April 14, 1942. F. K. HEYER 2,279,591

NIGHT LATCH

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Fig. 1.

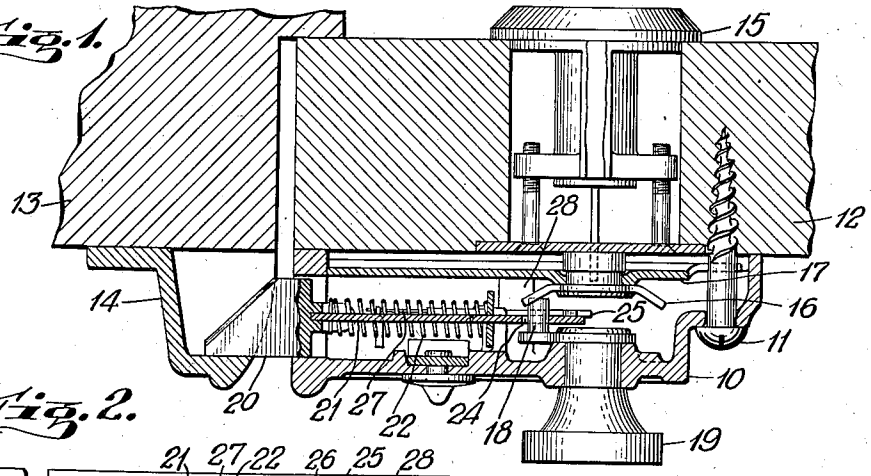


Fig. 2.

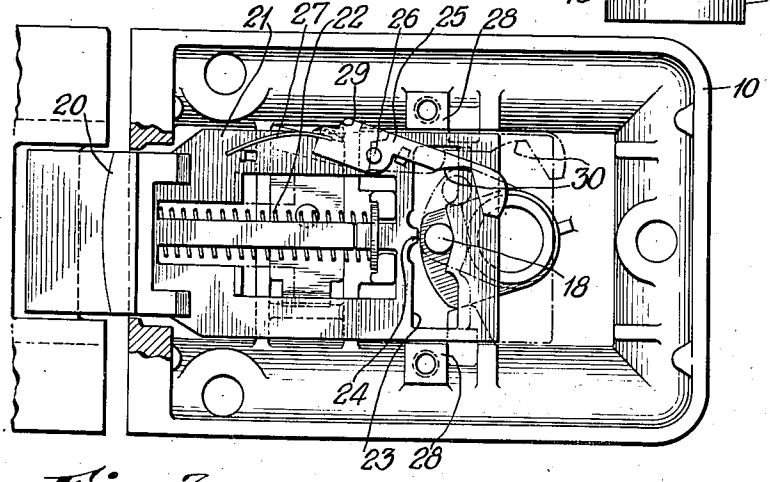


Fig. 3.

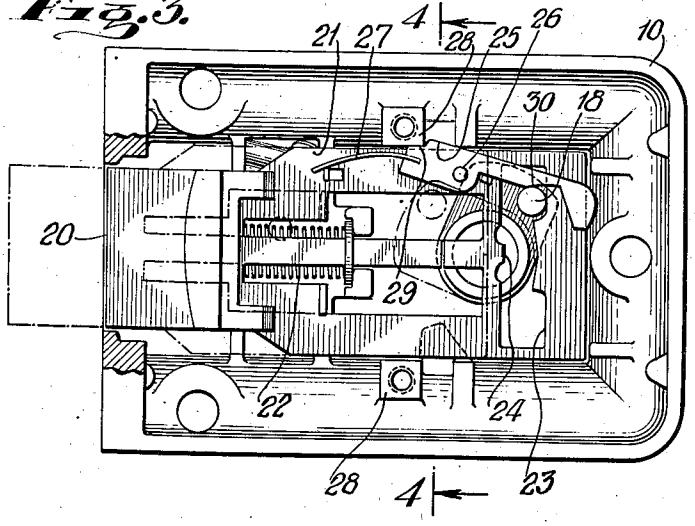
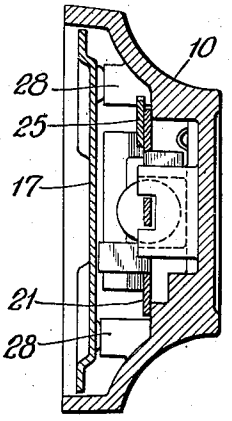


Fig. 4.



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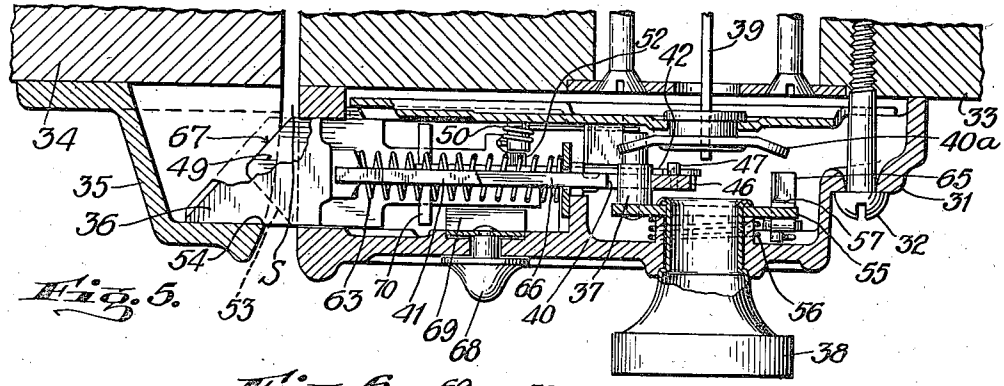


Fig. 5.

