United States Patent [19]

Canning

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[45] **Aug. 6, 1974**

[54] **PEGBOARD DISPLAY RACK**

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[21] Appl. No.: **359,470**

[52] **U.S. Cl.** ..... **211/7,** 211/57, 221/312 A, 248/DIG. 3

[51] **Int. Cl.** **A47f 7/024**

[58] **Field of Search** ..... 211/4, 7, 57, 59; 221/27, 221/28, 29, 312 R, 312 A; 248/DIG. 3

[56] **References Cited**

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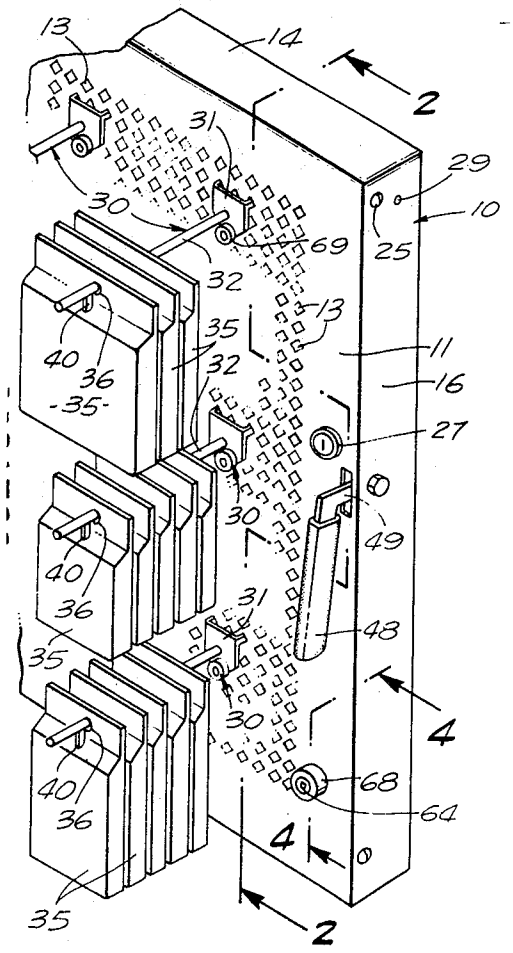
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Primary Examiner—Marion Parsons, Jr.
Assistant Examiner—Robert W. Gibson, Jr.

[57] **ABSTRACT**

A display rack for carded merchandise includes a pegboard with a spring loaded plate mounted on the rear thereof. A plurality of card holding devices are attached at arbitrarily spaced locations on the pegboard. Each card holding device includes a tubular hanger on which the merchandise card are hung and an actuating rod slidably movable within the tubular hanger. A spring loaded extension portion on each rod withdraws it outwardly from the back of the pegboard and causes a retaining post pivotally supported on the forward end of the rod to project outwardly through a slot on the forward end of the tubular hanger to prevent removal of the merchandise cards. When the plate is pushed inwardly, all the rods are simultaneously depressed into their tubular hangers causing the retaining posts to be pivoted into the tubular hangers to thereby enable the removal of the merchandise cards.

9 Claims, 14 Drawing Figures



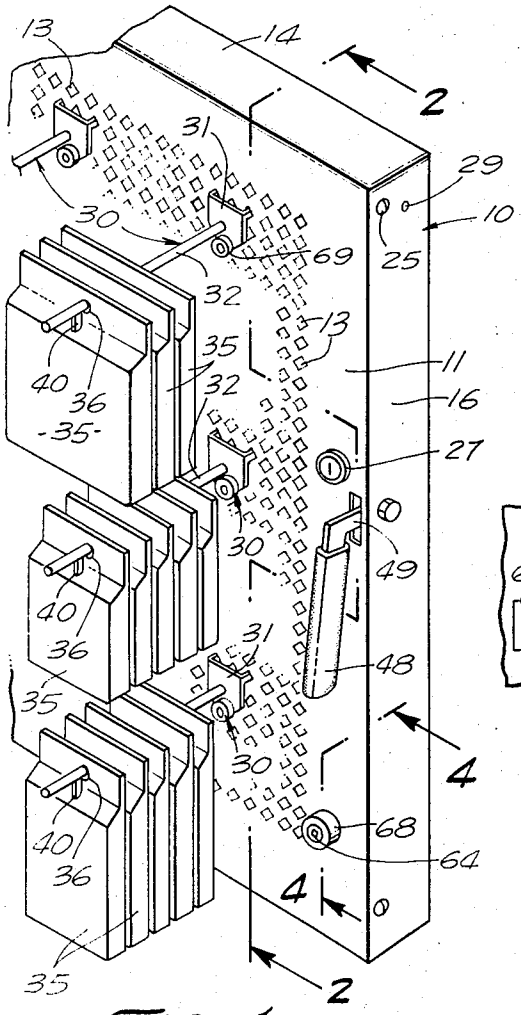


FIG. 1.

