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THEFT-PROOF DISPLAY RACK

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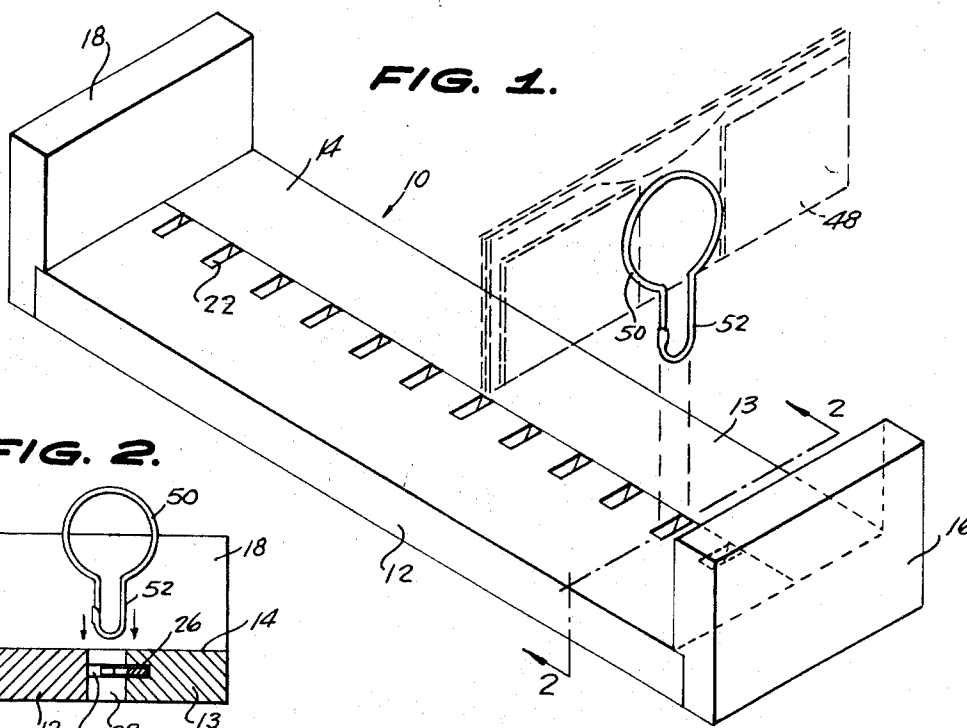


FIG. 2.

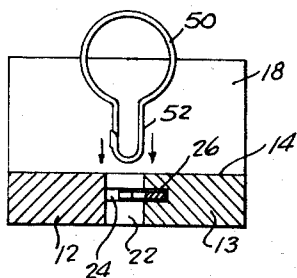


FIG. 3.

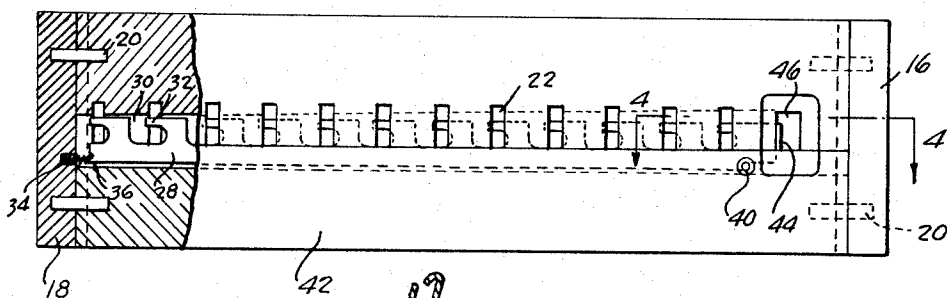


FIG. 4.