Fig. 6.

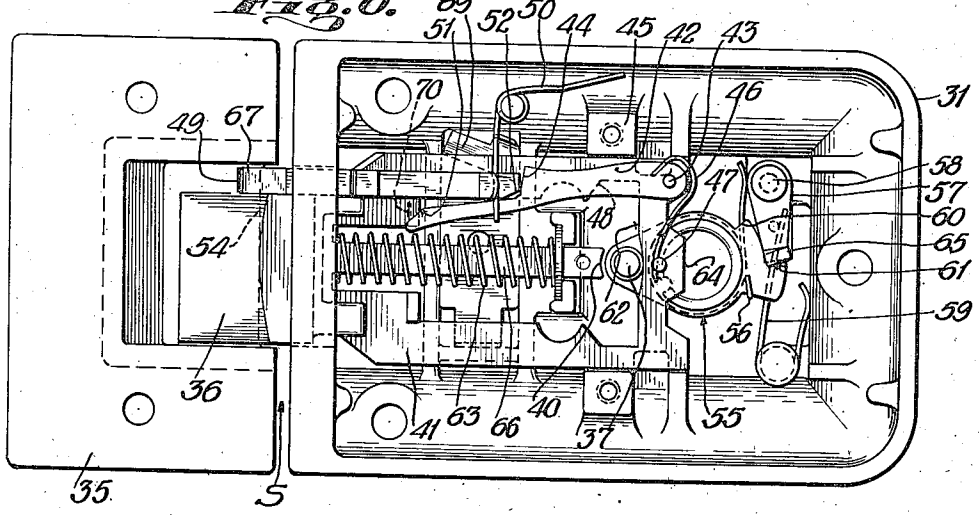
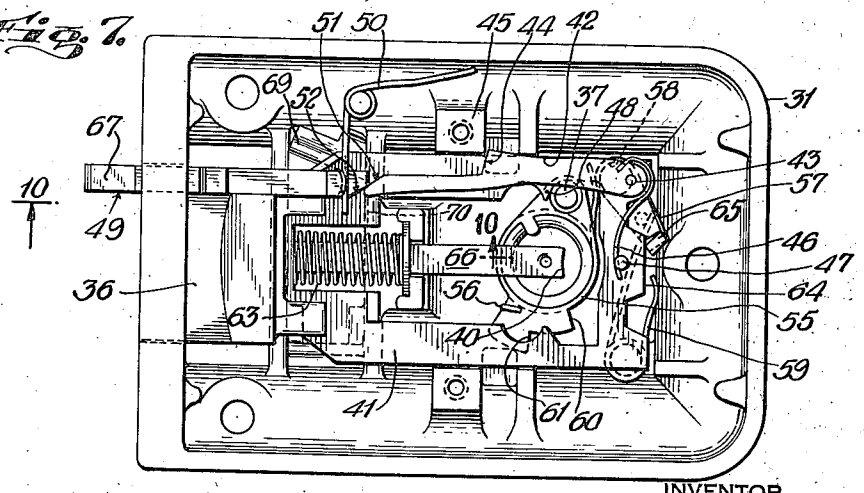


Fig. 7.



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Fig. 8.

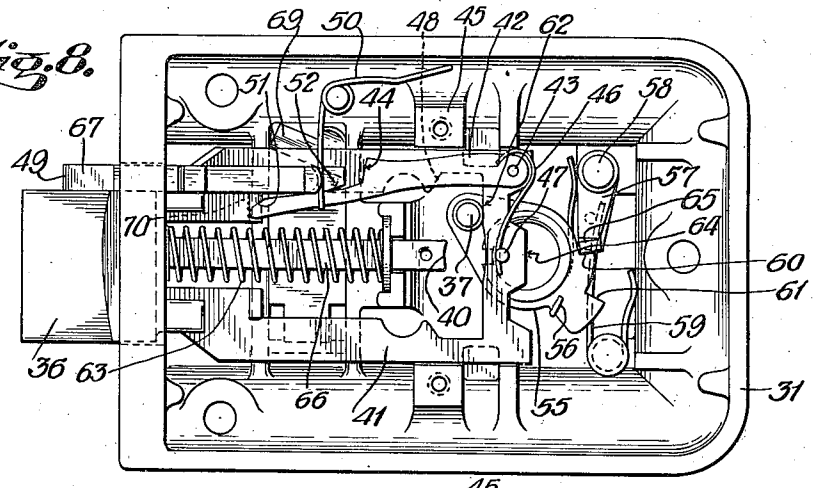


Fig. 9.

