No. 781,272. PATENTED JAN. 31, 1905.

W. H. DALRYMPLE.

LATCH.

APPLICATION FILED APR. 20, 1904.

Fig. 1.

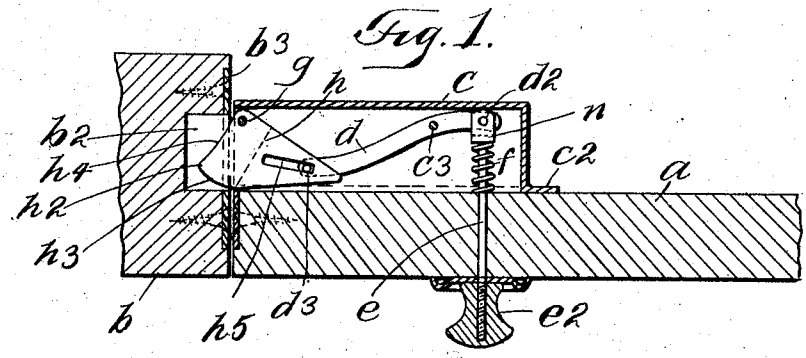


Fig. 2.

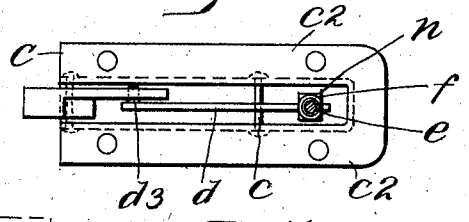


Fig. 3.

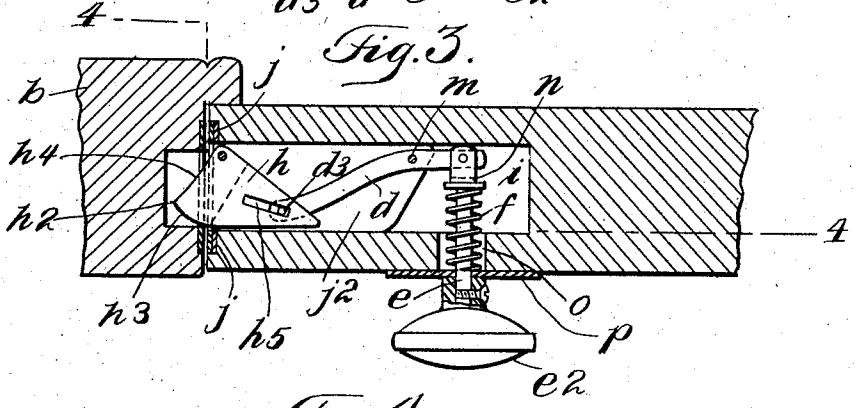
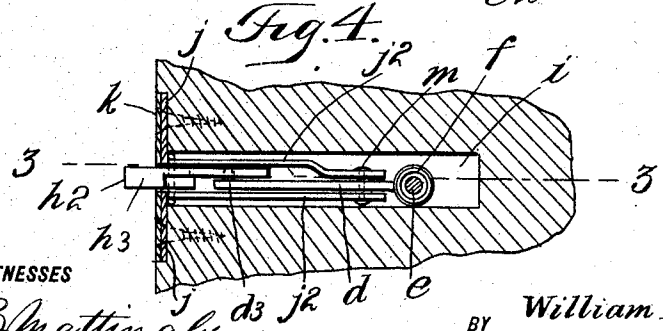


Fig. 4.



WITNESSES

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No. 781,272. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM H. DALRYMPLE, OF BRANCHVILLE, NEW JERSEY.

LATCH.

SPECIFICATION forming part of Letters Patent No. 781,272, dated January 31, 1905.

Application filed April 20, 1904. Serial No. 203,986.

To all whom it may concern:

Be it known that I, WILLIAM H. DALRYMPLE, a citizen of the United States, residing at Branchville, in the county of Sussex and State of New Jersey, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved door-latch designed particularly for use on the doors of cupboards, closets, wardrobes, and the like, but which may also be used on gates, hinged windows, and in any similar relations.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, in which—

Figure 1 is a horizontal section showing my improvement applied to a door as a case-latch; Fig. 2, an inside view of the latch removed from the door; Fig. 3, a view similar to Fig. 1, showing my improvement applied as a mortise-latch; and Fig. 4, a section on the line 4 4 of Fig. 3.

In the drawings forming part of this specification I have shown at a a part of a door, and at b a part of the door-frame, and the frame b is provided in the usual manner with a recess b^2 and face-plate b^3.