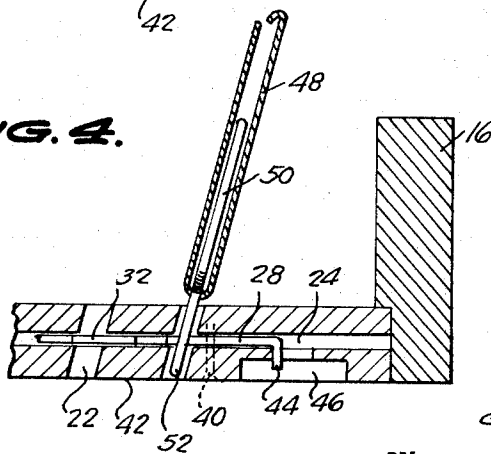
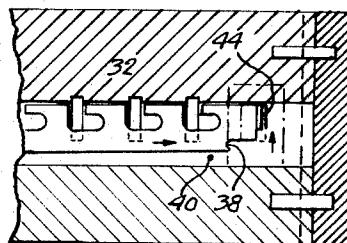


FIG. 5.



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1

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THEFT-PROOF DISPLAY RACK

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ABSTRACT OF THE DISCLOSURE

A theft-proof display rack for billfolds having a support surface for the billfolds, and a series of slots in the support surface corresponding in number to the number of billfolds to be displayed. A retaining clip having a loop portion is pushed through each billfold and its loop portion is disposed in each of the slots. Beneath the support surface is a slidable locking plate having a plurality of lock fingers corresponding to the number of slots. Each lock finger is adapted to be disposed in intersecting registration with its corresponding slot, and pass through the loop portion of the retaining clip disposed therein to retain it and prevent its removal. A coil spring connected to one end of the lock plate urges each lock finger out of intersecting registration with its corresponding slot so the retaining clips can be removed, but the opposite end of the locking plate can be placed in abutment with a stationary pin to retain the intersecting registration against the bias of the spring.

Field of invention

This invention relates to a display rack, and more particularly, a rack designed to display billfolds or the like which includes a locking mechanism for preventing their unauthorized removal.

Description of prior art

Merchants are constantly harassed by shoplifters, who, over a period of time account for losses of merchandise involving substantial sums. This problem is particularly acute where the vendd goods have substantial value.

This poses somewhat of a dilemma, since the merchant wants to display his goods in the hope of interesting a legitimate customer, but he cannot maintain a constant watch over the displayed goods.

In order to alleviate this problem, racks have been devised for displaying merchandise which include means for locking the displayed article to the rack in an inconspicuous manner, to prevent its unauthorized removal. Most of these racks are specifically designed to display jewelry, such as rings mounting precious gems, watches, etc. Examples of such racks are disclosed in U.S. Patent Nos. 989,571, 2,935,202, and 3,024,774.

None of the racks disclosed in these patents are adapted to display less precious articles of merchandise, although the need exists as much. Furthermore, the locking mechanisms utilized involve complicated structures having high maintenance and fabrication costs, or their operation is readily discernible to the experienced eye, rendering them ineffective.

Summary of invention

The theft-proof display rack of the present invention is designed to display a variety of items. While the rack is especially adapted to display leather billfolds, it may also be used to display jewelry rings, watches, etc. The locking

2

mechanism employed by the rack is simple, but its mode of operation is not readily apparent to the naked eye.

In order to achieve these objectives, the rack includes an article support surface provided with a series of slots corresponding in number to the number of articles to be displayed. For displaying billfolds, a retaining clip having a loop portion is pushed through the opening normally found in the center of a billfold, and the loop portion of the clip extending from each billfold is disposed in one of the slots.

Beneath the support surface is a slidable locking plate having a plurality of lock fingers corresponding to the number of slots. Each lock finger is adapted to be disposed in intersecting registration with a corresponding slot and pass through the loop portion of the retaining clip disposed therein to retain it and prevent its removal. A coil spring connected to one end of the lock plate urges each lock finger out of intersecting registration with its corresponding slots so the retaining clips can be removed, but a stationary pin abuts the opposite end of the lock plate to retain the intersecting registration against the bias of the spring. The end of the locking plate adjacent the pin is bent, to provide a finger pull to push the locking plate out of abutment with the pin, enabling the spring to move each lock finger out of intersecting registration with its slot to permit removal of a retainer clip and billfold.

