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C. A. HABENICHT

LOCK

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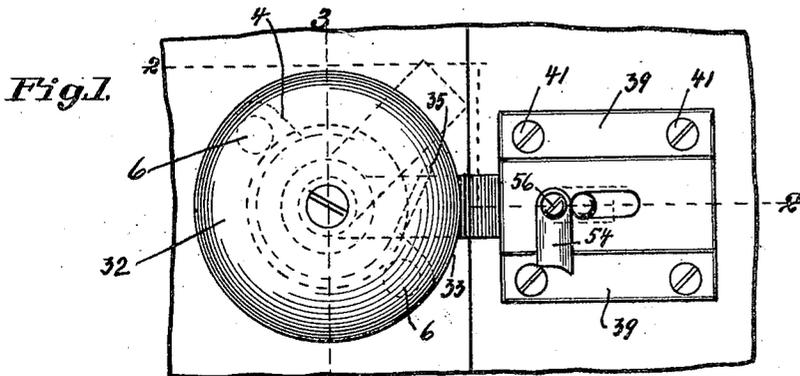


Fig. 2.

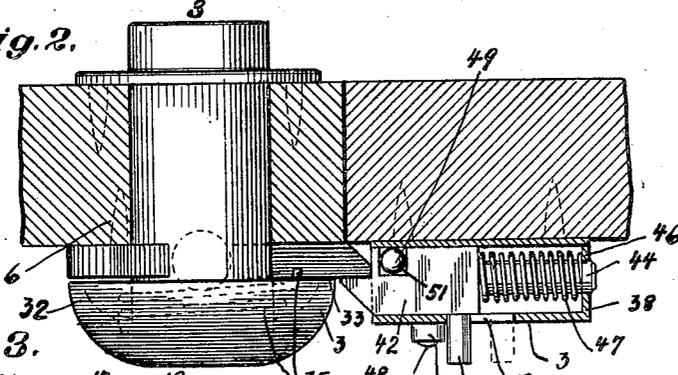


Fig. 3.

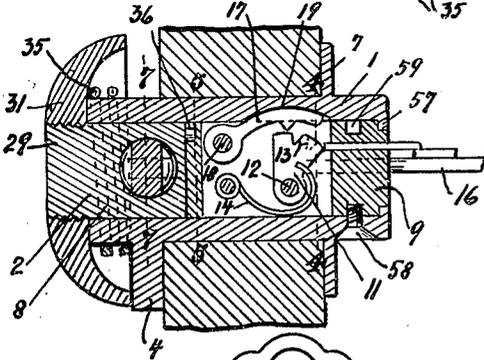


Fig. 4.

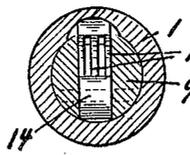


Fig. 5.

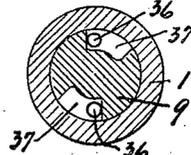


Fig. 6.

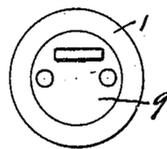


Fig. 7.

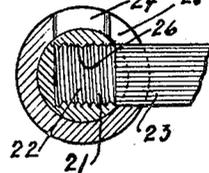
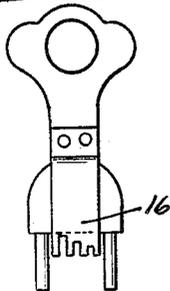


Fig. 8.



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# UNITED STATES PATENT OFFICE.

CHARLES A. HABENICHT, OF MODESTO, CALIFORNIA.

## LOCK.

Application filed May 29, 1922. Serial No. 564,424.

*To all whom it may concern:*

Be it known that I, CHARLES A. HABENICHT, a citizen of the United States, and a resident of Modesto, county of Stanislaus, and State of California, have invented a new and useful Lock, of which the following is a specification.

