(No Model.)

H. D. WHEATLEY.

DOOR LATCH.

No. 477,790. Patented June 28, 1892.

Fig. 1.

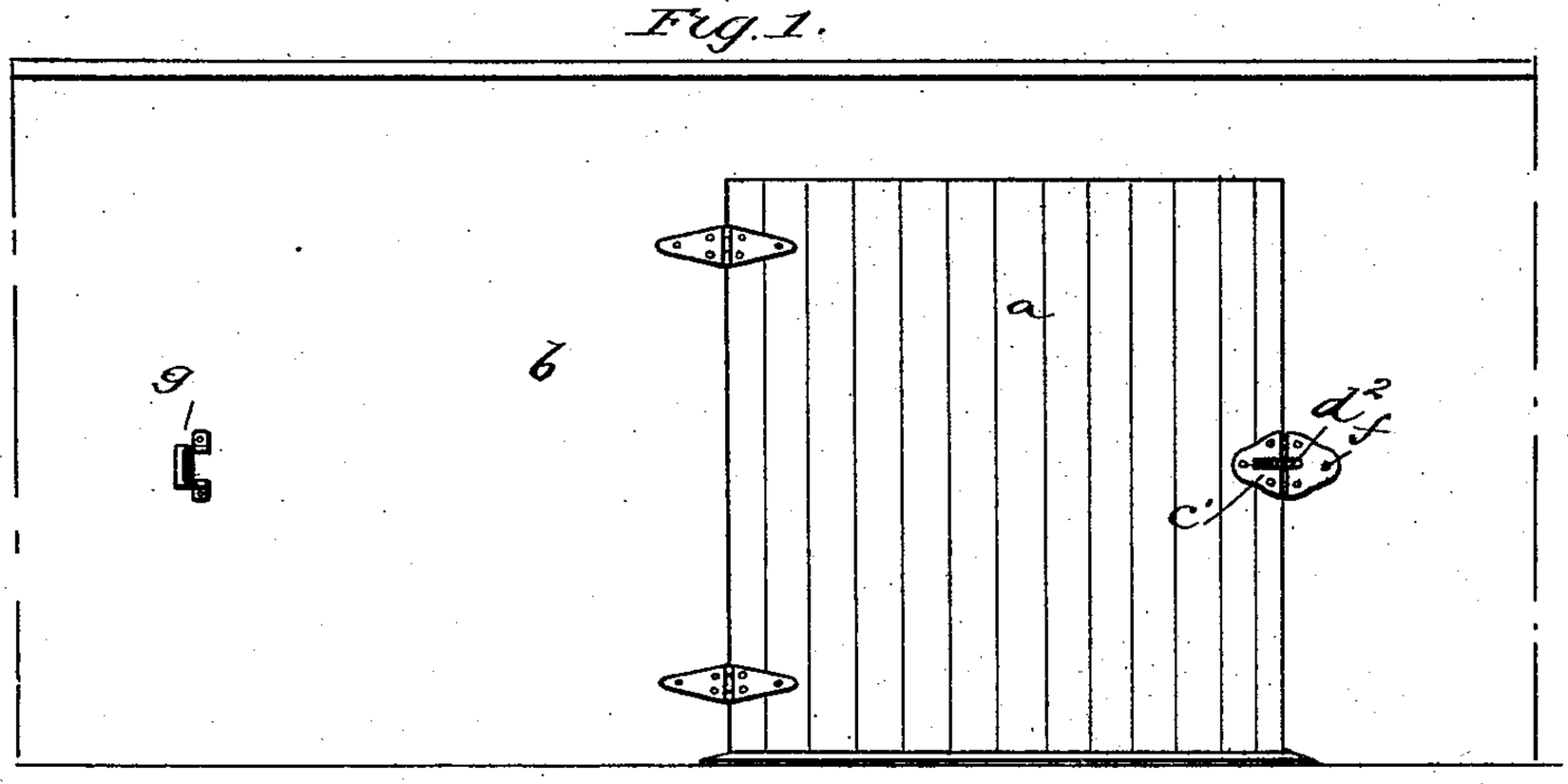


Fig. 2.

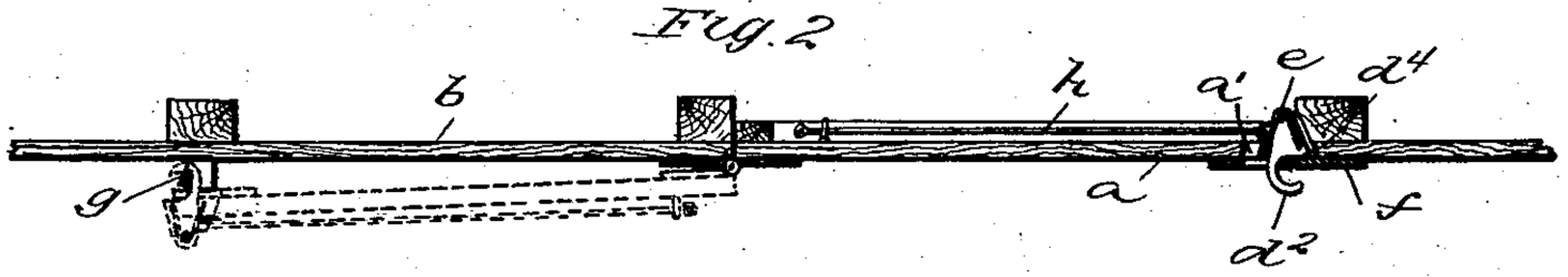


Fig. 3.