The finger pull is accessible only through the bottom of the rack, and is normally hidden from view. Even should it be discovered, there is only one direction of movement of the pull to take the locking plate out of abutment with the retaining pin, which until found by trial and error, will constitute a time consuming chore to a shoplifter, who does not want attention.

Other articles may be displayed on the rack, in lieu of billfolds, for example finger rings. The loop portion of the ring need only be disposed within a slot in the support surface. Still other items merely need have a retaining clip securely fastened to them to be held by the rack.

Brief description of the drawing

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawing, wherein:

FIGURE 1 is an exploded perspective view of the display rack and retaining clip used in the present invention for securing a billfold to the rack;

FIGURE 2 is a cross-sectional view taken substantially along the plane indicated by line 2—2 of FIGURE 1;

FIGURE 3 is a bottom plan view of the display rack illustrated in FIGURE 1, with certain portions shown in section for clarity of illustration;

FIGURE 4 is a fragmentary cross-sectional view taken substantially along the plane indicated by line 4—4 of FIGURE 3; and

FIGURE 5 is an enlarged, fragmentary cross-sectional view of the right-hand portion of the rack shown in FIGURE 3, the locking mechanism having been moved to its open position.

Description of preferred embodiment

Referring now to the drawing in detail, wherein like numerals indicate like elements throughout the several views, the theft-proof display rack of the present invention is generally indicated by the numeral 10.

The display rack 10 includes two, generally rectangular blocks 12 and 13, formed from wood, metal, plastic or any other suitable material. When placed in abutting

relation, along one of their longitudinal edges, blocks 12 and 13 provide an upper display or support surface 14.

Blocks 12 and 13 are held in abutting relation by up-standing end walls 16 and 18, joined to the blocks 12 and 13 by dowels or pegs 20, extending between the end walls and blocks.

A series of slots 22 are cut at an angle through block 12 along its abutting edge with block 13. A longitudinal slot 24, below and parallel to support surface 14 and intersecting each slot 22, is cut along the edge of block 12 abutting block 13. The depth of slot 24 is equal to the length of each slot 22. A longitudinal slot 26, complementing slot 24 and constituting a lateral extension thereof, is cut in the edge of block 13 abutting block 12.

Disposed within complementary slots 24, 26 is a locking plate 28. Locking plate 28 is provided with a series of substantially, L-shaped slots 30 along one edge to form a series of lock fingers 32. The number of lock fingers 32 corresponds to the number of slots 22 and each finger is adapted to intersect one of the slots, as shown in FIGURE 3.

A coil spring 34 received within end wall 18 is wound about a projection 36 on one end of locking plate 28, and normally urges locking plate 28 to the right in FIGURE 3 to prevent intersecting registration of lock fingers 32 with its corresponding slot 22. However, the other end of locking plate 28 is undercut to provide an abutment shoulder 38. Shoulder 38 is adapted to abut a stationary pin 40, inserted through the bottom surface 42 of block 12 into longitudinal slot 24, and maintain the intersecting registration of lock fingers 32 with its corresponding slot 22 against the urging of spring 34.

The end of locking plate 28 adjacent shoulder 38 is bent at right angles to provide a finger pull 44. Finger pull 44 is accessible through an opening 46 cut in bottom surface 42 of block 12. It is only necessary to move finger pull 44 upwardly in FIGURES 3 and 5 to take shoulder 38 out of abutment with pin 40, and enable spring 34 to push the locking plate 28 to the right preventing intersecting registration of lock fingers 32 with slots 22. As shown in FIGURES 2, 3 and 5, the combined lateral dimensions of slots 24 and 26 are greater than the lateral dimension of the locking plate 28 and thus provide sufficient clearance for finger pull 44 to move locking plate 28 laterally until shoulder 38 clears pin 40.

To reposition lock fingers 32 in intersecting registration with slots 22, the movement of finger pull 44 is to the left and downwardly in FIGURE 5 to bind abutment shoulder 38 against pin 40.

