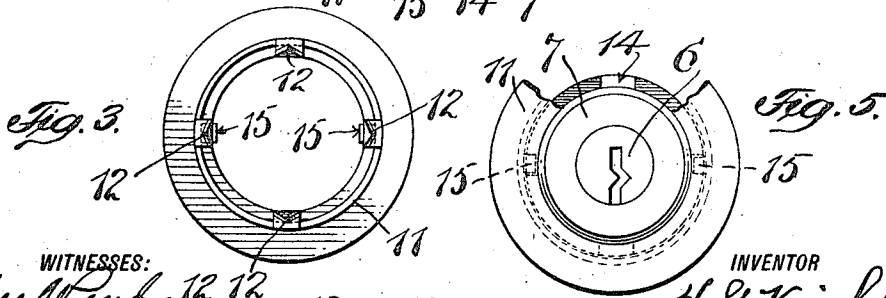
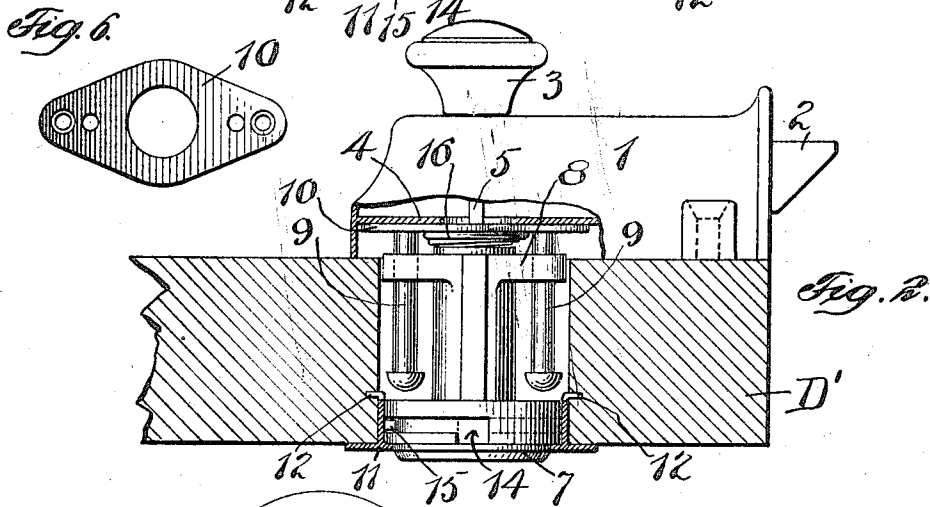
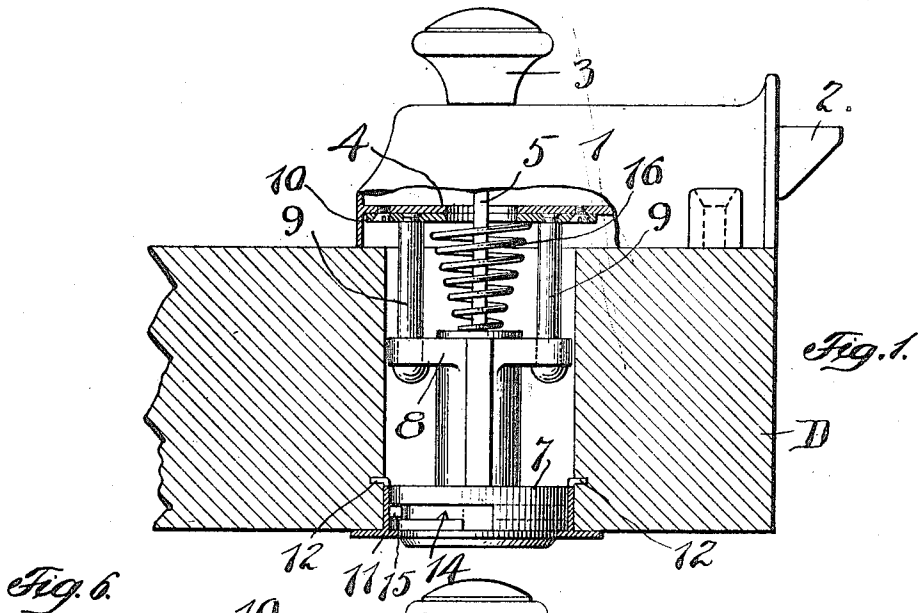


H. G. VOIGHT.
 COMBINED SELF ADJUSTING NIGHT LATCH AND LOCK.
 APPLICATION FILED APR. 27, 1912.

1,042,297.