The present invention relates to improvements in locks for doors or the like and has particular reference to a combined latch and lock. One of the principal features of my device is its adaptability to various purposes as well as the ease with which it may be assembled and taken apart. A further feature of the invention is the simplicity of construction, its ruggedness and the impossibility of tampering with the lock from the outside of the door.

With these objects in mind I have illustrated the preferred form of my invention in the accompanying drawing in which Figure 1 shows an outside elevation of my device; Figure 2 a section along line 2—2 of Figure 1; Figure 3 a section along line 3—3 of Figure 1; Figure 4 a cross-section along line 4—4 of Figure 3; Figure 5 a cross section along line 5—5 of Figure 3; Figure 6 an elevation looking at it from the outside of the door; Figure 7 a cross section along line 7—7 of Figure 3 and Figure 8 a detail view of a key adapted to be used for the lock. While I have shown only the preferred form of my invention I wish to have it understood that various changes or modifications may be made within the scope of the claims hereto attached without departing from the spirit of the invention.

My combination latch and lock comprises as its principal portions a cylindrical housing (1), a plug (2) therein having the latch and the lock associated therewith and the keeper (3) adapted to be secured to the frame enclosing the door.

The housing (1) is inserted into the door as shown in Figure 3 so as to extend a limited distance beyond the door on the inside as well as the outside. It is provided with a circumferential flange (4) which lies against the inside surface of the door and is secured to the same by means of suitable screws (6). It will be noticed that the flange surrounds

only about one-half of the housing as indicated in dotted lines in Figure 1. A collar (7) is placed around the housing on the outside of the door for finishing purposes.

The plug consists of an inner portion (8) and an outer portion (9). The outer portion carries the lock. This lock has been described in the co-pending application, Serial No. 458,238, and does not offer any novel features. It may be briefly described as comprising a plurality of tumblers (11) pivotally mounted on a pin (12) and provided on their upper surfaces with notches (13) which latter are normally kept out of alignment by the springs (14) but are adapted to be aligned with each other by the use of the key (16). When the notches register they allow a dog (17) pivotally mounted on a pin (18) which is normally forced into a recess (19) in the housing to drop downward so as to clear the said recess and then allow the plug to be revolved relatively to the housing.

The inner portion (8) of the plug carries the latch (21). The latter consists of a threaded base (22) and a stem (23). The base is adapted to be inserted through a cylindrical hole (24) in the housing so as to engage the threaded recess (26) in the plug and a slot (28) connecting with the cylindrical hole (24) allows the stem (23) to revolve with the plug through a certain distance, preferably a quarter of a turn. The inner plug projects beyond the inner end of the housing as shown at (29) and receives the nut (31) which prevents outward motion of the plug relative to the housing and forms the center of a bell (32) the edge (33) of which bears against the latch stem (23) so as to brace the same.

A spring (35) secured to the inside of the bell and wound on the housing in several turns presses down on the latch stem so as to normally hold the same in an operative position.

The two portions (8) and (9) of the plug engage each other as shown in Figure 5, that is, two pins (36) rising from one of the engaging surfaces extend into peripheral recesses (37) of the other portion of the plug. The recesses are sufficiently long to allow

one portion of the plug to turn a short distance without affecting the other one so that the bell may be turned from the inside and open the latch without necessitating a turning of the outer portion of the plug while on the other hand a turning of the outer portion by means of the key immediately engages the inner portion and actuates the latch.

10 The particular keeper preferably employed in connection with my latch comprises a case (38) the two flanges (39) of which are secured to the frame enclosing the door by means of screws (41), and a block  
15 (42) slidably therein. The block is provided with a rearwardly extending rod (44) which slidably engages the rear wall (46) of the case while the spring (47) tends to push the block forward so that its nose (48) engages  
20 the latch. The side of the block facing the frame is provided with a recess (49) containing a ball (51) which bears against the side of the case and facilitates the operation of the keeper. A pin (52) extends from the  
25 block (42) outwardly through a slot (53) in the case and allows the operator to pull the block rearwardly against the resistance of the spring (47) whereby the same is disengaged from the latch. The block may be  
30 held in this position by means of the member (54) pivoted as shown at (56).