In order to secure a billfold 48 in display position upon rack 10, and prevent its unauthorized removal, a retaining clip 50, having a depending loop portion 52 is inserted through the slit normally found in the center of billfold 48. Loop portion 52 is then inserted within one of the slots 22 after locking plate 28 is disposed in the position indicated in FIGURE 5. Finger pull 44 is then moved against the bias of spring 34 and downwardly, causing a lock finger 32 to intersect the slot 22 through which depending loop 52 of retaining clip 50 is disposed, and pass through the loop portion. Downward movement of finger pull 44 causes shoulder 38 to abut pin 40 and retain the lock finger 32 through the looped portion 52 of clip 50. Upward movement of the clip and billfold is thus precluded. To remove the billfold, the motion of finger pull 44 is reversed.

It will be apparent from the foregoing description that any ring-shaped object or loop can be disposed within a slot 22 and retained in the same manner. Thus finger rings with precious gems may be held by rack 10, as well as any object to which clip 50 can be securely fastened.

While a specific embodiment of my invention has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore,

it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

I claim:

1. A theft-proof display rack comprising a support surface, at least one slot in said support surface, a movable locking plate beneath said support surface, said locking plate having at least one lock finger adapted to intersect said slot and pass through an object disposed therein, means connected to said locking plate for urging said lock finger out of intersecting registration with said slot, fixed retaining means beneath said support surface adapted to contact said locking plate for retaining said lock finger in intersecting registration with said slot against the bias of said urging means, and manually operable means connected to said locking plate for moving said locking plate out of contact with said retaining means.

2. A display rack in accordance with claim 1 wherein said urging means includes a spring connected to said locking plate adjacent one end thereof.

3. A display rack in accordance with claim 2 wherein said fixed retaining means includes a stationary pin adapted to abut said locking plate adjacent the opposite end thereof.

4. A display rack in accordance with claim 3 wherein said locking plate includes an abutment surface for contact with said stationary pin, said abutment surface terminating at an edge of said locking plate.

5. A display rack in accordance with claim 4 wherein said manually operable means includes an end portion of said locking plate bent to form a finger pull, whereby by pushing said finger pull said abutment surface is moved out of contact with said stationary pin thereby enabling said spring to urge said lock finger out of intersecting registration with said slot to release an object disposed therein.

6. A display rack in accordance with claim 1 wherein said fixed retaining means includes a stationary pin adapted to abut said locking plate adjacent one end thereof.

7. Display apparatus comprising a retaining clip having a loop portion adapted to extend through a billfold or the like, a display rack, said display rack including a support surface, at least one slot in said support surface for receiving the loop portion of said retaining clip, a movable locking plate beneath said support surface, said locking plate having at least one lock finger adapted to intersect said slot and pass through the loop portion of said retaining clip, and means beneath said support surface for retaining said lock finger in intersecting registration with said slot to preclude removal of said retaining clip therefrom.

8. Display apparatus in accordance with claim 7 including means connected to said locking plate for urging said lock finger out of intersecting registration with said slot, and said retaining means includes fixed means adapted to contact said locking plate for retaining said lock finger in intersecting registration with said slot against the bias of said urging means.

9. Display apparatus in accordance with claim 8 wherein said urging means includes a spring connected to said locking plate adjacent one end thereof.

10. Display apparatus in accordance with claim 9 wherein said fixed retaining means includes a stationary pin adapted to abut said locking plate adjacent the opposite end thereof.

11. Display apparatus in accordance with claim 10 wherein said locking plate includes an abutment surface for contact with said stationary pin, said abutment surface terminating at an edge of said locking plate.

12. Display apparatus in accordance with claim 11 including manually operable means connected to said locking plate for moving said locking plate out of contact with said stationary pin.

13. Display apparatus in accordance with claim 12

wherein said manually operable means includes an end portion of said locking plate bent to form a finger pull, whereby by pushing said finger pull said abutment surface is moved out of contact with said stationary pin thereby enabling said spring to urge said lock finger out of intersecting registration with said slot to release said retaining clip.

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5 THERON E. CONDON, *Primary Examiner*.G. T. HALL, *Assistant Examiner*.