(No Model.)

J. D. PERKINS.

LATCH AND LOCK.

No. 468,895. Patented Feb. 16, 1892.

FIG. 1.

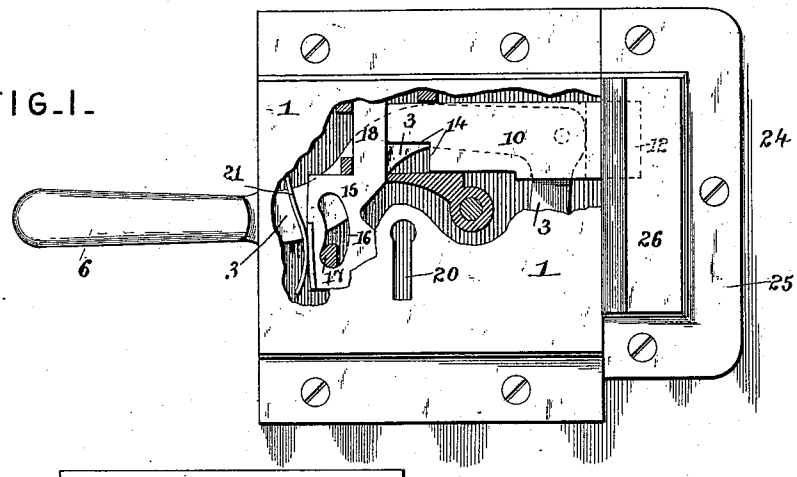


FIG. 2.

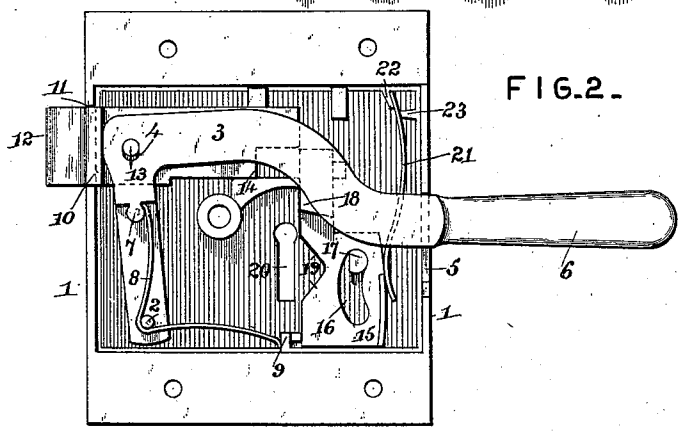


FIG. 3.

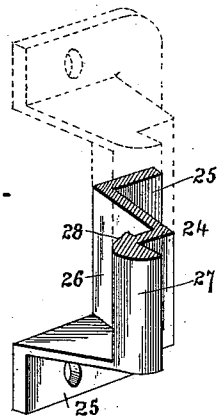
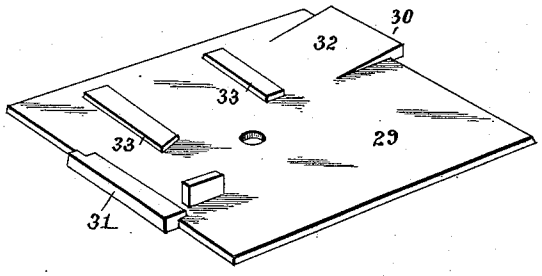


FIG. 4.



Witnesses

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LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 468,895, dated February 16, 1892.

Application filed July 23, 1891. Serial No. 400,489. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. PERKINS, a citizen of the United States, residing at Kenton, in the county of Hardin and State of Ohio, have invented a new and useful Lock, of which the following is a specification.

My invention relates to an improvement in combined locks and latches; and it has for its object to move a latch in a horizontal direction with a perpendicular movement of a handle. This facilitates the operation and renders the same more easily manipulated, the combined lock and latch being especially designed for use upon refrigerator-doors, where it is necessary that a strong and firm lock and latch be used; and with these objects in view the invention consists of a lever operating a sliding bolt, which serves the double function of lock and latch, the said device being provided with mechanism for locking the latch in its normal position in engagement with its keeper or strike, the details of all of which will be hereinafter more fully described, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved lock, partly in section, to show the interior construction thereof. Fig. 2 is a rear view of the same with the back plate removed, exposing the interior parts of the lock. Fig. 3 is a perspective view, partly in section, of a lock-strike used in connection with this lock. Fig. 4 is a detail in perspective of the inclosing cap-plate.