The operation of my device will be readily understood from the foregoing description. To assemble the same it is only necessary to  
35 first insert the portion (9) of the plug from the inner end until its outer end is flush with the outer end of the housing in which place it may be held by any suitable means as by the inturned edge (57) of the housing or the set  
40 screw (58) engaging the annular slot (59). Then the portion (8) is pushed into the housing and its cylindrical hole (26) is made to register with the hole (24) in the housing whereupon the latch (22) is screwed into the  
45 plug. The housing may now be inserted in a suitable hole in the door from the inside and secured by means of the screws (6) penetrating the flange (4). At this time the stem  
50 (23) of the latch lies flat against the inside surface of the door. The bell (32) is next secured in its place and the collar (7) added on the outside; next the case (38) is secured in its place by means of the screws (41) and the combination is then ready to be used.

55 It will be seen that my device is assembled and taken apart very easily and may be secured in any door without any difficulty, the only requirement on the part of the door being a cylindrical hole through the same.

60 I claim:

1. A combination latch and lock for a door or the like, comprising a cylindrical housing adapted to be inserted in the door, a plug rotatable therein having a threaded radial  
65 recess therein, a latch comprising a threaded

base adapted to engage said recess and a stem extending through the housing for preventing longitudinal motion of the plug relative to the housing, a slot in the housing allowing of limited revolving motion of the  
70 latch relative to the housing, a nut threadedly engaging the inner end of the plug bearing against the housing and means for locking the plug to the housing adapted to be actuated by a key from the outside of the  
75 door.

2. A combination latch and lock for a door or the like, comprising a cylindrical housing adapted to be inserted in the door, a plug rotatable therein having a threaded  
80 radial recess therein, a latch comprising a threaded base adapted to engage said recess and a stem extending through the housing, a slot in the housing allowing of limited revolving motion of the latch relative to the  
85 housing, a nut threadedly engaging the inner end of the plug for preventing outward motion of the latter having a projection extending therefrom bearing on the latch stem for bracing the same, and means for locking  
90 the plug to the housing adapted to be actuated by a key from the outside of the door.

3. A combination latch and lock for a door or the like, comprising a cylindrical housing adapted to be inserted in the door, an inner plug and an outer plug rotatable  
95 therein, a latch extending radially from the inner plug on the inside of the door, a slot in the housing allowing the latch to revolve relative to the housing, means for locking the outer plug to the housing adapted to be  
100 actuated by a key from the outside of the door, and an engagement between the two plugs allowing the latch to be manually operated without affecting the outer plug.

4. A latch for a door or the like comprising a cylindrical housing adapted to be inserted in the door from the outside having a flange thereon for fastening it to the door, a plug rotatable in the housing, a latch extending  
110 radially from the plug through the housing on the inside of the door so as to lie flat against the inner door surface and a slot in the housing allowing the latch to revolve relative to the housing.

5. A latch for a door or the like comprising a cylindrical housing adapted to be inserted in the door from the outside having a flange thereon for fastening it to the door, a plug rotatable in the housing, a latch extending  
120 radially from the plug through the housing on the inside of the door so as to lie flat against the inner door surface and a slot in the housing allowing the latch to revolve relative to the housing, and a nut threadedly engaging the inner end of the  
125 plug for preventing outward motion of the latter.

6. A latch for a door or the like comprising a cylindrical housing adapted to be in- 130

serted in the door from the outside having a flange thereon for fastening it to the door, a plug rotatable in the housing, a latch extending radially from the plug through the housing on the inside of the door so as to lie flat against the inner door surface and a slot in the housing allowing the latch to 5  
revolve relative to the housing, and a nut threadedly engaging the inner end of the plug for preventing outward motion of the same having a projection extending therefrom bearing on the latch stem for bracing the same. 10

CHARLES A. HABENICHT.