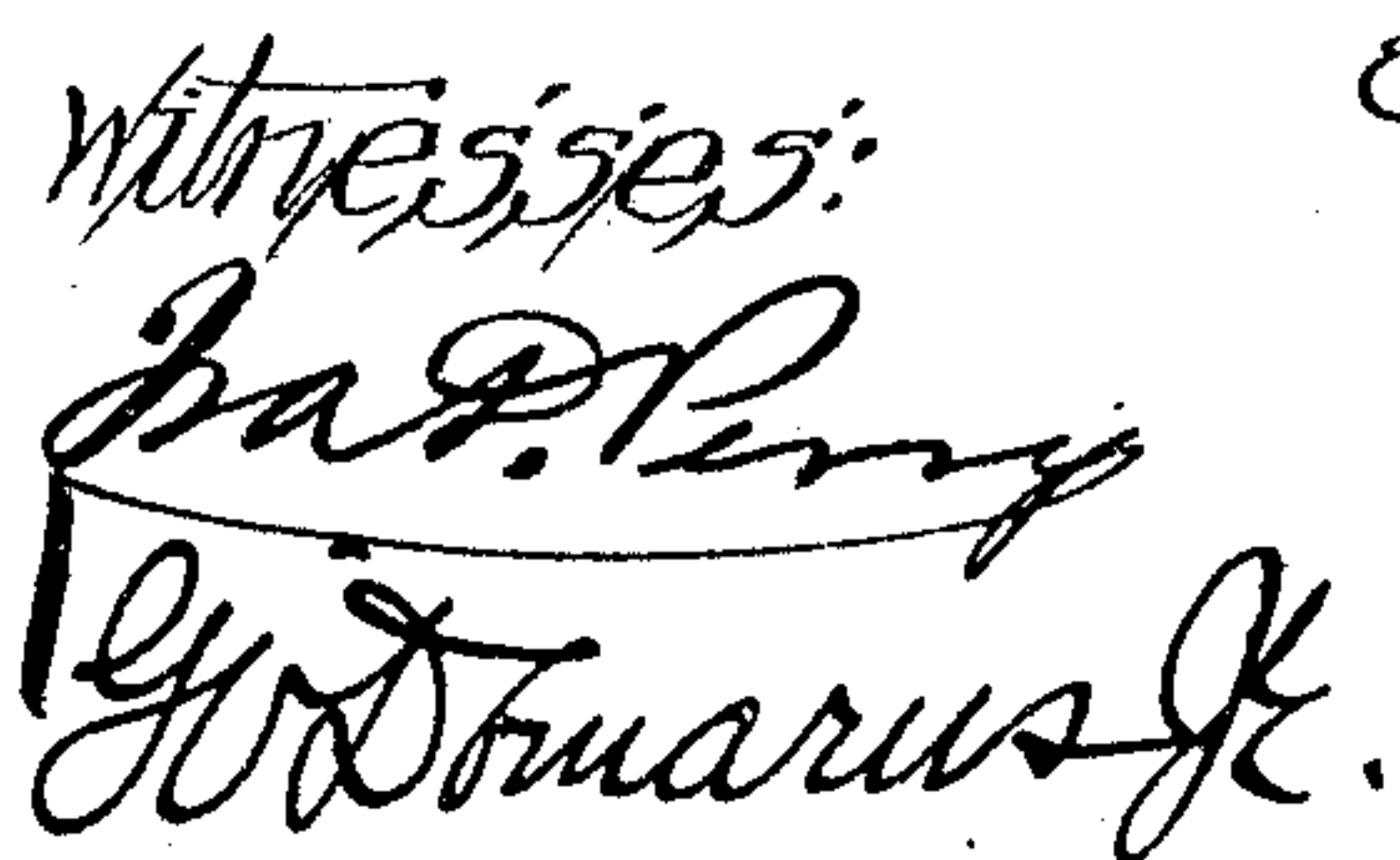


947,404.

Patented Jan. 25, 1910.



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# UNITED STATES PATENT OFFICE.

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## LATCH FOR CUT-OUT BOXES.

947,404.

Specification of Letters Patent.

Patented Jan. 25, 1910.

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*To all whom it may concern:*

Be it known that I, THOMAS Q. ANDRAZYK, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Latches for Cut-Out Boxes, of which the following is a specification.

This invention relates primarily to latches for fastening the doors or hinged covers of wooden storm boxes or boxes for holding electric switches or cut outs, but is applicable to boxes of other material or for other purposes, and even to cupboard and other doors, as will be apparent from the ensuing description.

With storm or cut out boxes exposed to the inclemencies of the weather it is desirable to have a latch that is readily released by one hand, the hand that grasps the opening handle, since the other hand of the operator or lineman may be loaded or otherwise engaged; also to be able to use that hand in a strong pull in case the woodwork is swollen and bound by rain or damp. The ordinary rotary knob and latch used in house-doors present a structure too complicated and too expensive for such purpose.