Patented Oct. 22, 1912.



WITNESSES:
Charles H. ...
John M. ...

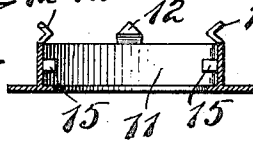


Fig. 4.

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COMBINED SELF-ADJUSTING NIGHT-LATCH AND LOCK.

1,042,297.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed April 27, 1912. Serial No. 693,645.

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, State of Connecticut, have invented certain new and useful Improvements in Combined Self-Adjusting Night-Latches and Locks, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks, and is particularly concerned with an improved combined night latch and lock.

The main object of the invention is to provide an improved means for effecting the ready adjustment of the combined lock and latch to doors of different thicknesses.

The present invention is mainly an improvement upon the construction set forth in my former Patent No. 1,024,479, dated April 23rd, 1912. In that case, the construction is such that the combined night latch and lock may be applied to doors of different thicknesses, but in that case it is necessary to make a preliminary adjustment of the mechanism before it is applied to a door. In the present instance, the parts are, so to speak, self-adjusting to doors of different thicknesses in that the mere act of applying the mechanism, without preliminary adjustment, will at once effect the adjustment of the parts, so that the said parts will assume a correct position relatively to the inner and outer faces of a door.

In the drawings, Figure 1 is a sectional view of a door with my improved lock and latch applied thereto, certain parts being broken away. Fig. 2 is a similar view showing the mechanism applied to a door of less thickness than that shown in Fig. 1. Fig. 3 is an elevation of the inner end of a finishing piece or keeper. Fig. 4 is a cross section thereof. Fig. 5 is an elevation of the outer end of said finishing piece with the lock portion of my invention in place, part of said piece being broken away. Fig. 6 is a detail.

1 represents the case of a so-called "night latch."

2 represents the bolt, in this instance a spring latch bolt.

3 represents a knob suitably connected in any well-known manner with the bolt 2, whereby the latter may be retracted upon operating the knob 3.

4 represents the bottom or base plate of

the case 1. 5 represents a spindle which passes through a suitable opening in the back 4 of said case to make operative engagement in any suitable manner with the latch bolt so that when said spindle 5 is turned, the bolt 2 may be moved. This spindle 5 is operatively engaged with a key-rotatable element or plug 6. In the particular form of mechanism shown, the lock is of the so-called pin cylinder type. Any suitable means may be provided for holding the plug 6 against turning excepting when a suitable key is inserted therein. By the use of a suitable key, the plug 6 may be released and turned so as to turn the spindle 5 and retract the bolt 2. Ordinarily the lock is provided with a suitable face-plate 7. In practice, when the parts are applied to a door, the case 1 is secured in the usual manner to the inner face of the door, and the face-plate 7 should be properly positioned relatively to the opposite face of the door; namely, the outside of the door. I have found it a very great advantage to combine the lock mechanism with the night latch mechanism as a substantially unitary structure whereby the parts may be assembled and fitted at the factory ready for application to a door. In the ordinary night latch employing a cylinder lock, it is customary to first entirely separate these parts and then apply the night latch part to the inner surface of the door, after which the lock part is inserted through a passage in the door and then turned so as to screw it into a threaded opening in the back of the night latch. In the present instance, the combined latch and lock is applied bodily to the door, and the construction is such that it may be at once adapted to doors of different thicknesses, as indicated in Figs. 1 and 2, wherein D represents a door of one thickness, and D' represents a door of much less thickness. From the foregoing, it will be seen that the main features of invention in the present case are those features whereby this ready adjustment, or self-adjustment, as I may term it, is attained.

