

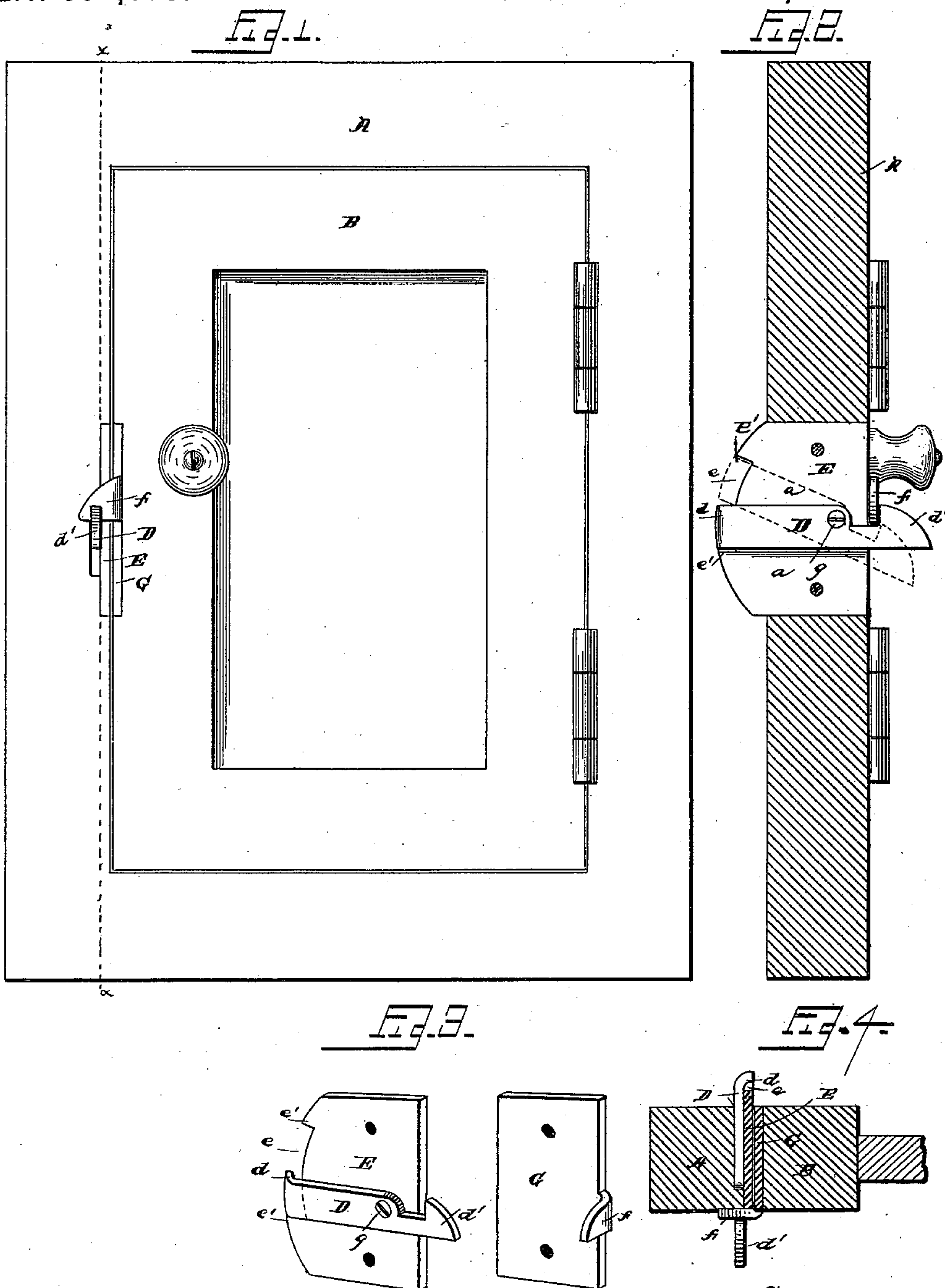
(No Model.)

W. W. DEY.

LATCH.

No. 352,679.

Patented Nov. 16, 1886.



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# UNITED STATES PATENT OFFICE.

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## LATCH.

SPECIFICATION forming part of Letters Patent No. 352,679, dated November 16, 1886.

Application filed September 29, 1886. Serial No. 214,856. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WASHINGTON DEY, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented a new and useful Improvement in Latches, of which the following is a specification.

My invention relates to improvements in latches for cupboards and the like; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claim.

The primary object of my invention is to provide an improved latch of simple and durable construction, which shall be free from springs and automatically engage the lug on the door-plate when said door is closed, and also act to prevent the door of the cupboard or other article or device upon which it is applied from accidentally swinging open.

The latch of my invention can be very easily operated to open the door by one hand of the operator, and it can be very easily and readily applied to the cupboard by an unskilled person.

In the accompanying drawings, which illustrate a catch embodying my improvements, Figure 1 is a side elevation of so much of a door as is necessary for a proper understanding of my invention. Fig. 2 is a transverse vertical sectional view on the line *xx* of Fig. 1. Fig. 3 is a detached perspective view of the parts of my invention; and Fig. 4 is a horizontal section through the latch.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the inclosing-casing of a cupboard or other device to which my improved latch is applied, and B designates the swinging door of the said cupboard or other device. The inner side of the casing A is formed or provided with a notch or recess, *a*, and the upper and lower sides of the recess are inclined or curved in opposite directions to form an enlarged rear end to the recess or notch, thereby providing an enlarged space for the rear end of a swinging locking-plate to operate therein very freely, as more fully described presently.