Accordingly the object of the present invention is to provide a simple and inexpensive latch and handle, not liable to get out of order, while yet enabling the operator to manipulate the latch and throw open the door with one hand. To this end the strap-handle is fixed to the door or cover in such relation as to be grasped by the first and second, or other fingers of the hand, with the thumb outside adjacent the jamb, while the latch proper is mounted on the corresponding side wall of the box or upon the door post to catch over the edge of the door, or a projecting part thereof, and is formed with an outstanding ledge or thumb-piece at its nose to receive the pressure of the operator's thumb, whereby it can be disengaged from the door without removing the fingers from the handle.

In the drawings: Figure 1 is a perspective view of a wooden cut out box, or storm box, with handle and latch embodying my invention applied thereto; Fig. 2, a sectional detail showing a longitudinal slot in the outer foot-plate of the handle, designed to permit a blow on the bendable or malleable loop of the handle to extend said foot-plate to compensate for shrinkage of the door or

cover, also showing a fixed stop for the latch; Fig. 3, a like sectional detail, showing the latch applied to a tin box and confined by a movable stop and coiled spring adjustable in tension, the latch-stop being also adjustable in action, and Fig. 4, a fragmentary view explaining the modification of the latch when mounted in a door case.

Referring now to said drawings, the numeral 1 indicates a cut out box preferably of the construction described and claimed in Letters Patent 901,939, granted me on the 27th day of October, 1908. To the door or lid of this box is secured a handle 2, advisably of bendable or malleable strap metal, the loop 3 of which is of sufficient size to admit one or more fingers of the hand, leaving the thumb outside adjacent to the side of the box or jamb of the door. The handle is secured to the door by screws or rivets passing through its foot-plates 4, 4<sup>a</sup>, and the foot-plate 4 that is nearest the side or jamb, that is the one which will come under the thumb, may be longitudinally slotted, as at 5, to receive its fastening rivet or screw so that, in case the wooden door shrinks, a blow of the fist or a hammer tap on the handle loop will project the foot-plate sufficiently to bridge the gap between it and the jamb. This plate, 4, is elongated to reach the edge of the door and serve as a wear-plate for the engagement of the latch. In fact it may reach past the edge proper of the door and partly over the jamb, as shown, and may be considered a metallic projection of such edge, or cleat secured thereto, for the engagement of the latch.

The latch 6 is, or may be, of spring metal, practically a plate spring, its tang 7 extending down the exterior of the side wall of the box or casing, practically perpendicular to the plane of the closed door, and being suitably secured to said wall at its lower end by bolt or rivet 8, and its upper end or top, speaking conventionally with reference to the relative positions as shown in Fig. 1, being bent over horizontally, 9, to close upon adjacent foot- or wear-plate 4 and lock the door into the casing, while its nose is turned up or out into ledge or thumb-piece 10, as shown, proximate to the position of the thumb. Thus, supposing the first and second fingers of the hand to be passed through the loop of the handle and the thumb to be passed outside said loop and over the wear-plate 4, an outward pressure of the thumb



will be sufficient to disengage the latch and the door or cover can readily be pulled open with the fingers, the thumb resting in contact with the upturned ledge of the latch  
5 until the door sufficiently passes it to prevent reengagement.

If desired a fixed stop 11 may be secured to the side of the box, being first passed through a slightly elongated aperture 12 in  
10 the tang of the latch, to limit the distance to which the latch can be pushed out, as shown in Fig. 2. This, also, will reduce the danger of breakage. Or a movable and adjustable  
15 stop 11<sup>a</sup>, playing through the side-wall of the box or casing, screw-threaded at its inner end and receiving an adjusting nut 13, may have a coiled spring 14 confined upon its  
20 shank between said nut and the interior wall of the box in such manner that its tension may be adjustable, as shown in Fig. 3. In  
25 this latter case the lower end of the latch-tang may be confined to the box by a hinge 15 instead of the aforesaid bolt or rivet. The box may also be of sheet metal, as shown in

Should the tang of the latch become bent, or for any reason otherwise the latch fail to reach and engage with the part 4 of the door, the stop-rod above described, by its  
30 adjustment, will afford auxiliary means in cooperation with said part for closing the gap.

In Fig. 4 is depicted a modified form of latch for regular doors and door-frames,  
35 wherein a housing 16 is set in the door-post or jamb and receives a coiled spring 17 and the cylindrical tang 7<sup>a</sup> of the latch, this tang being seated against the spring and parallel with the latch-surface 9<sup>a</sup> which rises above  
40 the plane of the tang and terminates in the out-setting ledge or thumb-piece 10<sup>a</sup> in the same relative position for operation by the thumb as in the previously described construction.

45 Since it is necessary that the door itself push aside the latch when swung shut, or at least desirable that it should do this for the sake of a simplified construction, the ledge or thumb-piece on the nose is inclined or  
50 beveled backward from nose to crest so that the door in closing, or the edge of the wear plate 4, will strike the bevel thus formed at the crest, and as it travels down the incline to the nose will force the latch backward  
55 and finally pass by it, permitting it to spring forward and again lock the parts.