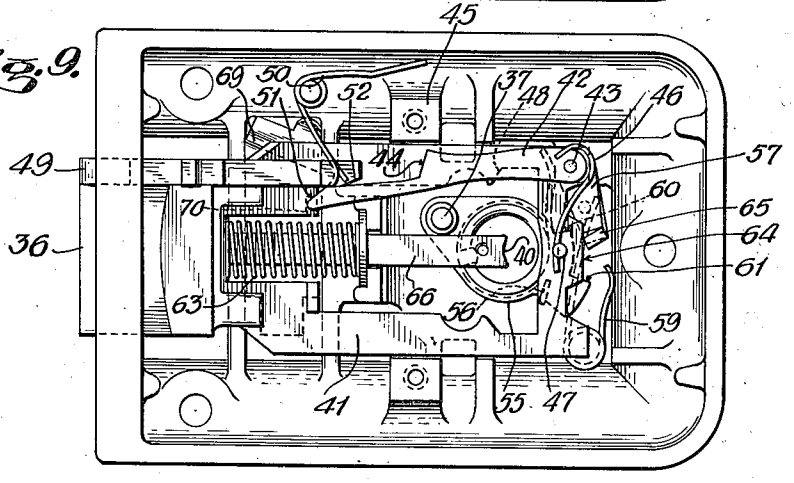


Fig. 10.

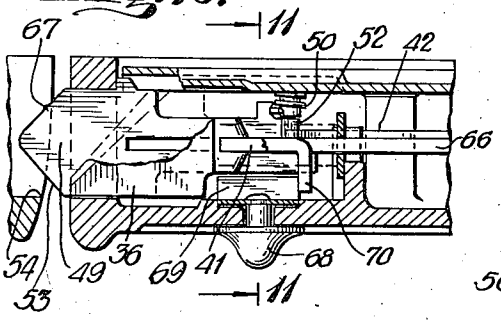
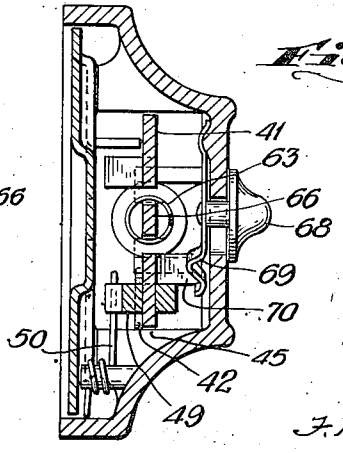


Fig. 11.



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UNITED STATES PATENT OFFICE

2,279,591

NIGHT LATCH

Frederic K. Heyer, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut

Application August 10, 1939, Serial No. 289,339

16 Claims. (Cl. 292—335)

This invention relates to a night latch of the type disclosed and claimed in the Brinton Patent No. 2,136,539, dated November 15, 1938, and assigned to The Yale & Towne Manufacturing Company, the owner of this application.

As is set forth in the Brinton patent, night latches are equipped with latch bolts which must be maintained retracted until the closure or door to which the night latch is attached, is moved into open position, or to a position in which the latch bolt is no longer aligned with the strike.

Brinton discloses means whereby once the latch bolt is retracted, it is maintained retracted, even though it remains in alignment with the strike. Upon movement relatively to the strike, as when the door is opened, the latch bolt is released from its holding means and is projected in readiness for reentry into the strike when the door is once again closed. As to actual structure, Brinton utilizes an auxiliary bolt which is projected against the strike, but is held from entry into the usual strike aperture, only the main latch bolt being allowed to enter the strike aperture. When the door is opened, the auxiliary bolt is no longer held retracted by the strike, and is allowed to be projected by its spring. As it is so projected, it releases the latch bolt from its holding means, allowing the latch bolt to be projected.

Before describing in detail a preferred form of my invention, it will be helpful to describe generally the features and advantages thereof. In the night latch of my invention, I utilize an auxiliary bolt which is adapted to engage and even preferably, to enter the strike together with the main latch bolt, rather than to be held back by the strike when the closure or door is in closed position. Because of this construction, I can use a relatively large aperture in my strike, which makes it possible for the latch bolt and auxiliary bolt to engage the strike properly when a door sags or moves into varying positions due to shrinkage and expansion of timbers, a condition which is frequent in the average home in which night latches are used.

I utilize holding means to hold the latch bolt retracted once it is retracted, and I provide the auxiliary bolt with means for releasing the latch bolt from the holding means when the auxiliary bolt is retracted. The auxiliary bolt is cammed backwardly or retracted relatively to the strike by the movement of the closure or door into open position, once the latch bolt is retracted, the strike preferably serving to do this through its coaction with a cam surface on the auxiliary bolt. When so retracted, the auxiliary bolt releases the latch bolt for projection.

It will be appreciated that the latch bolt of my night latch is held back when retracted by the usual manually operated means, even with the door or closure in open position, since in open position the auxiliary bolt is fully projected. I therefore provide suitable cam surfaces whereby the strike cams back or retracts the auxiliary bolt when the door is moved into closed position. This movement of the auxiliary bolt will, of course, release the latch bolt for projection.