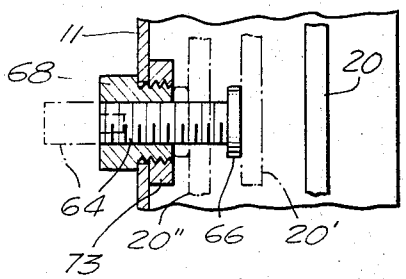


FIG. 4.

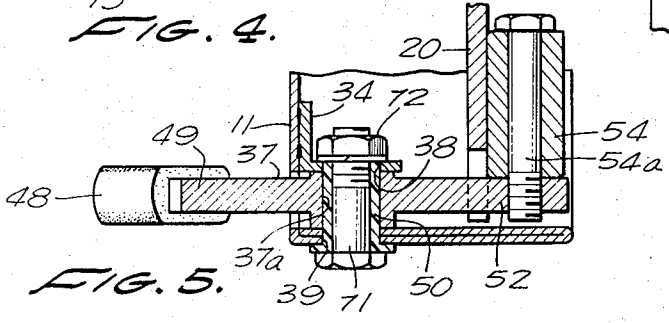


FIG. 5.

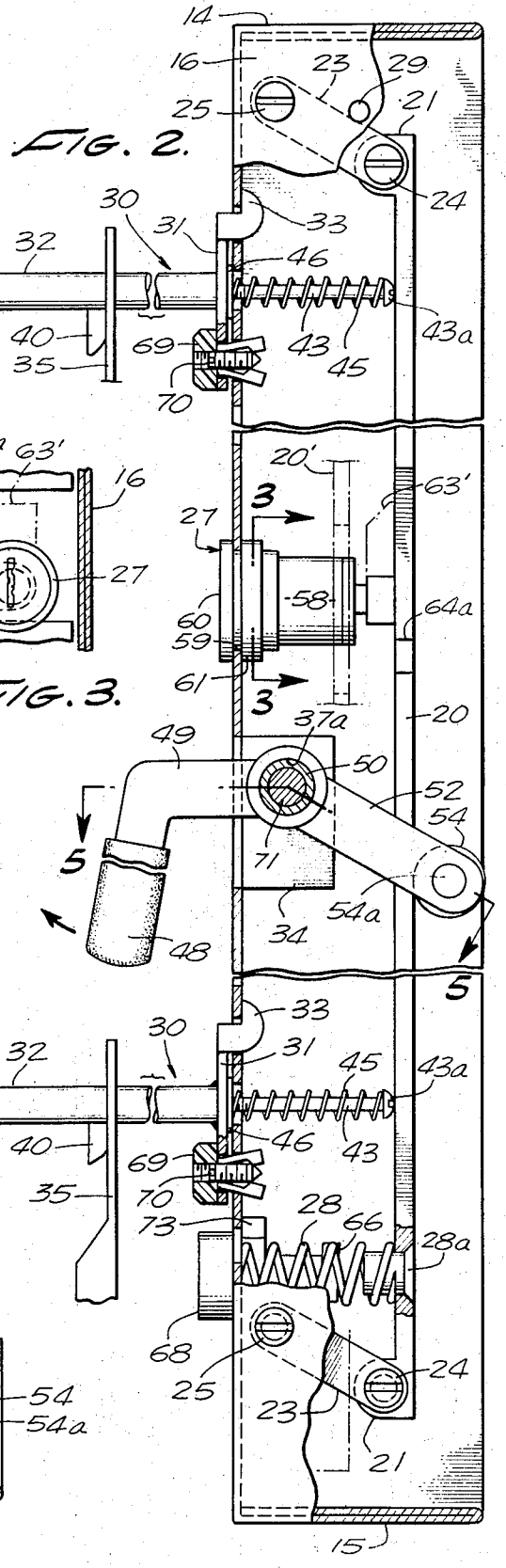


FIG. 2.