Having thus described my invention and the best manner now known to me in which it may be carried out, what I claim and desire to secure by Letters Patent of the United  
60 States is:

1. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb  
65 free adjacent to the jamb or fixed side-piece,

and an elastically yielding latch carried by said side-piece and constructed with a latch-surface for engaging over a part of the door and an outstanding thumb-piece from its nose, in such relation to the handle that the  
70 latch can be forced back by the direct pressure of the thumb on said thumb-piece.

2. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb  
75 free adjacent to the jamb or fixed side-piece, and an elastically yielding latch carried by said side-piece and constructed with a latch-surface closing over a part of the door and an upwardly and rearwardly inclined thumb-piece outstanding from its nose proximate  
80 to the position of the thumb, to be acted upon thereby, and also affording a bevel to be struck by the door, in closing, to force the latch back.

3. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb  
85 free adjacent to the jamb or fixed side-piece, an elastically yielding latch carried by said side-piece and constructed with a latch-surface to engage a part of the door and an upwardly and rearwardly inclined thumb-piece outstanding from its nose proximate  
90 to the position of the thumb, to be operated by the latter, and also serving as a bevel to be struck by the door, when swinging shut, and an adjustable part of the door engaged by the latch, adapted to be set up to bridge  
95 any gap opened by warp or shrinkage.

4. The combination with a hinged cover or door, of a looped handle adapted to be grasped by the hand and having foot plates whereby it is secured to the door, one of  
100 said feet extending outward to the edge of the door to afford a wear-plate, an elastically yielding latch mounted on the jamb or fixed side-piece and closing over said wear-plate, and means for pushing said latch away from the wear-plate.

5. The combination with a hinged cover or door, of a looped handle adapted to be grasped by the hand, constructed of malleable or bendable material and having foot-plates whereby it is secured to the door, one  
110 of said plates extending outward to the edge of the door to afford a wear-plate and being longitudinally slotted and confined by a single fastening capable of playing in said slot, whereby said wear-plate may be extended by a blow on the loop of the handle, and an elastically yielding latch mounted on the jamb or fixed side-piece and closing over  
115 said wear-plate to lock the door or cover.

6. The combination with a hinged cover or door, of a looped handle adapted to receive one or more fingers of the hand in said loop and leave the thumb outside adjacent to the fixed side-piece, and having foot-plates whereby it is secured to the door, one  
120 130



of said foot-plates extending outward beneath the position of the thumb to the edge of the door, to afford a wear-plate, an elastically yielding latch mounted on the jamb or fixed side-piece and closing over said wear-plate, and a ledge or thumb-piece outstanding from the nose of said latch.

7. The combination with a hinged cover or door, of a looped handle adapted to receive one or more fingers of the hand within the loop and leave the thumb outside adjacent to the fixed side-piece, constructed of malleable or bendable material and having foot-plates whereby it is secured to the door, one of said foot-plates extending outward beneath the position of the thumb to the edge of the door to afford a wear-plate and being longitudinally slotted and confined by a single fastening adapted to play in said slot, whereby the wear-plate may be projected by a blow on the loop of the handle, an elastically yielding latch mounted on the jamb or fixed side-piece and playing over said wear-plate to lock the door or cover, and a ledge or thumb-piece outstanding from the nose of said latch.

8. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb free adjacent to the jamb or fixed side-piece, and a latch constructed with a tang adapted to yield elastically, secured by one end to the fixed side-piece, extending along said side-piece in a practical perpendicular to the plane of the closed door and to about a level therewith, then bent in to take over a part of said door and confine the latter, and finally terminating at its nose, proximate to the position of the thumb, in an outstanding ledge serving as thumb-piece for disengagement and as opening bevel for automatic action when the door swings shut.

9. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb free adjacent to the jamb or fixed side-piece, an elastically yielding latch constructed with a tang secured to the side-piece at one end, extending along said side-piece perpendicularly to the plane of the closed door to about a level therewith, then bent in to engage a part of said door and confine the latter, finally terminating in an outstanding thumb-piece at a point proximate to the position of the thumb, and an adjustable stop coacting with the tang to limit the retreat of the latch and to serve for its adjustment to insure engagement.

10. The combination with a hinged cover or door, of a handle adapted to be grasped by fingers of the hand and leave the thumb free adjacent to the jamb or fixed side-piece, a yielding latch constructed with a tang secured to the side-piece at one end, extending along the side-piece perpendicularly to the plane of the closed door to about a level therewith, then bent in to take over a part of the door and confine the latter, finally terminating in an outstanding thumb-piece at a point proximate to the position of the thumb, a stop-rod playing through the tang and fixed side-piece between the fixed end of the tang and its inward bend and limiting the outward movement of the latch, means for adjusting the play of said stop-rod, and a coiled spring embracing said stop-rod, operating to draw the latch inward, and adjustable in tension by the means which adjust the play of the stop-rod.

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Witnesses:

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