March 6, 1945. G. R. CHERVENKA 2,370,841

LATCHING MECHANISM

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Fig. 1.

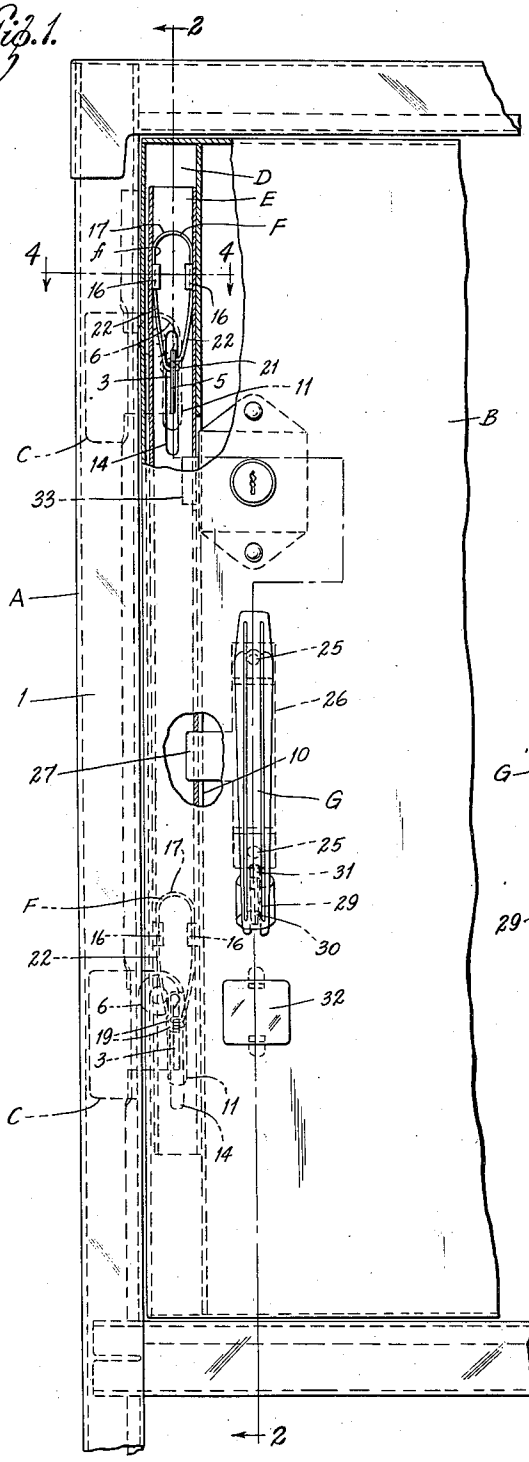
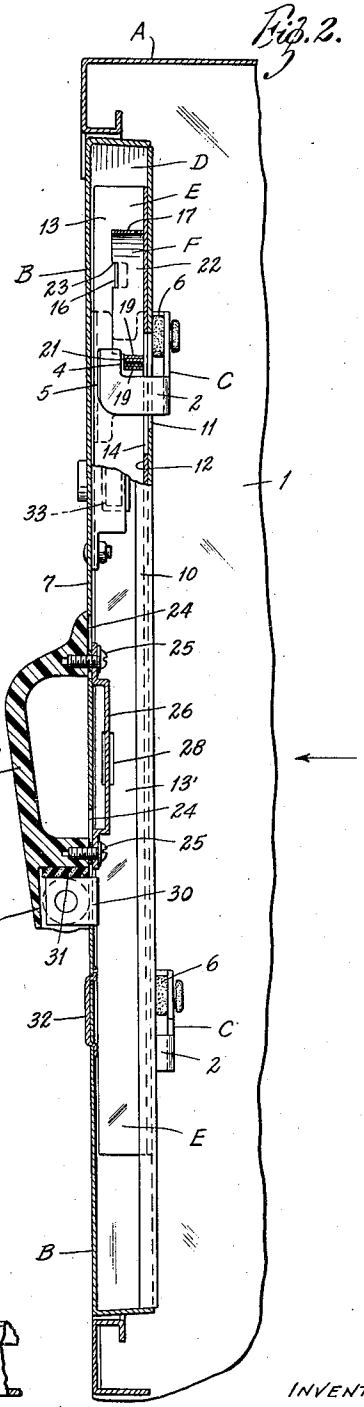


Fig. 2.



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Fig. 3.