In the preferred form shown in the drawings, the main body of the cylinder lock is provided at or near the rear end with a head 8, said head having passages for guide pins 9—9. These guide pins are secured in any suitable manner to the base 4 of the case

1; for example, said pins may be riveted to a plate 10 which in turn is secured by screws to the base 4. These pins 9 are preferably headed at their outer ends so as to prevent accidental separation of the cylinder lock from the latch case 1.

11 is what I will term a combined finishing piece and keeper. This piece provides a trim or finishing for the outer end of the passage through the door in which the lock stands, and it may also perform the function of a keeper in that the lock is held thereby against movement in and out when the parts are assembled. This keeper, in its preferred form, comprises a cylindrical sleeve portion having spurs 12—12, which, before the finishing piece is applied, are bent back as shown in Figs. 3 and 4, but which, when applied, may be bent out and driven into the wood, as shown in Figs. 1 and 2, so as to hold said piece rigidly in place. The face-plate 7 of the lock is provided at its edge with means to interlock with the keeper 11. In the present instance this means comprises a bayonet joint in which the angular slot element is formed in the periphery of the part 7 as indicated at 14. The pin element for co-action with the slot 14, in this instance, is carried by the keeper 11, and is indicated at 15. In the present instance, two pins and two slots are indicated, as shown in dotted lines, Fig. 5.

16 is a spring which is preferably provided between the base 4 and the inner end of the lock part, said spring normally operating to push the lock outwardly on the guide pins 9—9, at the same time permitting said lock element to slide inwardly thereon in the event of pressure applied against the outer end of the lock.

In operation, when the mechanism is ready to be applied, all the parts are assembled as a unit, the lock part being extended to its limit on the guide pins 16 to adapt the locks to doors of maximum thickness; for example, as shown in Fig. 1. To apply the mechanism, a hole of the proper size is first bored in the door at the proper place. The keeper element 11 is then applied. The combined latch and lock is then applied, the lock being inserted through the passage from the inner side of the door until the open ends of the slots 14 pass over the pins 15. A partial turn of the lock case 1 imparts a corresponding movement to the lock element so that the pins 15 will enter the lateral extensions of the slots 14 and stand, for example, as shown in Figs. 1, 2 and 5. The lock case 1 may then be secured to the door by the use of wood screws, and the apparatus is at once ready for use.

I have shown in Fig. 1 the lock applied to a door of the maximum thickness to which the particular lock shown is adapted. In Fig. 2 I have shown a door D' of the

minimum thickness to which said lock is adapted. In this latter instance, the apparatus is applied in precisely the same way as above, with this exception. When the lock element is attached to the keeper 11, the case 1 is pushed still farther forward (the spring 16 collapsing freely) until said lock case rests against the inner surface of the door, to which it is then secured in the usual manner. Obviously, the particular mechanism shown is adapted to doors of any thickness whatever between two wide limits, the adjustment of the same being effected simultaneously with the mere act of applying the mechanism to the door, and without any special pre-adjustment. When the parts are finally in position, the lock element is held against endwise movement; for example, pressure inward, by the pins 15, which rigidly hold said lock element in its fixed position, exposing the outer end thereof always at the proper position at the outer side of the door ready to receive a key.

In the drawings, I have shown the keeper element as having an inwardly directed flange of slightly smaller diameter than the diameter of the lock part, the purpose of said flange being to check the longitudinal movement of the lock part when it is being inserted in the door and when it has reached the proper position.

In the present form of the construction, as shown in the drawings, the so-called "plug" is located centrally in the face plate so that said lock may be reversed relatively to the night latch mechanism for the purpose of adapting the assembled mechanism to either a right or a left hand door. To effect reversibility, it is merely necessary to remove the screws which hold the plate 10 in position, whereupon the lock, guide pins and plate may be reversed or turned over and re-applied. Since the plug is in the center, it is obvious that this reversal of the parts will not disturb the position of the key-controlled spindle which projects rearwardly from the key-controlled plug, as would be the case were the plug located in the face plate eccentrically.