In the practice of my invention as shown in Figs. 1 and 2 I provide a latch-case or casing c, which is open at one end and provided with a flange c^2, whereby it may be secured to the door a. Within the case c is provided at c^3 a curved lever d, the shorter arm of which projects toward the closed end of the case c and the lever-arm of which is curved and extends diagonally of said case in the normal position of said lever and in the direction of the open end of said case, as clearly shown in said figure. Pivoted to the shorter arm of the lever d, as shown at b^2, is a rod e, which passes loosely through the door a and is provided with a handle e^2, and mounted on said rod between the door a and the shorter arm of the lever e is a spiral spring f, which normally serves to hold the lever d and the rod e in the position shown in Fig. 1. Pivoted at g just within the open end of the case c and near the outer closed side of said case is a dog h, having a nose h^2, which normally projects from the open end of said case and the side of which opposite the pivotal point g of said dog is beveled, as shown at h^3, and the side of which between the point of the nose and the pivotal point g of the dog is also inclined, as shown at h^4. The dog h is substantially triangular in form, and the longer and pointed end thereof extends into the case c and is provided with a longitudinal slot h^5, through which passes a pin d^3, secured to the longer arm of the lever d, and the dog h is normally held in the position shown in Fig. 1 by the spring f, which serves at all times to force the rod e inwardly. The operation of this form of construction will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. As shown in Fig. 1, the door is closed and is held in the closed position by the dog h, the nose of which projects into the recess b^2 in the frame b. In this position of the parts all that is necessary to open the door is to pull on the handle e^2 of the rod e, which operation will throw the longer arm of the lever d outwardly and draw the nose h^2 of the dog h within the case c, and the door will be free to swing on its hinges. In closing the door the operation of the dog h is automatic, as will be readily understood, the inclined surface h^4 of said dog striking on the plate b^3 and forcing the said dog inwardly until the door is fully closed, when the spring f operates to throw the dog h back into the position shown in Fig. 1.

In the construction shown in Figs. 3 and 4 my improvement is shown as a mortised latch, the door being provided with a mortised recess i, and in this form of construction I provide two plates j, which are secured to the face of the door and each of which carries a supplemental plate j^2, which extends parallel into the recess i, and a face-plate k is placed over the plates j and secured to the door and serves to hold the plates j in position. In this form of construction the lever d is pivoted

between the inner ends of the plates j^2, as shown at m, and the dog h is the same as in the construction shown in Figs. 1 and 2 and connected with the longer arm of the lever d in the same manner, and the operation will be the same as with the construction shown in said Figs. 1 and 2.

In the construction shown in Figs. 1 and 2 the rod e is provided at its inner end with head n, by means of which connection is made with the shorter end of the lever d, and the rod e, as shown in Fig. 3, is similarly provided; but in Fig. 3 the door is provided on the inner side with a large opening o, through which the head n of the rod e is passed, and the spring f, employed in the construction shown in Fig. 3, is held in place by means of the head n of the rod e and an escutcheon-plate p, secured to the door.

It will be understood that the plates j and j^2 in the construction shown in Figs. 3 and 4 form a casing, support, or holder for the operative parts of the latch, and any suitable form of device or devices which can be secured in the mortised recess i may be substituted for said parts without departing from the spirit of my invention or sacrificing its advantages.

With both forms of construction shown all that is necessary to open the door is to pull on the knob or handle e^2 of the rod e and the dog h will automatically operate when the door is closed, and it will be apparent that my improved latch, as herein shown and described, can be operated so as to open the door only from the inner side thereof.

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

1. In a latch for doors, a curved lever, a rod connected with the shorter end of said lever and extending inwardly through the door, a spring adapted to force said end of said lever outwardly and a triangular dog pivotally supported adjacent to the face of the door and the nose of which normally projects therefrom, said nose being beveled at both its outer and its inner edges, the nose of the dog being also at the wider end thereof, and the other end of said dog being extended in the direction of said rod and provided with a longitudinal slot, and a pin connected with the longer end of said lever and passed through said slot, substantially as shown and described.

2. A case-latch for doors, comprising a case adapted to be secured to the outside of the door and the end of which adjacent to the face of the door is open, a curved lever pivoted in said case and ranging diagonally thereof, a rod pivoted to the inner and shorter end of said lever and passing inwardly through the door, a spring for forcing the shorter end of said lever outwardly, a triangular dog pivoted within the open end of said case and the nose of which projects normally therefrom, the nose of said dog being at the wider end thereof and being beveled at both its inner and outer edges, the narrower end of said dog being projected in the direction of said rod and provided with a longitudinal slot, and a pin connected with the longer end of said lever and movable in said slot, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 19th day of April, 1904.

WILLIAM H. DALRYMPLE.

Witnesses:
F. A. STEWART,
C. J. KLEIN.