As a further feature of my night latch, I have arranged to deadlock the latch bolt when it is projected upon the closing of the door. The operation is as follows: The usual manual means are used to retract the latch bolt. Upon opening movement of the door, the auxiliary bolt releases the latch bolt for projection, and the latch bolt is projected. When the door is closed again, the latch bolt is first retracted upon contacting the strike, releasing certain limit means so that when the latch bolt then moves into the strike aperture, it may be projected into deadlocking position.

As still a further feature of my invention, I employ means capable of maintaining my latch bolt retracted at all times. I can then utilize my auxiliary bolt, which in its preferred form is double beveled as already indicated, for yieldingly resisting the opening and closing of the door or closure. This feature I find to be a valuable contribution of my night latch.

As a sub-combination of my invention, I shall claim my means for holding the latch bolt retracted when it is retracted by the usual manually operated means. The holding means take the form of a lever pivoted on the latch bolt itself, and cooperable with a lug cast integrally with the night latch casing.

I shall now refer to the drawings wherein a preferred form of my invention is shown. In the drawings, Fig. 1 is a section through one form of my invention in which one type of holding means is disclosed for holding the latch bolt retracted when it is retracted by the manually operated cam mechanism. Fig. 2 is a view looking at the night latch of Fig. 1, with the rear casing plate removed. Fig. 3 is a view of the mechanism of Fig. 2 with the latch bolt retracted and held retracted. Fig. 4 is a section taken along lines 4—4 of Fig. 3 showing the back plate of the night latch in position. Fig. 5 is a view similar to Fig. 1 of a night latch having a different form of holding mechanism and equipped with deadlocking means and an auxiliary bolt to

release the holding mechanism. Fig. 6 is a view similar to Fig. 2 but showing the mechanism of Fig. 5. Fig. 7 is a view similar to Fig. 6 but showing the latch bolt retracted and held retracted by the holding means. Fig. 8 is a view similar to Fig. 6 but showing the latch bolt projected into latching position but not deadlocked. Fig. 9 illustrates the position of the parts when the latch bolt and auxiliary bolt of Fig. 8 contact a strike and are retracted by the strike. Fig. 10 is a section taken along lines 10—10 of Fig. 7 illustrating how the latch bolt is held back by the usual button mechanism, leaving the auxiliary bolt free to resist the opening and closing of the door. Fig. 11 is a view taken along lines 11—11 of Fig. 10.

Referring now more particularly to the drawings, and more especially to Figs. 1–4 inclusive, I show there a night latch casing 10 secured by suitable screws 11 to a door 12 cooperable with a door jamb 13 on which is supported a strike 14. A cylinder lock 15 is operable in the usual way to rotate a cam 16 secured on the back plate 17 of the night latch for rotating the rollback pin 18 secured for operation by the usual knurled knob 19. It is obvious that operation of the cylinder lock 15 or the knurled knob 19 will rotate pin 18, which in turn retracts the latch bolt 20, as will now be described.

The latch bolt 20 is secured to what is termed a tail plate 21 which is spring pressed by a spring 22 into the position of Figs. 1 and 2. The tail plate 21 is equipped with a slot 23 in which operates the rollback pin 18. When the pin 18 is in the position of Fig. 2, it is opposite a lug 24 on the tail plate 21, and prevents the retraction of the bolt by pressure against the bolt head 20, as will be understood by those skilled in the art.

When the retracting pin 18 is moved from its full line position of Fig. 2 to its dotted line position of Fig. 2, it will move out of deadlocking relation to the latch bolt tail, as is readily understood. When it is moved from its dotted line position of Fig. 2 to its full line position of Fig. 3, it retracts the latch bolt against the pressure of spring 22.

It is a feature of my invention that when the latch bolt is retracted as illustrated in Fig. 3, it is held retracted by certain novel holding mechanism. Preferably, also, the same holding mechanism holds the latch bolt retracting mechanism, including the pin 18, in its retracted position of Fig. 3. For obtaining this action, there is mounted on the bolt tail plate 21 a holding lever 25. The lever 25 is carried by the pin 26 on the tail plate 21, and is spring pressed by spring 27 for cooperation with the tail plate guide lug 28 cast integrally with the casing 10.

It is readily seen that when the latch bolt is retracted to its position of Fig. 3, the notch 29 of lever 25 will cooperate with the lug 28 for locking the latch bolt against outward movement by pressure of its spring 22. At the same time, the surface 30 of the holding lever 25 will cooperate with the pin 18 to hold the said pin in its position of Fig. 3. It is obvious, of course, that movement of the pin 18 by rotation of the knurled knob 19, or by operation of the cylinder lock, will readily move the lever 25 so as to move the notch 29 thereof out of cooperation with the lug 28 of the casing 10, releasing the latch bolt for projection to the position of Fig. 2. When fully projected, the bolt may be deadlocked by movement of the pin 18 from the dotted line position of Fig. 2 to the full line position of Fig. 2.

In Fig. 4, I show the back plate 17 of the night latch casing 10 resting against and secured to the guide lugs 28. The guide lugs 28 therefore have the triple function of guiding the latch bolt tail plate 21, cooperating with the holding lever 25 to hold the latch bolt retracted, and supporting the night latch back plate 17.