FIG. 3.

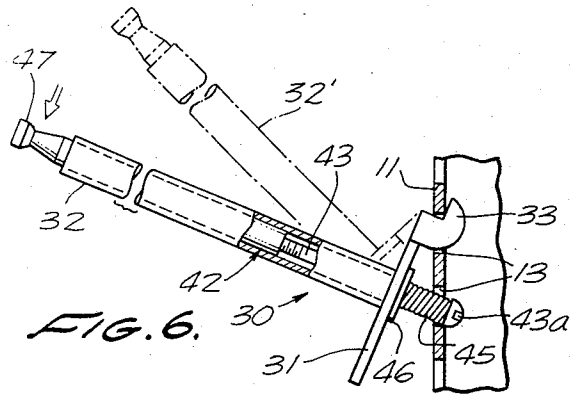


FIG. 6.

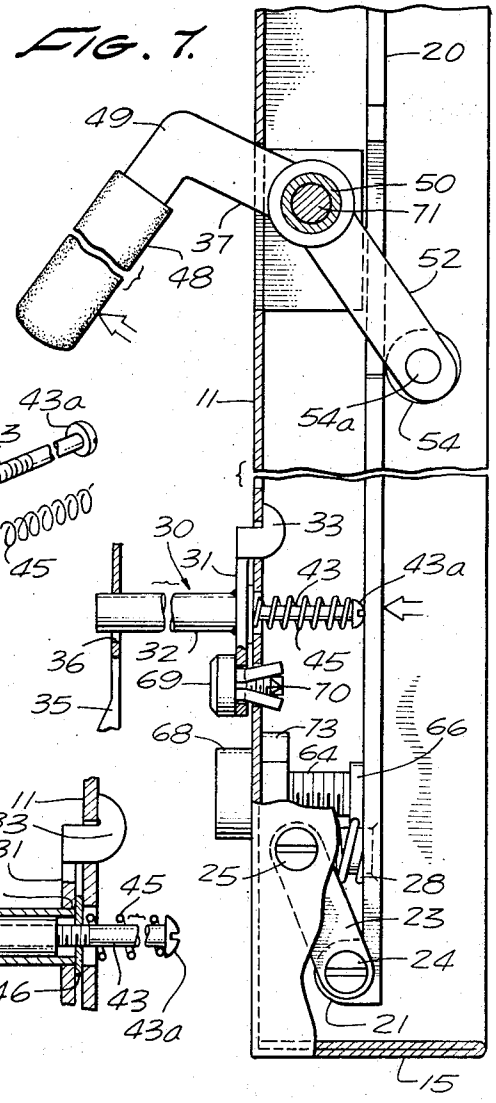


FIG. 7.

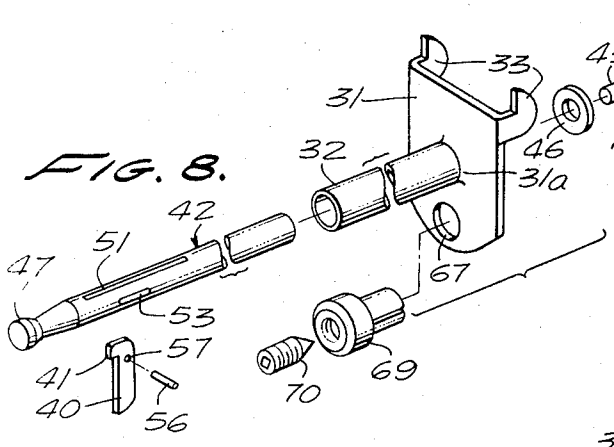


FIG. 8.

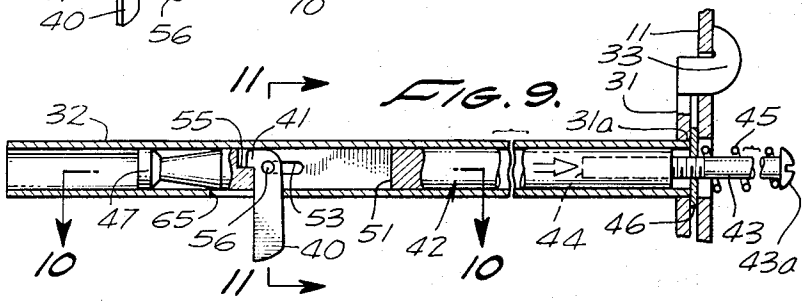


FIG. 9.

