42, which can be projected into one of the slots 18 of the casing. When the bolt is projected, it prevents the turning
55 of the knob in the casing, consequently, the latch cannot be operated from the lock side of the door. The latch can be operated from the opposite side, as the two mechanisms are independently connected to the
60 latch.

I claim:

1. The combination in a lock, of a casing made in two parts; a bolt in each part; an independent knob for each bolt; and a
65 latch mounted on a horizontal pivot at the

forward end of the casing and actuated by the bolts.

2. The combination in a door lock, of a casing made in two parts connected at the forward end and beyond the knobs; a latch
70 mounted on a horizontal pivot at the forward end of the casing; a sliding operating bolt mounted on each section of the casing and engaging the latch; and an independent
75 knob for operating each independent bolt.

3. The combination in a door lock, of a casing made in two parts secured together at the forward end, each part of the casing having an undercut slot at the rear end; projections on the door arranged to enter
80 the slots; and screws passing through the end of the lock casing and into the door so that, when the door is in the closed position, the fastening devices are not exposed.

4. The combination in a door lock, of a
85 casing made in two parts, each part having lugs at the forward end, the lugs of one part overlapping the lugs of the other part; screws extending through the lugs of both parts, holding the parts together and retain-
90 ing the lock to the door; independent knobs mounted on each part; and a latch actuated by both knobs.

5. The combination in a lock, of a casing made in two parts, the parts being secured
95 together at their outer ends; each part having a knob opening and slots communicating with the knob openings; knobs having projections arranged to pass through the slots, said projections retaining the knobs in
100 position when the knobs are turned and also acting as means for operating the mechanism for actuating the latch of the lock.

6. The combination in a lock, of a casing made in two parts secured together at their
105 outer ends; a spring-pressed bolt mounted in each part; a latch mounted on a horizontal pivot and located at the forward end of the casing, each of said bolts having a hook arranged to engage the latch; and inde-
110 pendent knobs for operating the bolts.

7. A lock casing made in two parts, each part having overlapping lugs at the forward end; securing means passing through the lugs and into the door to which the lock
115 is attached, the main portion of each part of the casing being flush with the door; means for securing the rear end of each part to the door; independent knobs mounted in each part, said knobs having lugs; a spring
120 bolt located in each part actuated by the knob of the said part; a horizontally pivoted latch beveled in one direction, the bolts having screws arranged to engage the latch so that, on the movement of either of the
125 knobs, the latch will be retracted; and a spring tending to force the latch out and so arranged that when the latch strikes a keeper it will yield on closing the door.

8. The combination in a lock, of a casing
130

made in two parts connected at the forward end; a pivoted latch having horizontal trunnions mounted in each part; a spring tending to force the latch out into locking position; a bolt on each part engaging the latch; and means, on each part, for operating the latch.

9. The combination in a lock of a keeper;

a casing made in two parts and having a connection at the forward end; a latch pivoted at the connection and arranged to enter the keeper, a latch bolt carried by the latch and arranged to engage the keeper; and operating means for the latch operating through the latch bolt.

JOHN HOPE, JR.