July 3, 1945. B. R. THIELE 2,379,613

LATCH

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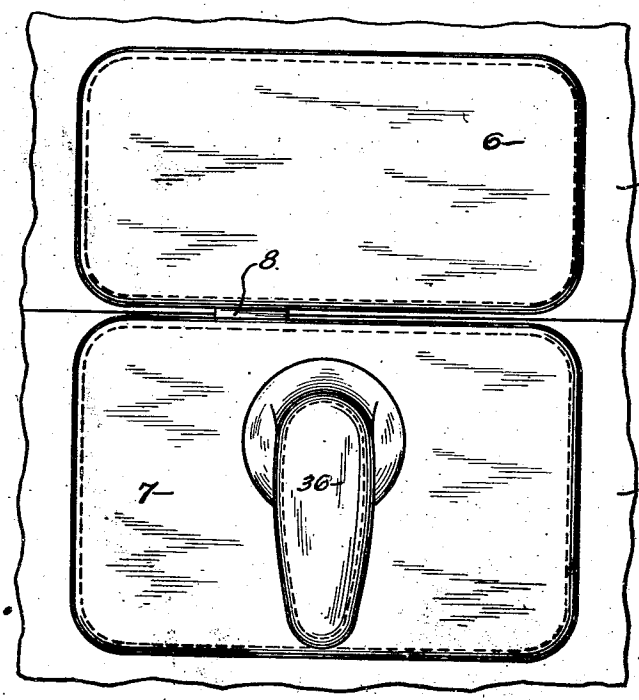


Fig. 1.

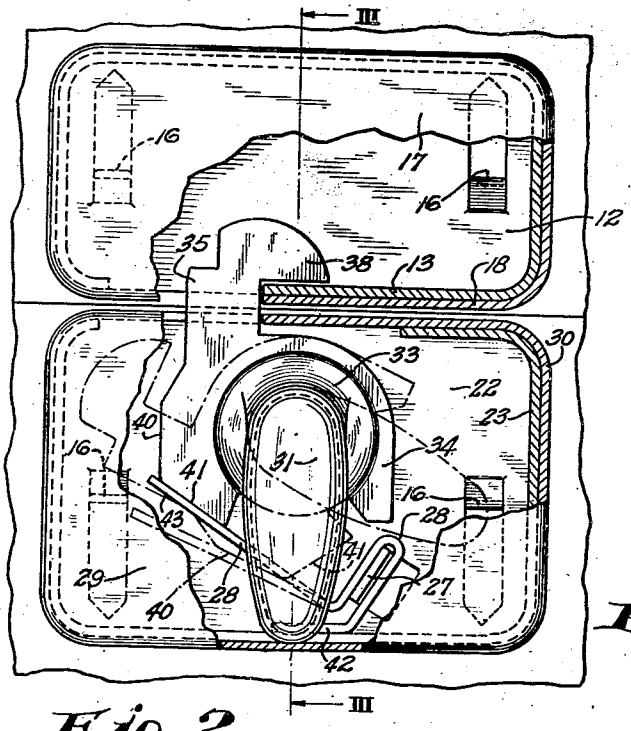


Fig. 2.

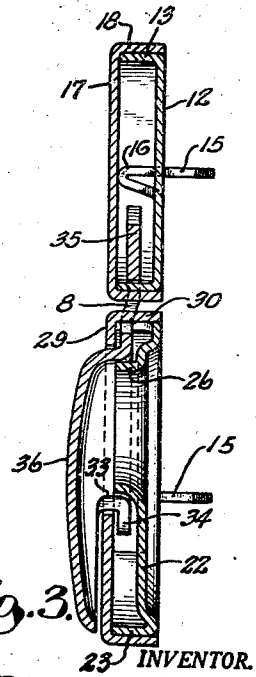


Fig. 3.

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LATCH

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6 Claims. (Cl. 292—103)

This invention relates to improvements in latches for boxes or cases and the like.

One object of the invention is to provide a latch structure in which the several parts are held in operative position and relationship and mutually support each other by assembly of the parts only.

Another object of the invention is to provide a latch, hereinafter particularly described, which is extremely simple and compact in construction, reliable and effective in operation, attractive in appearance, susceptible of economical manufacture and which may be readily applied to a box or case and the like.

Another object of the invention is to provide a latch in which the same means are employed for holding the latch bolt both engaged with and disengaged from the keeper and which provides for a positive positioning of the bolt in each of its two above positions.

Objects and advantages other than those above set forth will be apparent from the following description when read in connection with the accompanying drawing, in which:

Fig. 1 is a front elevation of the latch of the present invention mounted on a fragment of a box or case;

Fig. 2 is a front elevation of the latch with portions of the keeper and the bolt housing covers broken away to show the relationships of the several latch parts; and

Fig. 3 is a section taken on the plane of the line III—III of Fig. 2.

Referring to the drawing by reference numerals, numeral 6 designates a casing mounted on one portion of the box or case and numeral 7 generally designates a housing mounted on the other portion of the box or case and enclosing a latch bolt generally designated 8. The several box portions are indicated at 10 and 11 and only fragments thereof are shown.

The casing 6 forms a bolt keeper and comprises a base 12 with a partial peripheral flange 13 and with prongs 15 struck therefrom for fastening the base to a box portion, the prongs having reverse bent portions 16. The base 12 is enclosed by a cover 17 having a partial peripheral flange 18 interfitting with the base flange and suitably secured thereto. When the keeper base and cover are assembled, the prong reverse bends 16 extend adjacent the inner surface of the cover 17 and transmit any pressure on the cover directly through the prongs to the box. The assembled keeper 12, 17 may therefore be fastened on the box, as by pressing the prongs 15 into the box or case frame, without danger of deforming the cover during the fastening operation. And the prongs with their reverse bends are preferably so spaced relative to each other as to best fulfill both the function of transmitting pressure from the casing cover to the box and of fastening the casing to the box.