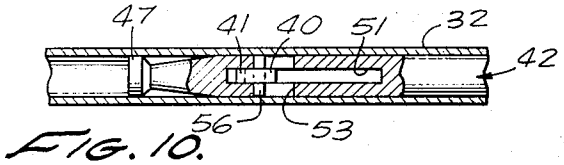


FIG. 10.

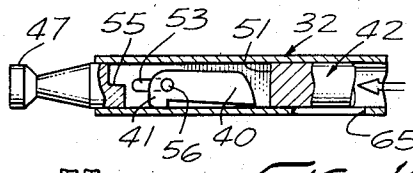


FIG. 14.

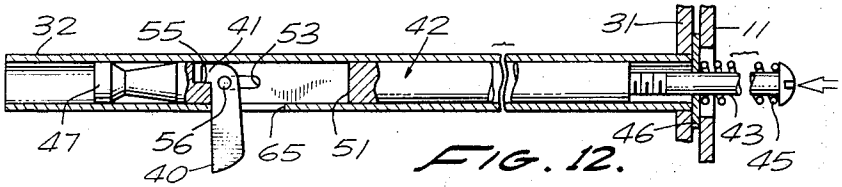


FIG. 12.

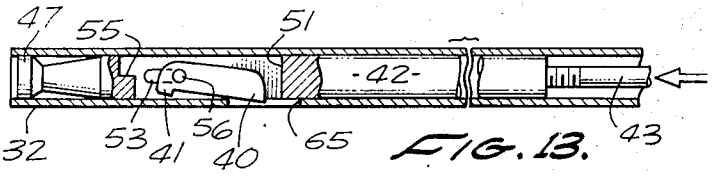


FIG. 13.

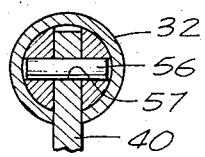


FIG. 11.

PEGBOARD DISPLAY RACK

This invention relates to display racks for merchandise cards and more particularly to an improved pegboard display rack which provides for securely holding merchandise cards thereon until released by a sales clerk.

It is well known to display carded merchandise in retail stores by placing the merchandise on cards that are hung on hangers extending outwardly from a pegboard. Displaying merchandise in this manner is very desirable since it enables the customer to view the merchandise and select the items which he is interested in purchasing without taking up the time of the sales clerk. However, when displayed in this fashion, pilfering of the merchandise cards becomes a problem. Therefore, because of this pilferage problem, much of the shoplift prone type of merchandise; such as, steel tape rules, cassette tapes, small tools, and radio parts, for example, are usually kept in locked service cabinets. Thus, when a customer desires to purchase items such as these a sales clerk must open the cabinet and be present while the customer examines and selects the items he desires to purchase.

Accordingly, one of the objects of the present invention is to provide a pegboard display rack which includes locked merchandise card holding devices useful for displaying the types of merchandise which generally have a high risk from shoplifters.

Another object of the present invention is to provide a display rack which fully displays carded merchandise items while keeping the items secured to the display rack until released by a sales clerk.

Another object of the present invention is to provide for securely displaying items of merchandise in a display rack in such a manner as to enable a customer to leisurely examine and select the item or items he desires to purchase without taking up the time of the sales clerk.

Still another object of the present invention is to provide an improved display rack structure which operates to securely hold merchandise cards on each of a plurality of hangers attached to a pegboard until the display rack is unlocked by a sales clerk.

Other objects and features of the present invention will become apparent during the course of the following part of the specification wherein the details of construction and mode of operation of a preferred embodiment are described with reference to the accompanying drawings, in which:

FIG. 1 shows a partial view of the merchandise card display rack of the present invention;

FIG. 2 shows a vertical cross-sectional view of the display rack as taken along lines 2—2 of FIG. 1;

FIG. 3 shows a lock for the display rack;

FIG. 4 shows a fragmentary sectional view of the adjustable travel stop for the movable plate on the back of the pegboard as taken along lines 4—4 of FIG. 1;

FIG. 5 is a sectional view of the operating lever for the display rack as taken along lines 5—5 of FIG. 2;

FIG. 6 illustrates one of the card holding device being inserted on the pegboard;

FIG. 7 is a view similar to FIG. 2 showing the movable plate on the back of the pegboard being advanced up against the travel stop of the operating lever.