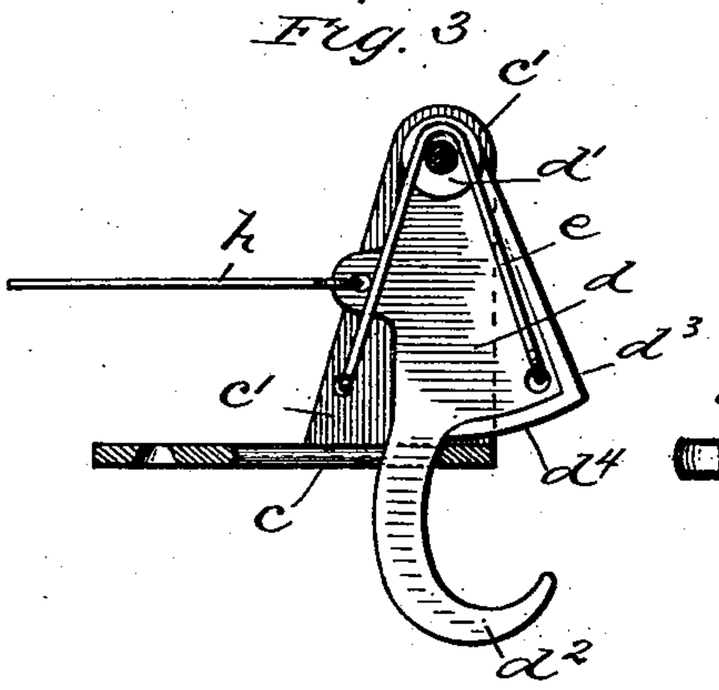


Fig. 4.

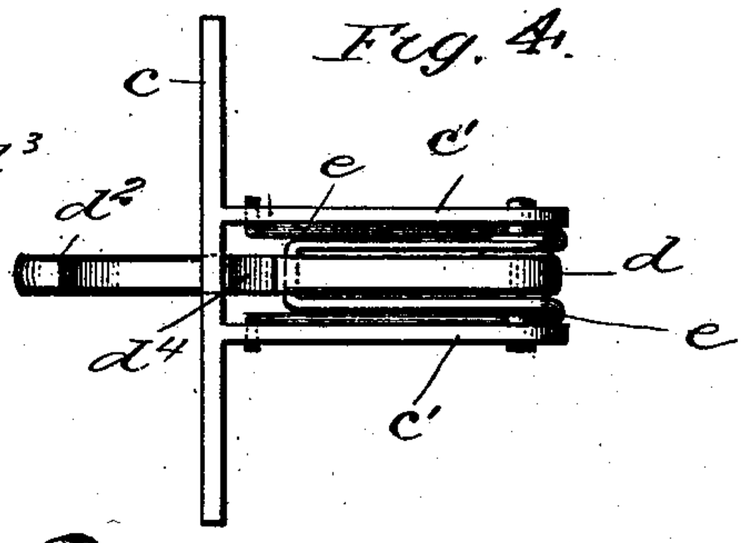
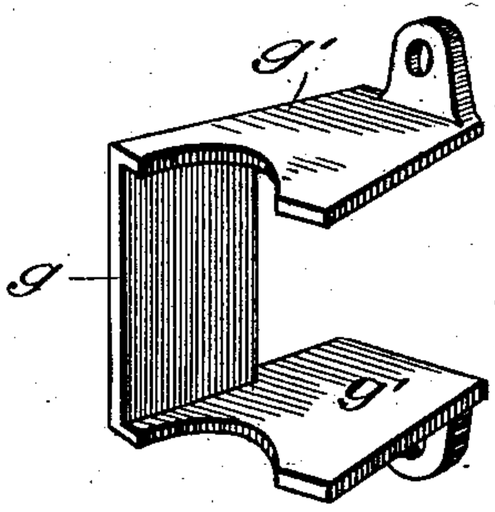


Fig. 5.



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UNITED STATES PATENT OFFICE.

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DOOR-LATCH.

SPECIFICATION forming part of Letters Patent No. 477,790, dated June 28, 1892.

Application filed February 4, 1892. Serial No. 420,352. (No model.)