Referring now to the construction of Figs. 5–11, inclusive, I show a latch bolt casing 31 secured by suitable screws 32 to a door 33 cooperable with a jamb 34 which carries a strike 35. The latch bolt 36 is of the same construction as that of Fig. 2, and is similarly projected and similarly retracted by a pin 37 operated by the thumb turn 38, or the usual cylinder connecting bar through cams 40*a*.

In the position of the parts in Fig. 6, the pin 37 is in deadlocking relation to the lug 40 of the bolt tail plate 41. The holding lever employed in the modification now described is designated by reference numeral 42, and is pivoted at 43 to the bolt tail plate 41, its notched portion 44 being cooperable with the lug 45 cast integrally with the casing 31. A spring 46 having one end pressing at 47 against a pin on the bolt tail plate 41, tends to press the lever 42 in a clockwise direction in the several Figs. 6, 7, 8 and 9, and toward the lug 45.

When the rollback pin 37 is rotated from the position of Fig. 6 to the position of Fig. 7, it acts to retract the bolt 36, and to bring the portion 44 of the holding lever 42 behind lug 45, so that thereafter the latch bolt 36 will be held retracted. It is interesting to note that the tail plate 41 of the latch bolt is equipped with a surface 48 for maintaining the pin 37 in its position of Fig. 7. In essence, this surface 48 accomplishes the same result as does the surface 30 of the holding lever 25 in the modification shown in Fig. 3.

An auxiliary bolt 49 is mounted and suitably guided in the casing 33, and preferably has one surface thereof in contact with the latch bolt 36 for sliding relatively to that latch bolt. A spring 50 serves to maintain the auxiliary bolt projected. With the auxiliary bolt projected, as shown in Figs. 5 and 6, should the latch bolt 36 be retracted as shown in Fig. 7 through rotation of thumb turn 38, the cam surface 51 of the holding lever 42 will move just under the cam surface 52 of the auxiliary bolt 49. The holding lever will, of course, lock the latch bolt 36 in its retracted position, and will hold it retracted even though the thumb turn 38 is released from manual pressure.

If the door 33 be now opened, it will be appreciated that because the surface 53 of the auxiliary bolt 49 is beveled, the auxiliary bolt 49 will be cammed rearwardly, or retracted, by its contact with the surface 54 of the strike 35 (shown in Fig. 5). This retraction against the force of spring 50 will naturally cause the cam surface 52 of the auxiliary bolt 49 to contact the cam surface 51 of the holding lever 42, moving the holding lever against the pressure of its spring 46 out of engagement with the lug 45. The holding lever being so released from the lug 45, the bolt 36 will naturally be projected to the position of Fig. 8. The bolt 36 will not be so projected, it will be understood, until it actually has moved with the door away from the aperture of the strike 35.

I should now like to describe the means whereby I control the movement of the rollback pin 37 and the retracting cam 55 on which the pin

37 is supported. The cam 55 is secured so as to be rotatable integrally with the thumb turn 38. A coil spring 56 is suitably mounted coaxially with the thumb turn 38, tending always to rotate the thumb turn and cam 55 counterclockwise in the position of the parts shown in Figs. 6, 7, 8 and 9.

A dog 57 pivoted at 58 to the casing 33 is spring pressed by a spring 59 into cooperative relation with limit surfaces 60 and 61 of the cam 55. In the normal relation of the parts, that is, with the door open as in Fig. 8, the dog 57 cooperates with the limit surface 60 limiting the rotation of the cam 55 and of the rollback pin 37 to the position of Fig. 8. Since the pin 37, in Fig. 8, has pressed thereagainst the surface 62 of the latch bolt tail plate 41, it is obvious that the dog 57 therefore acts through pin 37 and cam 55 to retain and limit the projection of the latch bolt 36 by its spring 63.

If the door is shut with the bolts 36 and 49 in their position of Fig. 8, it is obvious that the strike will serve to retract the bolts only to their position of Fig. 9. This is natural because in the ordinary mounting of a door, there is some space between the door and the jamb, designated in Figs. 5 and 6 by the letter "S". It is obvious that the retraction of the latch bolt 36 to its position of Fig. 9 is not sufficient to bring the holding lever 42 into holding relation with the lug 45, and that only upon retraction of the latch bolt by the manually operated rollback pin 37 is it possible to bring the latch bolt into its position of Fig. 7, in which the holding lever 42 will become operative to hold it retracted.

It will be noted that when the several parts are in the position of Fig. 9, the surface 64 of the bolt tail piece 41 has contacted the upstanding lug portion 65 of the dog 57, moving the dog out of cooperation with the limit surface 60 of the retracting cam 55. The retracting cam 55 will therefore rotate under the influence of the spring 56 to its position shown in Fig. 9, bringing pin 37 against the stem portion 66 of the latch bolt tail plate 41.

Now, when the latch bolt moves into alignment with the aperture of the strike 35, as shown in Figs. 5 and 6, it will be fully projected beyond the position of Fig. 8, because its projection is no longer limited by the coaction of the dog 57 with the surface 60 of the retracting cam 55. The latch bolt will therefore move to its position of Fig. 6, and the rollback pin 37 will likewise move to its position of Fig. 6, its further rotation being prevented by the dog 57 cooperating with limit surface 61 thereof. The retracting cam 55 acts, of course, in its position of Fig. 6, to prevent further projection of the latch bolt 36, while at the same time maintaining the latch bolt deadlocked.