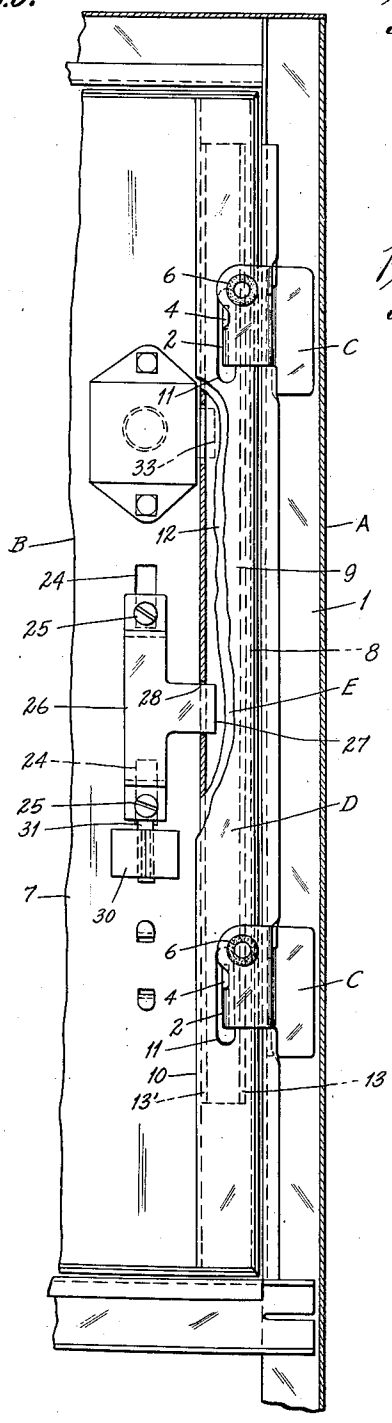


Fig. 4.

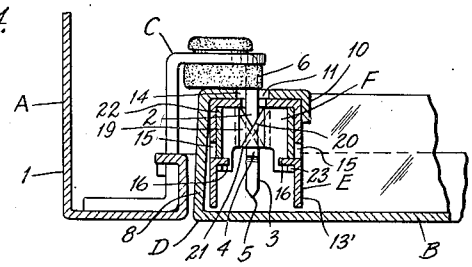


Fig. 5.

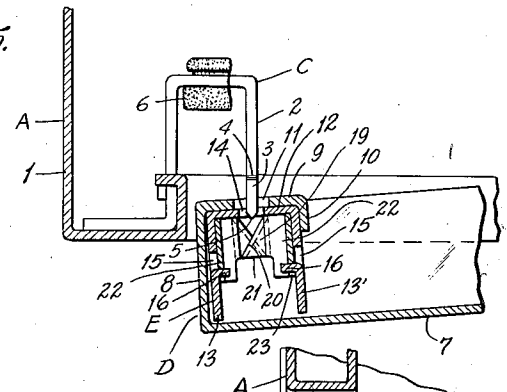


Fig. 6.

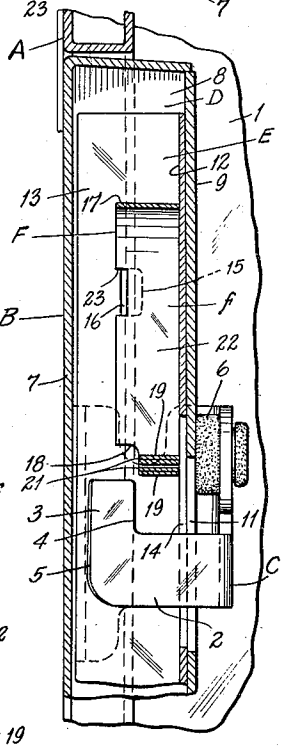
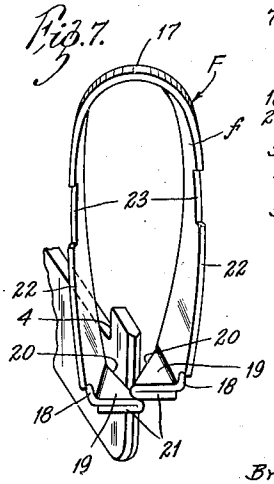


Fig. 7.



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LATCHING MECHANISM

George R. Chervenka, St. Louis, Mo.

Application December 24, 1943, Serial No. 515,529

6 Claims. (Cl. 292—19)

This invention relates generally to latching mechanisms and, more particularly, to a certain new and useful improvement in means or mechanisms especially, though not exclusively, adapted for latching in or to its frame or casing the door of a clothes-locker or the like.

On August 22, 1933, Letters Patent No. 1,923,903 were issued to Mr. Frank Albach and to me for a locker latching mechanism of unique structure. Such latching mechanism is quite efficient, but yet, experience has demonstrated, may, through and by the manipulation of a tool by an unauthorized person, be "picked," enabling opening of the door and then rifling the locker of its contents.