To all whom it may concern:

Be it known that I, HARRY D. WHEATLEY, a citizen of the United States, residing at Union City, in the county of Randolph and State of Indiana, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a side elevation of a closed door provided with my invention; Fig. 2, a horizontal sectional view thereof; Fig. 3, a detail horizontal view of the catch; Fig. 4, an end elevation of the same, and Fig. 5 a detail perspective of the catch for holding the door open.

This invention is designed to provide a simple latch for swinging doors and gates; and it consists in certain novel features of construction fully hereinafter set forth.

In the drawings, *a* designates an outwardly-swinging door, and *b* the adjacent structure. The latch is secured in a slot *a'* in the edge of the door, and it consists of a plate *c*, screwed to the outer side of the door over the slot *a'* therein, this plate having cast integrally with it a pair of separated parallel arms *c'*, which project inwardly through slot *a'* and beyond the inner side of the door. The latching-plate *d* works horizontally between the arms *c'* and is pivoted at its extreme inner end between the inner ends of the arms, the plate being provided with bosses *d'*, which bear against the adjacent sides of the arms. This plate *d* is provided at its outer end with a hook d^2, which extends out through a horizontal slot in the plate *c*, and is curved to one side toward the edge of the door. One edge d^3 of the latch-plate is inclined from its inner end outwardly, this inclined edge normally projecting beyond the edge of the door and forming a latching-shoulder d^4 at a point just inside of the main plate *c*. The latch is kept normally pressed beyond the edge of the door by means of a spring *e*, which is constructed of a single piece of spring-wire bent into shape. The wire is passed through a hole in the latch near its shoulder d^4, its two arms being then carried inwardly parallel with and close to the inclined edge d^3, and then bent around the bosses *d'*, formed on opposite sides of the plate, the two free arms being carried outwardly and secured by being bent through holes in the respective arms *c'* near the main plate. The wire tending to straighten itself normally keeps the latch pressed beyond the edge of the door, it being restricted in its movements by the hook d^2, working in its slot.

The door-frame adjacent to the latch is provided with a plate *f*, which is securely held in place by screws and with which the latch engages when the door is closed. An inclined bar or plate *g* is secured to the structure *b* in the same horizontal plane with the latch and a sufficient distance from the door-frame to enable the latch to engage it when the door is swung open, this inclined bar being supported away from the structure by legs or plates *g'*, formed integrally with it and secured to the adjacent structure. An operating-wire *h* is connected to the latch and secured on the inside of the door, this wire being preferably extended to near the hinged edge of the door.

In operation, it will be observed, in closing the door the inclined edge of the latch strikes the edge of the plate *f*, secured on the edge of the door-frame, and the latch is thereby forced inwardly until it passes the plate, after which it automatically springs outwardly and its shoulder d^4 engages behind said plate. The door is then latched in its closed position. In opening the door from the inside the wire or cord *h* is drawn upon, and in opening from the outside the hook d^2 serves as a means for operating it. When the door swings open, the curved hook d^2 strikes the inclined face of the bar *g* and automatically engages under the same, as shown in dotted line in Fig. 2, thereby latching the door open.

The advantages of this simply-constructed latching device are obvious. The same latch is employed to hold the door open that is employed to hold it in its closed position. The device is very simple, compact, and durable in construction, and is not liable to get out of order. The operating-wire serves as a means of operating the latch both when it is open and when it is closed, as is evident. The advantage of supporting the inclined bar away

from the structure is that when the door is swung open the main plate *c* strikes against the inclined plate and its supports, and thereby takes up the jar and prevents the curved hook coming in contact with the structure, as shown in Fig. 2.

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

1. In a latch for doors, the combination of main plate *c*, provided with a pair of inwardly-projecting arms *c'*, a spring-actuated latch-plate *d*, pivoted between the inner ends of the arms *c'* and formed with a latching-shoulder, and a hook d^2, projecting outwardly through and working in a slot in the main plate between the arms, substantially as described.

2. The combination of a hinged door and adjacent structure, a latch secured to the door, said latch consisting of a main plate secured on the exterior of the door near its edge and provided with a slot and an arm *c'*, formed on the inner side of the plate and projecting inwardly through a slot in the door, and a latch-plate *d*, pivoted on the inner end of said arm *c'* and having an inclined edge d^3, projecting beyond the edge of the door, and a hook d^2, projecting outwardly through the slot in the main plate, means on the adjacent structure in line with the latch for engaging the hook d^2 when the door is open, an operating-rod *h*, connected to the latch-plate inside of the door, and means on the adjacent structure to engage the latching-shoulder when the door is closed, substantially as described.

3. The combination of a hinged door and a support or structure therefor, a main plate attached to the edge of the door and provided with an arm extending inwardly and passing through a slot in the door, a pivoted latch-plate on the inner end of said arm and provided with a hook on its outer end, said hook projecting outwardly beyond the door, a spring for actuating the plate, and an inclined catch-bar secured to the structure in line with the latch, this bar being supported away from the structure to prevent the hook d^2 from striking the same when the door is thrown open, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY D. WHEATLEY.

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