FIG. 8 is an exploded perspective view of the parts comprising a merchandise card holding device;

FIG. 9 is a vertical sectional view of a tubular hanger with a retaining post held therein in its locked position;

FIG. 10 is a horizontal sectional view of the tubular hanger as taken along lines 10—10 FIG. 9;

FIG. 11 is a transverse sectional view of the tubular hanger as taken along lines 11—11 of FIG. 9;

FIG. 12 is a vertical sectional view of the tubular hanger showing the initial forward movement of the rod therein;

FIG. 13 is a longitudinal vertical sectional view of the tubular hanger showing the rod advanced there in so as to pivot the retaining post into a horizontal position within the hanger; and

FIG. 14 is a sectional view of the tubular hanger showing the rod advanced forwardly therein so as to expose the knob on the forward end thereof.

Referring to FIGS. 1 and 2, the display rack 10 of the present invention includes a vertically disposed rectangular sheet of metal pegboard 11 having thereon an array of diamondshaped openings 13. The edges of the metal pegboard are bent back to form the top 14, bottom 15, and sides 16 of the display rack 10. Disposed in the enclosure formed on the back of the pegboard is a movable plate 20. Each corner of the plate 20 is provided with a boss 21, to which one end of a link 23 is pivotally attached by a bolt 24. The other end of the link 23 is pivotally attached by a bolt 25 to the side 16 of the display rack 10. The links 23 enable the plate 20 to be maintained parallel to the pegboard while being moved inwardly and outwardly relative thereto. The movable plate 20 is normally forced outwardly by one or more compressed springs 28 each of which is mounted at one end by a pin 28*a* attached to the plate 20. The springs 28 thus force the pegboard 11 and plate 20 apart until the side of the link 23 on the upper corner of the plate 20 contacts a pin stop 29 secured to the side 16 of the rack 10.

As shown in FIG. 1, supported at arbitrarily spaced locations on the pegboard 11 are a plurality of card holding devices 30. Additional card holding devices can be supported on other portions of the pegboard 11, not shown. Each card holding device 30 includes a bracket 31 by which it is attached to the pegboard 11, and a horizontally extending tubular hanger 32. The inner end of the tubular hanger 32 is welded or otherwise securely connected in an opening 31*a* on the center of the bracket 31. A plurality of merchandise cards 35 are supported on the tubular hanger by an opening 36 provided on each of the cards for that purpose. A dog or retaining post 40 normally projects downwardly near the forward end of each of the tubular hangers 32 for preventing the cards 35 from being withdrawn off the forward end of the tubular hanger 32. It should be noted that the forward end of the tubular hanger 32 is open.

Referring to FIG. 8, positioned for sliding movement within the tubular hanger 32 of each of the card holding devices 30 is an elongated actuating rod 42. The retaining post 40 is pivotally mounted near the forward end of the actuating rod 42 and extends through a slot 65 (FIG. 9) on the bottom wall near the forward end of the tubular hanger 32. A bolt 33 is threadably attached by its end in a hole 44 provided on the rear end of the rod 42. A spring 45 encircles the body of the bolt 43. The inner end of spring 45 bears on a washer 46 which rests against the back of the bracket 31, and the

outer end of spring 45 bears on the head 43*a* of bolt 43 so as to force the actuating rod outwardly from the back of the tubular hanger 32 until the head 43*a* of the bolt contacts the movable plate 20.

As will be described more fully hereinafter, when the actuating rod 42 of a card holding device 30 is forced backwardly by the spring 45, the retaining post 40 is held in its vertically projecting position which prevents removal of the merchandise cards 35 off the end of tubular hanger 32. On the other hand, when the actuating rod is advanced into the tubular hanger 32 be depressing the plate 20, the retaining post 40 is pivoted backwardly so as to be substantially enclosed within the tubular hanger 32 and thus enables the cards 35 to be slid past the post 40 and off the end of the hanger 32.

Located on the front of the pegboard 11 is an operating handle 48. As shown in FIG. 5, a support 34 is welded on the inner surface of the rack 10 near the side 16 thereof. The support 34 is provided with a circular opening 38 which is aligned with a similar circular opening 39 on the side 16 of the rack 10. A bushing 50 passes through the openings 38 and 39 and is held in position by a bolt 71 and nut 72. A lever 37 having an outer arm 49 and an inner arm 52 is rotatable mounted by a bore located at its fulcrum point on the bushing 50. The operating handle 48 is attached to the outer arm 49 and a roller 54 is secured by a bolt 54*a* to the end of the inner arm 52.