My present invention has for its chief object the improvement generally of such latching mechanism, to the end that "picking" of the latching mechanism is practically impossible.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings (two sheets),

Figure 1 is a fragmentary elevational view, partly broken away and in section, of a locker-door and its casing equipped with latching mechanism embodying my invention;

Figure 2 is a longitudinal sectional view of the door and its casing taken approximately on the line 2—2, Figure 1;

Figure 3 is an inside elevational view, looking in the direction of the arrow, Figure 2, of the door and its casing;

Figure 4 is a transverse or horizontal sectional view taken approximately along the line 4—4, Figure 1;

Figure 5 is a similar view to Figure 4, showing a latch-member in the act of engaging its keeper in the closing of the door;

Figure 6 is an enlarged detail view, partly in elevation and partly in section, of the door and latching mechanism, illustrating disengagement between a latch-member and its keeper for enabling opening of the door; and

Figure 7 is an enlarged perspective view of one of the co-operable latch-members of the mechanism.

Referring now more in detail and by reference characters to the drawings, which illustrate a preferred embodiment of my invention, A designates an apertured frame or casing adapted for closure by a preferably hinged or swingable door B, presently described.

The frame or casing A, in the preferred use of my invention, forms part of a clothes-locker, cabinet, or the like (not fully shown), and of the casing A merely the upright member or jamb 1 which opposes the free margin of the door B when closed is here illustrated.

Suitably fixed on the inner face of the casing-jamb 1 in suitably spaced relation longitudinally therealong, as best seen in Figures 1, 2, and 3, is a selected plurality of angular brackets C, and projecting preferably integrally from each respective bracket C to reside approximately in the door-opening of the frame or casing A, is a forwardly presented keeper 2 approximately in the form of a hook having a bill 3 and an upwardly presented latch-receptive notch, as at 4, the keeper 2 and its bill 3 being preferably beveled, as at 5, along the forwardly presented vertical margin thereof, for purposes shortly appearing. Each bracket C, it might be here stated, also supports a yielding stop or buffer 6 adapted for cushioning the swingable movement of the door B to closed position.

In the present embodiment of my invention, the main panel 7 of the door B is formed along its free margin with an approximately rectangular housing D comprising an inwardly presented flange or wall 8 having an inturned lateral flange or wall 9, in turn, having its free margin 10 presented outwardly toward the inner face of the door-panel 7, as shown, the flange or wall 9 being suitably at corresponding intervals therealong longitudinally slotted or apertured, as at 11, for accommodating the respective keepers 2 on movement of the door B to closed position, as presently more fully appears.

More or less snugly fitting for endwise longitudinal movement in the door-housing D, is a latch-bar E approximately of U-shape in cross-section, the bar E having its bight 12 in flatwise continguous relation to the housing wall 9 and its side walls or legs 13, 13', presented outwardly toward the door-panel 7 intermediate the housing walls 8 and 10, as best seen in Figures 4 and 5. As shown, the bar-bight 12 is provided longitudinally therealong with slots, as at 14, for registration, when in door-closing or latching position, with the respective slots 11, and, for purposes presently appearing, the bar-side-walls 13, 13', are suitably punched, as at 15, at corresponding locations therealong and thereby integrally provided with inwardly presented opposed rigid lips or lugs 16, 16.

F, F, designate the latch-members proper of the mechanism, which correspond in number to

the number of the keepers 2, and each of which is preferably constructed of a suitable length section *f* of preferably spring steel and arcuately, as at 17, doubled or looped upon itself intermediate its ends and at its free ends cut-away at and along their one or inner margin, as at 18, to provide reduced side wall extensions, which, in turn, are each doubled under or otherwise thickened or reinforced, as best seen in Figure 7, and oppositely bent or projected inwardly in the provision of a pair of normally overlapping yielding or spring jaws 19, 19, oppositely beveled along their front or forwardly presented margin, as at 20, and each having a straight rear or rearwardly presented margin, as at 21, right angularly disposed to the main side walls 22 of the looped section *f*, which latter walls, at suitable locations on their rearwardly presented margins, are suitably cut-away and thereby recessed, as at 23.

So constructed, each respective latch-member F is suitably disposed within the bar E with the jaw-equipped ends of its side walls 22 presented downwardly and springwise interengaged at its recesses 23 with the bar-lips 16. Each latch-member F is thereby securely mounted upon the bar E with its respective jaws 19 located rearwardly of, in operative registration with, and their opposed oblique or beveled faces or margins 20 presented toward, a bar-slot 14.