I believe it best now to describe one complete operation of the night latch shown in Figs. 5–9, inclusive. Starting first with Figs. 6 and 6, we note that there the latch bolt 36 is held projected and deadlocked by rollback pin 37 of the retracting cam 55. The auxiliary bolt is also maintained within the aperture of the strike 35. The further projection of the latch bolt is restrained by said pin 37.

Should someone wish to open the door or closure, it will merely be necessary to operate the usual cylinder, or rotate the thumb turn 38 in a manner well known in the art. Rotation of the thumb turn 38 will rotate the retracting cam 55 against the pressure of the spring 56, causing the rollback pin 37 to retract the latch bolt 36 from the position of Fig. 6 to the position of Fig. 7. The holding lever 42 supported on the tail plate 41 of the latch bolt 36 is, in the position of the parts in Fig. 7, moved into cooperation with the lug 45 of the casing 33, and thereafter prevents the projection of the latch bolt, even when the hand is withdrawn from the thumb turn 38. Thumb turn 38 is maintained in its position of Fig. 7 against the pressure of spring 56 through the cooperation of the surface 48 of the latch bolt tail plate 41 with the pin 37, all as is readily seen.

With the parts in their position of Fig. 7, the door may now be opened. As it is opened, the beveled surface 53 of the auxiliary bolt 49 will impinge against surface 54 of the strike 35, forcing a rearward movement of the auxiliary bolt. The cam surface 52 of the auxiliary bolt will contact the cam surface 51 of the holding lever 42, moving the holding lever out of cooperation with the lug 45, thereby releasing the latch bolt for projection. As the latch bolt is projected, the dog 57 strikes the limit surface 60 of the retracting cam 55, limiting the rotation of the retracting cam to its position of Fig. 8. The parts will now assume the position of Fig. 8, wtih the bolt projected to a normal latching position.

With the door now open, should it be closed, it is obvious that the latch bolt 36 and auxiliary bolt 49 will be retracted to their position of Fig. 9 by contact with the strike, further retraction being impossible because of the space "S" between the door 33 and the jamb 34. This retraction of the latch bolt 36 will cause its tail piece surface 64 to move the dog 57 out of cooperation with the surface 60 of the retracting cam 55, allowing immediate rotation of the retracting cam 55 by its spring 56 to the position of Fig. 9 against the stem 66. As soon as the latch bolt moves into alignment with the strike aperture, it is of course projected to the position of Fig. 6, and the retracting cam 55 assumes its position of Figs. 5 and 6 in dogging relation to the bolt, all as will now be fully appreciated.

It is well to note that with the door open and with the latch bolt and auxiliary bolt positioned as shown in Fig. 8, should someone rotate the thumb turn 38, the bolt 36 will be retracted and held retracted, as shown in Fig. 7. Should the door now be closed, the opposite beveled surface 67 of the auxiliary bolt 49 will contact the strike and the auxiliary bolt will be retracted. When so retracted, it will release the holding lever 42, as previously described, allowing the projection of the bolt 36 to its position of Fig. 8. The door will now be closed and locked, but it will not be deadlocked. It is thus seen that my latch bolt is projected, even should it be inadvertently retracted when the door is open.

My night latch is equipped with the usual thumb button 68 sliding on the front surface of casing 31, and having a detent portion 69 cooperable with a lug 70 formed on the latch bolt tail plate 41. By manipulation of the button 68, the latch bolt 36 may be held in its retracted position independently of the holding lever 42. In this position of the parts, it is readily perceived, especially from Fig. 10, that the auxiliary bolt 49 resists yieldingly the opening and closing of the door. This action is highly desirable in places where during certain periods it is not necessary to maintain a door locked or securely latched, but where some resistance to the move-

ment of the door to open position from its closed position, is desirable.

I believe that the description I have thus given of my invention will indicate clearly the scope of the contribution I have made to the art. Naturally, I expect to obtain a monopoly sufficiently broad to prevent the utilization of my contribution to the art in forms other than the specific forms thereof which I have herein described.

I now claim:

1. A latch for a hinged structure comprising a spring pressed latch bolt, a casing, manually operated means for retracting said latch bolt into the casing to a predetermined position, a spring pressed lever on said latch bolt, a lug on said casing engaged by said lever when said latch bolt is retracted for holding said latch bolt retracted, and a surface of said latch bolt acting also to hold said manually operated means in its position reached when said latch bolt is retracted.

2. A latch for a hinged closure comprising a spring pressed latch bolt, a casing, manually operated means for retracting said latch bolt, a spring pressed lever supported on said latch bolt, means on said casing engaged by said lever in the retracted position of said latch bolt for maintaining said latch bolt retracted, an auxiliary bolt in said casing normally spring projected and adapted to be retracted when contacting a strike, and means whereby said auxiliary bolt when so retracted releases said lever from said casing to release said latch bolt for projection.