Also located on the front of the pegboard 11 is a travel stop 64 which comprises a threaded body with an enlarged inner end 66. A fitting 68 is held on the pegboard by a nut 73. The body of the travel stop 64 threadable engages an axial opening in the fitting 68. The outer end of stop 64 is adapted to receive an Allen-head wrench which is used to adjustably position the inner end 66 of the stop 64 and thereby limit the inward movement of the plate 20.

The plate 20 is moved inward by applying a force directly thereon, or, if the display rack 10 is mounted against a wall, the operating handle 48 on the front of the display rack can be lifted to rotate lever 37 about the bushing 50. This causes the roller 54 on the end of the inner arm 52 to force the plate 20 toward the pegboard 11 and the actuating rods 42 of each of the card holding devices 30 inwardly so as to cause the retaining post 40 on the forward ends of the hangers 32 to be pivoted into the slots 65 thereof.

A lock 27 for the display rack 10 is provided on the pegboard 11. The body 58 of the lock 27 extends through an enlarged opening 59 in the pegboard 11 and is provided with a cap 60 that bears against the front surface of the pegboard 11. A nut 61 engages a threaded portion of the body 58 and contacts the back surface of the pegboard 11. The lock 27 has a central rotatable shaft 62 with a lock arm 63 attached to the end thereof. When the display rack 10 is locked, the lock arm 63 is swung to extend in front of and adjacent the front surface of the plate 20, thus preventing it from being pushed inwardly. Upon inserting a key (not shown) in the keyhole of the lock 27, the lock arm 63 can be rotated to a position indicated by dash lines 63' wherein the lock arm resides in a clearance opening 64*a* on the plate 20. When the lock arm 63 is in this latter position, the plate 20 can be pivoted forwardly by its links 23 while maintaining its position parallel with the pegboard, as shown in FIG. 7, so as to simultaneously advance all the actuating rods 42 into their respective tubular hangers 32. When the rods are so advanced, the retaining posts 42 are pivoted inwardly into the tubular hangers 32.

It is thus seen that the display rack 10 of the present invention provides for securing a plurality of merchandise cards 35 on each of a plurality of tubular hangers 30 by controlling the positioning of a retaining post 40 pivotally mounted near the forward end of each of the tubular hangers 32. The plate 20 is normally prevented from being advanced inwardly by the lock 27, and, accordingly, the posts 40 are normally locked in their outwardly projecting position so as to prevent the cards 35 from being removed off the ends of the hangers 32. By unlocking the lock 27 of the rack 10, the sales clerk can then push in the plate 20 which causes the advancing of all the actuating rods 42 into the tubular hangers 32 and the pivoting of posts 40 on the forward ends thereof inwardly into the hangers 32, thus permitting the cards to be removed from the ends thereof.

Upon the sales clerk releasing the plate 20, the actuating rods are again moved to their withdrawn position by the springs 45, and the retaining posts 40 are again swung to their outwardly projecting position on the hangers 32 in which they prevent removal of the cards 35. Then when the lock 27 is again rotated by a key so as to again position the locking arm 63 in front of the movable plate 20, the display rack 10 is again placed in a locked position.

The structure for holding the merchandise cards on the holding device 30 will now be further described by referring to FIGS. 8 to 14 of the drawings. Thus, the actuating rod 42 has near its forward end an elongated vertical slot 51, and a shorter horizontal slot 53 which traverses the walls of the vertical slot 51. The front end of slot 51 is provided with an internal shoulder 55. The inner end of the post 40, which is formed with a side lug 41, is positioned within the vertical slot 51 and pivotally held thereon by a pin 56 which extends through the horizontal slot 53 and the hole 57 on the inner portion of the post 40. The outer portion of the post 40 extends through the slot 65 on the lower wall of the hanger 32. It should be understood that the ends of the pin 56 are freely movable along the shorter horizontal slot 53. Thus, as shown in FIGS. 9 and 10, when the rod is pulled out of the tubular hanger 42 by the spring 45 on the bolt 43 located on the rear portion thereof, the pin 56 is located on the forward end of the horizontal slot 53, and the post 40 is held against the back end of the slot 65 in the tubular hanger 32 with its side lug 41 engaging internal shoulder 55 on the front end of the vertical slot 51 on the rod 42.