My improved latch comprises a swinging

locking-plate, D, which is pivoted at an intermediate point of its length to overbalance one end thereof, a flat keeper-plate, E, to which the locking-plate is pivoted, so that the latter plate is carried and supported by the keeper, and a door-plate, G, having a lug, *f*, projecting outwardly from one side thereof, and adapted to take or fit in rear of a similar shoulder on one end of the overbalanced locking-plate, as will be more fully hereinafter described. The keeper-plate E is secured to the inner side of the door-casing by screws or other suitable fastening devices, so that it lies flush with the said casing and entirely conceals the notch or recess *a* from view, and the locking-plate is pivoted on the inner concealed side of the keeper, as at *g*, and is arranged in the recess *a* of the casing. The rear edge of the keeper is projected in rear of the door-casing, and is curved, as shown, and in this curved edge the keeper is provided with an upper and lower shoulder, *e' e'*, the shoulders being preferably formed by a slot or recess, *e*, in the rear edge of the keeper, terminating within the upper and lower edges thereof. The rear end of the swinging locking plate also extends or projects in rear of the door-casing, and the rear extremity of the said plate has a right-angled flange or nib, *d*, thereon, which fits in the slot or recess *e* of the keeper and is arranged in the path of and adapted to come in contact with the terminal shoulders *e'* thereof, so that the vertical swinging movement of the said rear end of the locking-plate is limited in both directions.

The front end of the keeper lies flush with the front side of the door-casing, while the front end of the locking-plate projects beyond the said front side of the keeper and the door-casing. The front extended end of the locking-plate is provided with an integral shoulder, *d'*, against which the lug *f* of the door-plate is adapted to impinge, the front side of the shoulder *d'* of the locking-plate being beveled or inclined, so that the lug on the door-plate will ride very easily and freely over the same in order to automatically engage the plates and prevent the door from swinging open.

The locking-plate is pivoted near its front end, so that the rear end is heavier than the front end, and the lip on the rear end is in con-



tact with the lower terminal shoulder of the keeper, thereby normally elevating the beveled shoulder  $d'$  of the locking plate into the path of the lug  $f$  of the door-plate.

5 This being the construction of my invention, the operation thereof is as follows: To close the door and lock the same it is merely forced or closed to, so that the underside of the lug  $f$  will impinge upon the beveled side of the lug  $d'$ ,  
10 and the free end of the swinging locking-plate is thereby depressed to adapt the shoulder  $d'$  thereof to be engaged with the lug of the door-plate, thereby preventing the door from opening. When the outer end of the locking-plate  
15 is depressed by the lug  $f$  riding on the beveled lug thereof, the rear end of the said locking-plate is elevated to adapt the lug of the door-plate to clear the shoulder on the locking-plate, and the upward movement of the rear  
20 end of the locking plate is limited by the flange  $d$  thereof coming in contact with the upper terminal shoulder of the notched keeper-plate, when the locking-plate is violently struck by the door-plate in closing the door with unnecessary force. When the lug  $f$  of the door-plate  
25 clears the beveled shoulder  $d'$  in latching the door, the rear end of the locking-plate falls or drops by gravity until the flange or rib  $d$  thereof comes in contact with the lower terminal shoulder of the keeper, whereby the front  
30 end of the locking-plate will again be elevated, so that the lug  $f$  of the door-plate cannot become detached from the beveled shoulder  $d'$  without first depressing the front end of the  
35 locking-plate by hand.

To open the door, the first and second fingers of the hand grasp the knob of the door and the thumb depresses the outer end of the locking-plate, so that the shoulder  $d'$  thereof is  
40 forced beneath the plane of the shoulder  $f$ , when the door can swing open very freely and without hinderance from the locking-plate.

After the door is opened and the locking-plate released, the rear end thereof falls or drops, and thereby elevates the front end into position again in the path of the shoulder  $f$  on the door-plate to automatically engage the said door and locking plates when the door is closed again. 45

My invention can also be applied to gates 50 and other objects, and, if desired, the inner end of the locking-plate can be provided with a suitable knob or finger-piece for its convenient operation when used as a gate-latch.

My invention is very simple, strong, and durable in construction, effective and reliable in operation, and cheap and inexpensive of manufacture. It can be easily applied by an unskilled person and operated by one hand to open the door. 55

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 60

In a latch, the combination of a keeper having the shoulders  $e'$  on its rear edge, a swinging locking-plate pivoted to the keeper at an intermediate point of its length and having a flange or rib at its rear end, which projects therefrom into the path of the shoulders  $e'$ , and is adapted to come in contact with the said shoulders to limit the movement of the plate, and the door-plate having the projecting lug adapted to ride upon a beveled shoulder at the front end of the locking-plate, substantially as described, for the purpose set forth. 65 70 75

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

WILLIAM WASHINGTON DEY.

Witnesses:

A. F. HESS,  
JNO. HURD.