The bolt housing 7 includes a base 22 with a partial peripheral flange 23 and with prongs 15 formed with reverse bends 16 and struck from the base. The housing base 22 is formed with a circular opening flanged to form a pivot post 26 extending from the base and with a lug 27 struck from the base adjacent the peripheral flange thereof to provide an anchor for a spring 28. The bolt housing is completed by the cover 29 having a partial peripheral flange 30 interfitting with and suitably secured to the base flange 23 and having an opening therethrough to accommodate the bolt 8, as will be hereinafter described.

The latch bolt 8 has a substantially cylindrical hub-like portion 33 with a partial peripheral flange 34 extending outwardly therefrom. An extension 35 from the bolt flange is notched to form a hook 38 for engaging the overlapped flanges 13 and 18 of the casing 6 and an extension is made from and preferably integral with the hub 33 to form a handle 36. The bolt flange 34 is provided with flats 40 and 41 which are alternately engaged by the spring 28 in the latched or unlatched position of the bolt. The spring 28 is preferably a leaf spring looped about the anchor lug 27 with one end 42 of the spring bearing on the housing base flange 23 and the other spring end 43 bearing on the bolt flats 40 or 41 dependent on the position of the bolt.

When the bolt housing and the bolt are to be assembled, the bolt handle 36 is passed through the opening in the housing cover 29 until the bolt flange 34 lies against the inner surface of the housing cover. The bolt hub 33 then fits into the housing cover opening with only sufficient clearance to be readily rotatable therein. The housing base flange 23 is then interfitted with the housing cover flange 30 which positions the pivot post 26 in the bolt hub 33. The pivot post 26 is of such shape and size as to center the bolt hub 33 in the housing cover opening and to hold the bolt in the housing 7 in operative relation to the casing 6 which serves as a keeper.

When the bolt hook 38 engages with the casing flanges 13 and 18, as shown in full lines in Fig. 2, the spring end 43 bears on the bolt flat 41 and retains the bolt in the latched position. If the bolt is to be unlatched from the casing,

the bolt handle 36 is turned to swing the bolt in counterclockwise direction about the pivot post 26. The spring end 43 then rides over the corner between the bolt flats 41 and 40 until the spring end 43 bears directly on the flat 40, as shown in dotted lines in Fig. 2. The spring then holds the bolt in its unlatched position.

In the construction above described, the parts struck from the casing and the housing bases provide prongs which transmit any pressure on the covers directly to the box part in which the prongs are embedded, thus preventing deformation of the covers either during the casing and housing mounting operations or during use of the latch. It will be understood that the pressure transmitting bends and the fastening portions of the prongs may be made separate if desired and then will each perform a single funstion only. The latch bolt is located in the proper position in the housing only by the post 26 on which the bolt pivots in the desired relation to the several other portions of the housing 7. Assembly of the bolt and the housing parts alone places the parts in the desired relationship and the parts mutually support each other in operative position.

Although but one embodiment of the present invention has been illustrated and described, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit of the invention or from the scope of the appended claims.

I claim:

1. In a latch, a housing including a base and an apertured cover, the base having a pivot post struck therefrom to extend toward the cover, and a latch bolt having a hub-like portion with a handle extending therefrom and with a flange extending therefrom, the assembly of the base and the cover seating the bolt on the pivot post and holding the flange in contact with the cover with the handle extended through the cover aperture.

2. In a latch, a housing including a flanged base and a flanged cover, the base having a pivot post struck upwardly therefrom toward the cover, and a latch bolt having a hub portion seating on the pivot post and formed with a flange extending therefrom, the base pivot post and the latch hub being dimensioned to bring the hub flange into contact with the housing cover upon assembly of the base and the cover with the base flange engaging the cover.

3. In a latch, a housing comprising a base and a cover with interfitting flanges, the base having prongs formed thereon and reversely bent upwardly from the base toward the cover and having a pivot post formed upwardly from the base toward the cover, and a latch bolt having a hub portion seating on the pivot post and formed with a flange extending therefrom, the base flange and the reverse bend of the prongs and the pivot post being dimensioned to bring the base flange and the bend of the prongs into contact with the cover and bring the hub flange substantially into contact with the cover upon assembly of the base and the cover.

4. In a latch, a housing including a flanged base and a flanged cover, the base having a pivot post and a lug struck upwardly therefrom toward the cover, and a latch bolt having a hub portion seating on the pivot post and formed with a flange extending therefrom, the base flange and the lug being dimensioned to come into contact with the cover and the latch bolt flange coming substantially into contact with the cover upon assembly of the base and cover.

5. In a latch, a housing including a flanged base and a flanged cover, the base having reversely bent prongs and a pivot post and a lug formed therefrom, and a latch bolt having a hub portion seating on the pivot post and formed with a flange extending therefrom, the base flange and the reverse bend of the prongs and the lug being dimensioned to engage and support the cover and the pivot post and the bolt hub being dimensioned to bring the bolt flange substantially into contact with the cover upon assembly of the base and the cover.

6. In a latch, a housing including a base and cover with interfitting flanges, the base having reversely bent prongs and a pivot post and a lug formed therefrom, and a latch bolt having a hub portion seating on the pivot post and formed with a flange extending therefrom, the prongs being formed in spaced relation to the flange and the lug being formed intermediate the prongs, the base flange and the bend of the prongs and the lug being dimensioned to engage and support the cover and the pivot post and the bolt hub being dimensioned to bring the bolt flange substantially into contact with the cover upon assembly of the base and the cover.

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