It will be understood that I have shown only the preferred form of means for holding the keeper in place, and it will also be observed that in the construction shown, when the lock element stands within the keeper, it will prevent the spurs from being dislodged, since it will act substantially as an abutment directly to the rear of each of said spurs and holding the same in place.

What I claim is:

1. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch cooperating therewith and movable toward and from the same, guiding means, and a keeper independent of the night latch and

arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position.

2. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch cooperating therewith and movable toward and from the same, guiding means, and a keeper arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position, said interlocking means being operable by a rotary movement of said lock.

3. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch cooperating therewith and movable toward and from the same, guiding means, and a keeper arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position, said interlocking means being operable by a partial rotation of said lock.

4. In a mechanism of the character described, a night latch, a lock, guiding means operatively connecting said lock with the back of said latch and permitting said lock to slide thereon toward and from said night latch, operative means of connection between the night latch mechanism and said lock, a keeper arranged to be secured to the door, and means for interlocking said lock mechanism with said keeper when said lock stands in its proper position relatively to the door, said night latch mechanism still being movable toward and from the door independently of any movement of the lock mechanism to enable said mechanism to be applied to doors of different thicknesses.

5. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch cooperating therewith and movable toward and from the same, guiding means, a keeper arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position, and yielding means for moving said lock outwardly on said guide.

6. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch cooperating therewith and movable toward and from the same, guiding means, a keeper arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position, and yielding means for moving said lock outwardly on said guide, said means comprising a spring arranged between said lock and said latch.

7. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch co-

operating therewith and movable toward and from the same, guiding means, and a keeper independent of the night latch and arranged to be carried by the door, with means for interlocking said lock with said keeper when the former is in its proper position, said lock being reversible relatively to said night latch.

8. In a mechanism of the character described, a night latch, a key-controlled lock carried thereby and cooperating therewith and having a central rotatable key plug with means for directly connecting said key plug with the night latch mechanism, said lock being reversible relatively to the latch, said reversibility being effected on the axis of said plug, and guiding means for holding said lock and plug in correct alinement with said latch mechanism in both positions of adjustment, said lock being slidable on said guide means toward and from the back of the latch whereby said mechanism may be applied to doors of different thicknesses.

9. In a mechanism of the character described, a night latch, a key-controlled lock carried thereby and cooperating therewith and having a central rotatable key plug, with means for directly connecting said key plug with the night latch mechanism, said lock being reversible relatively to the latch, said reversibility being effected on the axis of said plug, guiding means for holding said lock and plug in correct alinement with said latch mechanism in both positions of adjustment, said lock being slidable on said guide means toward and from the back of the latch whereby said mechanism may be applied to doors of different thicknesses, and a keeper arranged to interlock with the body of said lock when the latter is in its proper position, with means for securing said keeper to a door.

10. In a mechanism of the character described, a night latch, a key-controlled lock carried thereby and cooperating therewith and having a central rotatable key plug, with means for directly connecting said key plug with the night latch mechanism, said lock being reversible relatively to the latch, said reversibility being effected on the axis of said plug, guiding means for holding said lock and plug in correct alinement with said latch mechanism in both positions of adjustment, said lock being slidable on said guide means toward and from the back of the latch whereby said mechanism may be applied to doors of different thicknesses, and a keeper arranged to interlock with the body of said lock when the latter is in its proper position, with means for securing said keeper to a door, said means comprising integral spurs carried by said keeper.

11. In a mechanism of the character described, a night latch, a key-controlled lock carried by the back of said night latch co-

operating therewith and movable toward
and from the same, guiding means, a keeper
arranged to be carried by the door, with
means for interlocking said lock with said
5 keeper when the former is in its proper
position, and means for holding the keeper
in place on said door, part of said lock por-

tion overstanding said means to prevent the
withdrawal of the same when the parts are
assembled.

HENRY G. VOIGHT.

Witnesses:

E. E. MORSE,
CHAS. A. PEARDY.