3. A latch for a hinged closure comprising a casing, a spring pressed latch bolt in said casing, a spring projected auxiliary bolt in said casing, a strike which said latch bolt and said auxiliary bolt are adapted to engage, manually operated means for retracting said latch bolt out of engagement with said strike, holding means for holding said latch bolt retracted thereafter even while said latch bolt remains in alignment with said strike, means whereby said strike cams said auxiliary bolt inwardly relatively to said casing as said closure is moved to open position, and means whereby said inward movement of said auxiliary bolt releases said latch bolt from said holding means.

4. A latch for a hinged closure comprising a casing, a spring pressed latch both in said casing, a spring projected auxiliary bolt in said casing, a strike into which said latch bolt and said auxiliary bolt are adapted to enter when said bolts are moved into alignment with the strike, manually operated means for retracting said latch bolt out of said strike, holding means for holding said latch bolt retracted thereafter even while said latch bolt remains in alignment with said strike, means whereby said strike cams said auxiliary bolt inwardly relatively to said casing as said closure is moved to open position, and means whereby said inward movement of said auxiliary bolt by said strike releases said latch bolt from said holding means and for projection by its spring so as to reenter the strike when said hinged closure is thereafter moved to closed position.

5. A latch for a hinged closure comprising a casing, a spring pressed latch bolt in said casing, a spring projected auxiliary bolt in said casing, a strike into which said latch bolt and auxiliary bolt are adapted to enter, manually operated means for retracting said latch bolt from said strike, a detent for holding said latch bolt retracted thereafter even while said latch bolt remains in alignment with said strike, means whereby said strike cams said auxiliary bolt inwardly relatively to said casing as said closure is moved to open position, and means whereby said inward movement of said auxiliary bolt by said strike releases said latch bolt from said holding lever.

6. A latch for a hinged closure comprising a casing, a spring pressed latch bolt in said casing, a spring projected auxiliary bolt in said casing, a strike into which said latch bolt and auxiliary bolt are adapted to enter, manually operated means for retracting said latch bolt from said strike, holding means for holding said latch bolt retracted thereafter even while said latch bolt remains in alignment with said strike, means whereby said strike cams said auxiliary bolt inwardly relatively to said casing as said closure is moved to open position, and means whereby said inward movement of said auxiliary bolt releases said latch bolt from said holding means and for projection by its spring so as to reenter the strike when said hinged closure is thereafter moved to closed position, and means for deadlocking said latch bolt when it is thereafter retracted by said strike and projected into the strike when the closure moves to said closed position.

7. A latch for a hinged closure comprising a casing, a spring pressed latch bolt in said casing, a spring projected auxiliary bolt in said casing, a strike into which said latch bolt and auxiliary bolt are adapted to enter, manually operated means for retracting said latch bolt a predetermined degree from said strike, holding means for holding said latch bolt retracted thereafter even while said latch bolt remains in alignment with said strike, means whereby said strike cams said auxiliary bolt inwardly relatively to said casing as said closure is moved to open position, means whereby said inward movement of the auxiliary bolt releases said latch bolt from said holding means and for projection by its spring in position to contact the strike when the closure is shut, the contact of said latch bolt with the strike upon closing movement of the closure camming the latch bolt rearwardly but not sufficiently to move said latch bolt said predetermined degree, and means for automatically deadlocking said latch bolt when it is thereafter projected into the strike as the closure moves into its closed position.

8. A latch for a hinged closure comprising a casing, a spring pressed latch bolt in said casing, a spring pressed auxiliary bolt in said casing, a strike into which said latch bolt and said auxiliary bolt are adapted to enter when said bolts are moved into alignment with the strike, cam surfaces on said auxiliary bolt whereby contact of said auxiliary bolt with said strike upon closing and also upon opening of the door retracts said auxiliary bolt against the pressure of its spring, manually operated means for retracting said latch bolt, holding means for holding said latch bolt retracted thereafter, and means whereby the auxiliary bolt when retracted by contact with said strike releases said latch bolt from said holding means.

9. A latch for a hinge closure comprising a spring latch bolt adapted to interlock with a strike when aligned therewith, manually operated means for retracting said latch bolt, holding means for maintaining said latch bolt retracted once it is retracted by said manual means, an auxiliary bolt normally spring pressed for engagement with said strike, a cam surface on one side of said auxiliary bolt whereby it is retracted by said strike as said closure is shut, a cam sur-

face on the other side of said auxiliary bolt whereby it is retracted by said strike as said closure is opened, and means whereby said auxiliary bolt when so retracted by opening or closing of the hinged closure releases said latch bolt from said holding means.

10. A latch for a hinged closure comprising a spring pressed latch bolt adapted to interlock with a strike when aligned therewith, manually operated means for retracting said latch bolt, holding means for maintaining said latch bolt retracted once it is retracted by said manual means, an auxiliary bolt normally spring pressed for entry into said strike, a cam surface on one side of said auxiliary bolt whereby it is retracted by said strike as said closure is shut, said auxiliary bolt being then spring projected into the strike, a cam surface on the other side of said auxiliary bolt whereby it is retracted by said strike as said closure is opened, and means whereby said auxiliary bolt when retracted releases said latch bolt from said holding means.