Referring to the accompanying drawings, 1 represents a casing within which the parts of the lock and latch are located, the same being of the ordinary construction and provided with the squared recess or chamber. Pivotally mounted upon the stud 2 in the lower part of said casing is the bell-crank lever 3, provided at its angle within the casing with a slotted perforation 4, while the same extends without the casing through the opening 5 in the casing, and terminates in a handle portion 6, which is designed to operate said lever. The short arm of said lever within said casing, a short distance from said slotted perforation, is provided with a rounded lug or projection 7, against which one end of the spring 8 bears, and then passing around the stud 2, upon which said lever is mounted at the terminal of its short arm, the spring bears behind the projection or stop 9, located on the inner side of the casing, the tension of said spring being to throw the handle portion of the lever up against the upper end of the opening 5, within which it works. A sliding latch-bolt 10 slides in the upper portion of said casing and works through the opening 11, provided for its reception, and is provided at its outer end with the ordinary beveled latch-head 12, which engages the keeper or strike, and it is further provided back of said head and within the casing with the integral stud 13, which is adapted to work within the slotted perforation 4 at the meeting point of the two arms of the bell-crank lever 3, and by the tension of the spring exerted upon the said bell-crank lever the said latch or sliding bolt is normally pressed without the casing, and is thus automatically pressed in and out by coming in contact with the keeper or lock-strike or is thrown normally back into engagement with the said strike when the lever withdraws the bolt for either throwing the same into engagement with the strike manually or releasing it from its catch. The inner end of said sliding bolt is further provided with the cut-out portion 14, that is adapted to clear the upper end of the locking-plate 15 when said latch is withdrawn within the casing. The locking-plate 15 is located within the casing near its inner end and is provided with a curved slot 16, which works over the stud 17, projecting out from the casing, and thus holds the said plate in position to the back of the casing. The said plate 15 is provided, also, with an upwardly-extending reduced portion or bolt 18, that is adapted to take behind the inner end of the sliding latch-bolt 10 and lock the same while in its normal position in engagement with the keeper or strike and effectually prevents the same being withdrawn within the casing until the lock is slid back. The said locking-plate is further provided with an angular recess 19, located alongside of the keyhole 20 in the lock-case, and is designed to accommodate the key in throwing the locking-plate either up or down. The said locking-plate is held firmly at both limits of its movement over the stud upon

which it is mounted in its locked and unlocked position by means of the leaf-spring 21, one end of which is secured between and back of the lugs 22 and 23, projecting within the lock-casing, and the other end of which abuts and bears against one side of said lock-plate. The latch end of the sliding bolt 10 is adapted to engage the keeper or strike 24. The said keeper or plate consists of the bottom flange 25 and the extended boxing 26, within which the latch is adapted to be secured, the said boxing extending out sufficient distance to accommodate the width of the latch and the casing or jamb of the door. The said keeper or strike 24 is provided with a raised rounded edge 27, against which the latch first strikes before entering behind the shoulder of the keeper, the said rounded edge curving around and under to the inner face of the lock-strike, and terminates in a squared inclined projection or elevation 28, extending across the full width of the keeper, the said rounded edge materially assisting the latch on its entrance inside of the keeper and causing less friction, while at the same time the inclined elevation within the same increases the pressure against the door, and thereby closes it more firmly and securely.

The operation and construction of my improved latch and lock is now thought to be apparent without further description.

The parts of the above-described lock are inclosed by the usual inclosing back plate or cap 29, which is provided with the tongues 30 and 31, which are designed to project within the openings 5 and 11, respectively, within which the handle of the bell-crank lever and the sliding latch-bolt described project and work. The under side of the tongue 30, projecting within the slot 11 directly over the sliding bolt therein, is provided with the inclined bevel or swell 32 and the series of inward projections 33, extending parallel to the motion of the bolt, and are designed to bear firmly upon the bell-crank lever, and thus hold the same rigidly in its operative position within the casing, while the inclined bevel or swell located upon the inner face of said tongue 30 bears strongly upon the sliding latch-bolt when the same is in its normal position, and, forcing the same tightly against its keeper, is designed to more materially assist with said keeper in forcing the door more firmly against the jamb, and thus securing a more secure and tight joint therebetween.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lock, the combination, with the casing having a projecting pivot-stud and an adjacent spring stop or shoulder, of a horizontally-sliding bolt, a bell-crank lever connected to said bolt at its angle and pivotally mounted upon said stud, said lever being provided with a projecting lug near its angle, and a leaf-spring passing around said pivot-stud and having its ends engaging behind said projecting lug and spring stop or shoulder, respectively, substantially as set forth.

2. In a combined lock and latch, a horizontally-sliding bolt, a spring-actuated bell-crank lever connected to said bolt at its angle and pivoted at the end of one arm to the casing and terminating at the terminal of its other arm without the casing in an operating-handle, and means for locking said bolt, substantially as set forth.

3. In a combined lock and latch, a horizontally-sliding bolt provided with an integral stud, a spring-actuated bell-crank lever provided with a slotted perforation at its angle working over said stud, one arm of which is pivoted at its end within the casing and the other projects without the casing and terminates in an operating-handle, and a spring-pressed sliding locking-plate located within the casing and adapted to bear behind the inner end of said sliding bolt, substantially as set forth.

4. In a combined lock and latch, a horizontally-sliding bolt, a vertically-moving spring-actuated bell-crank lever operating said bolt, a locking-plate provided with a curved slot working over a stud in the casing, an upwardly-extended reduced portion or bolt that is adapted to take behind the inner end of said horizontally-sliding bolt or latch, and an angular recess to receive the operating-key, and a leaf-spring secured within the casing and bearing against one side of said locking-plate, substantially as set forth.

5. The combination, with a lock-casing and a horizontally-moving latch-bolt therein, of an inclosing back plate or cap provided with an inner inclined bevel or swell extending parallel with the movement of the bolt and up which the end of said bolt travels in its outward movement, substantially as set forth.

6. In a combined lock and latch, the combination, with the casing, a horizontally-sliding bolt, and a spring-actuated bell-crank lever operating said bolt, of an inclosing back plate or cap provided with a series of inward projections forming a bearing for said bell-crank lever and with an inner inclined bevel or swell extending parallel with the movement of the bolt and up which the end of said bolt travels in its outward movement, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN D. PERKINS.

Witnesses:
M. L. WALKER,
JOHN H. GARY.