At suitable intermediate locations adjacent its free margin, the panel 7 of door B is provided longitudinally with spaced slots 24 for accommodating screw or attaching members 25 which engage the upper and lower ends of an angle-plate 26 presented upon the inner face of the door B, as well as also the ends of a handle or manipulative member G presented on the outer face of the door B for convenient manual engagement, the plate 26 having an offset or lateral lip or extension 27 fitting in a slot 28 in the adjacent bar side-wall 13'.

Normally, under the pull of gravity, the bar E is in so-called lower position, when the slots 14 and 11 and the jaws 19 are in registration for keeper-engagement. Hence, on the door B being swung to closed position, each respective keeper 2 will enter into and through its companion or co-operable registering slots 11 and 14 and its beveled bill 3 will engage the beveled or cam faces or margins 20 of the jaws 19 and, on continued movement of the door B to closed position, yieldingly or springwise spread and pass between the jaws 19 and travel to the rear thereof, when the jaws 19 will yieldingly return to normal overlapping relation with the hook-portion 4 of the keeper 2 engaged by the flat overlapping rear walls 21 thereof. The door B will thereby be most securely locked in closed position, any "picking," manipulating, or tampering of the jaws 19 to permit opening of the door B being practically impossible.

However, the bar E, being "unlocked," may, by means of handle G, be readily endwise shifted or slidably moved in its housing D and the jaws 19 of its several latch-members F thereby elevated, as indicated in Figure 6, from and out of engagement with the several keepers 2, when the door B may be conveniently swung to open position. Of course, on release of upward pull upon handle G, the bar E and latch-members F automatically return to normal or door-latching position.

As best seen in Figures 1, 2, and 3, handle G is formed with a chambered extension 29 open at its lower and inner sides to accommodate and house, when the latch-bar E is in normal or door-locking position, an apertured keeper 30 suitably mounted and fixed on the door-panel 7, the housing 29 having apertures in its side walls for registration with the aperture of the keeper 30 for receiving the hasp of a padlock, not shown, for locking the bar E in lowered, and consequently the door B in closed, position.

As shown in Figure 2, a pad 31 is suitably disposed in the housing 29 for cushioning engagement of the handle G with the keeper 30, and preferably a protective plate 32 is suitably mounted on the outer face of the door-panel 7 to eliminate defacing of the door B by an attached pad or hasp lock.

Preferably also the door B is suitably provided with a bolt 33 for projection through a slot suitably provided for the purpose in the bar-wall 13' for selectively retaining or locking the bar E and its attached latch-members F in their normal lower or door-locking position.

The latch-mechanism is exceedingly efficient in the performance of its intended functions, and it should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the mechanism may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

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

1. Door-latching mechanism including a latch-bar and a latch-member, the latter being mounted on the bar and having a pair of opposed yielding jaws provided with arcuately surfaced oblique edges for riding against the edge-face of a keeper projected therebetween.

2. Door-latching mechanism including a latch-bar and a U-shaped latch-member having spring-steel legs capable of torsional twisting movement as they flex toward and away from each other, the latter being mounted on the bar and at its ends having a pair of opposed yielding jaws for engaging a keeper projected therebetween.

3. Door-latching mechanism including a latch-bar and a U-shaped latch-member having spring-steel legs capable of torsional twisting movement as they flex toward and away from each other, the bar and member being constructed for interengagement for securing the member upon the bar and said member at its ends having a pair of opposed yielding jaws for engaging a keeper projected therebetween.

4. Door-latching mechanism including a U-shaped latch-bar having spring-steel legs capable of torsional twisting movement as they flex toward and away from each other, a looped latch-member, and lips on the bar having engagement with the side walls of the latch-member for mounting the latch-member on the bar, the latch-member at its ends having a pair of opposed yielding jaws for engaging a keeper projected therebetween.

5. Door-latching mechanism including a latch-bar of U-shape in cross-section, a looped latch-member, and lips on the bar having engagement with the side walls of the latch-member for mounting the latch-member on the bar, the latch-member at its ends having opposed normally overlapping yielding jaws for engaging a keeper projected therebetween.

6. Door-latching mechanism including a latch-bar having spaced parallel side walls, inwardly

presented opposed lugs projecting from the opposing faces of the side walls, and a U-shaped spring-steel latch-member adapted for snap-fitted retentive engagement with said lugs and thereby being held operatively upon the latch-bars, said latch-member having freely swingable legs spaced inwardly from the side walls and being provided at their lower extremities with inwardly bent overlapping prongs having oblique edges for riding against the edge-face of a keeper projected therebetween and causing said legs to swing outwardly and at the same time twist torsionally to admit and pass the keeper.

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