11. A latch for a hinged closure comprising a spring pressed latch bolt adapted to interlock with a strike when aligned therewith, manually operated means for retracting said latch bolt, holding means for maintaining said latch bolt retracted once it is retracted by said manual means, an auxiliary bolt normally spring pressed for entry into said strike, a cam surface on one side of said auxiliary bolt whereby it is retracted by said strike as said closure is shut, said auxiliary bolt being then spring projected into the strike, a cam surface on the other side of said auxiliary bolt whereby it is retracted by said strike as said closure is opened, means whereby said auxiliary bolt when retracted releases said latch bolt from said holding means, and additional means for holding said latch bolt retracted at all times leaving only said auxiliary bolt free for coaction with said strike.

12. A latch for a hinged closure comprising a spring pressed latch bolt adapted to interlock with a strike when aligned therewith, manually operated means for retracting said latch bolt, holding means for maintaining said latch bolt retracted once it is retracted by said manual means, an auxiliary bolt normally spring pressed for entry into said strike, a cam surface on one side of said auxiliary bolt whereby it is retracted by said strike as said closure is shut, said auxiliary bolt being then spring projected into the strike, a cam surface on the other side of said auxiliary bolt whereby it is retracted by said strike as said closure is opened, means whereby said auxiliary bolt when retracted releases said latch bolt from said holding means, limit means for limiting the projection of said latch bolt when said latch bolt is retracted by said manual means and then released, and means whereby said limit means are rendered inoperative when said latch bolt is retracted independently of said manual means as when said latch bolt contacts the strike during closing movement of the closure, so that said latch bolt projects an extra distance into said strike.

13. A latch for a hinged closure comprising a spring pressed latch bolt adapted to interlock with a strike when aligned therewith, manually operated means for retracting said latch bolt, holding means for maintaining said latch bolt retracted once it is retracted by said manual means, an auxiliary bolt normally spring pressed for entry into said strike, a cam surface on one side of said auxiliary bolt whereby it is retracted by said strike as said closure is shut, said auxiliary bolt being then spring projected into the strike, a cam surface on the other side of said auxiliary bolt whereby it is retracted by said strike as said closure is opened, means whereby said auxiliary bolt when retracted releases said latch bolt from said holding means, limit means for limiting the projection of said latch bolt when said latch bolt is retracted by said manual means and then released, means whereby said limit means are rendered inoperative when said latch bolt is retracted independently of said manual means as when said latch bolt contacts the strike during closing movement of the closure, so that said latch bolt projects an extra distance into said strike, and means for deadlocking said latch bolt when it is projected said extra distance.

14. A night latch for a hinged closure comprising a spring pressed latch bolt carried by the closure adapted to interlock with a strike aperture when aligned therewith, a strike engaging auxiliary bolt yieldingly projected relatively to the hinged closure, manual means for retracting the spring pressed latch bolt to allow opening movement of said hinged closure, means operative upon retraction of said spring pressed latch bolt, and while said latch bolt is in alignment with said strike aperture, for maintaining said latch bolt retracted thereafter whereby to allow opening movement of the hinged closure without the necessity of holding said manual means until the latch bolt has moved out of alignment with said strike aperture, means whereby during opening of the closure thereafter the auxiliary bolt is retracted by said strike and out of engagement with said strike, and means whereby said auxiliary bolt releases said spring pressed latch bolt from said first means for movement into projected position, as said auxiliary bolt is so moved relatively to said strike incidental to the opening movement of the hinged closure.

15. A night latch for a hinged closure comprising a spring pressed latch bolt carried by the closure adapted to interlock with a strike aperture when aligned therewith, a strike entering auxiliary bolt yieldingly projected relatively to the hinged closure and having a cam surface engaging said strike whereby movement of the closure relatively to the strike will cause said strike to retract said auxiliary bolt, manual means for retracting the spring pressed latch bolt to allow opening movement of said hinged closure, means operative upon retraction of said spring pressed latch bolt, and while said latch bolt is in alignment with said strike, for maintaining said latch bolt retracted thereafter whereby to allow opening movement of the hinged closure without the necessity of holding said manual means until the latch bolt has moved out of alignment with said strike aperture, and means whereby said auxiliary bolt releases said spring pressed latch bolt from said first means for movement into projected position as said auxiliary bolt is moved out of said strike incidental to opening movement of the hinged closure.

16. A latch for a hinged structure comprising a casing adapted for cooperation with a strike, a spring pressed latch bolt extending from said casing and having a strike contacting cam surface, manually operated means for retracting said latch bolt into the casing to a predetermined position, holding means in said casing for holding said latch bolt retracted in said casing once it is re-

tracted to said predetermined position, an auxiliary bolt slidable in said casing for releasing said latch bolt from said holding means, said strike contacting cam surface of the latch bolt camming said latch bolt rearwardly when engaging said strike and thereby retracting said latch bolt when said hinged closure moves to closed position, the retraction of the latch bolt by the strike being insufficient to retract the latch bolt to said predetermined position to permit the holding means to engage the latch bolt and retain it in said predetermined position.

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