It is thus seen that when the actuating rod is held in its withdrawn position by the spring 45 on the bolt 43, the outer portion of the retaining post 40 is anchored up against the rear end of the slot 65 in the tubular hanger 32 and the internal shoulder 55 on the rod 42 engages the lug 41 on the inner portion of the retaining post 40. It should now be clear that the contact of the lug 41 with the internal shoulder 55 on the rod prevents the outwardly projecting post 40 from being pushed backward, and the contact of the flat inner end of lug 41 of the post with the inner wall of the tubular hanger 32 opposite the slot 65 prevents the outwardly projecting post from being pushed forward. Thus, the retaining post 40 is effectively secured in its outwardly projecting vertical position.

However, when a pressure is exerted on the plate **20**, the rod **42** and the post **40** are initially moved together forwardly into the hanger **32** until the post **40** contacts the front end of the slot **65** on the forward end of the hanger **32**, as shown in FIG. **12**. As the rod **42** continues to move forwardly, the lug **41** on the post **40** becomes disengaged from the internal shoulder **55** on the front end of the vertical slot **51** in the rod **42** as the pin **56** slides towards the rear of the short horizontal slot **53**. Continued forward movement of the rod **42** then causes the post **40** to be pivoted inwardly such that when the plate **20** moves to the position indicated by **20'** in FIG. 4 wherein it contacts the inner end **66** of the travel stop **64** on the pegboard **11**, the post **40** is substantially enclosed within the vertical slot **51** on the rod **42**, as shown in FIG. **13**. Thus, the merchandise card **35** can be removed from the hanger **32**. It should be particularly noted that when the rod **42** is in this position, the knob **47** formed on the forward end thereof is still enclosed within the hanger **32**.

Next to be described is the manner in which the card holding devices **30** are attached to the pegboard **11**, and having once been attached, are detached only if the travel stop **64** has been properly adjusted and the display rack **10** unlocked. Thus, assuming it is desired to mount a card holding device **30** at a particular position on the pegboard **11**, the back end of the rod **32** is depressed into the hanger **32** until the knob **47**, formed on the forward end of the rod **32**, is exposed so that it can be gripped and held by the fingers or by a suitable tool so as to keep the rod **42** in its forward position. Then by tilting the end of the tubular hanger **32** upwardly, as shown in FIG. **6**, the ears **33** on the upper corners of the bracket **31** can be inserted on a pair of spaced diamond-shaped holes **13** of the pegboard **11**. As the tubular hanger **32** is then swung down to a horizontal position, the bolt **33** on the rear of the rod **42** is passed through a lower diamond-shaped hole **13** in the pegboard **11**. When the knob **47** on the front end of the rod **42** is now released, the rod is withdrawn out of the hanger **32** by the springs **45** until the head **43***a* of the bolt **43** contacts the plate **20**. The lower end of the bracket **31** is then held up against the pegboard **11** by passing a plastic fastener **69** through the opening **67** in the bracket **31** and an aligned diamond-shaped hole **13** on the pegboard **11**. The body of fastener **69** is segmented and provided with a centrally threaded opening adapted to receive an Allen-head screw **70**. Advancing the screw **70** causes the plastic body segments of the fastener **60** to be cammed outwardly so as to secure the lower end of the bracket **31** on the pegboard **11**.

It should be noted that once the knob **47** on the forward end of the rod **42** is released after the ears **33** on the bracket **31** are positioned in the holes **13** on the pegboard **11** and the bolt **43** is inserted in a lower hole **13** on the pegboard, the holding device **30** cannot be removed from the pegboard **11**. This is because of the force on the end of the rod **42** by the spring **45** which prevents the bolt **43** from being withdrawn out of the hole **13** on the pegboard **11**, even when the hanger **32** is tilted upwardly as required to release the ears **33** on the upper corners of the bracket **31** from the holes **13** on the pegboard **11**.

After the card holding devices **30** are attached to the pegboard **11**, the hangers **32** thereof can be loaded as follows. First, the travel stop **64** on the pegboard **11** is adjusted by use of an Allen-head wrench until the threaded body thereof is advanced to its extreme forward position such that the outer end of the travel stop is flush with the outer end of the fitting **68**. This is the position of the travel stop for normal operation of the display rack **10**. Now, then, when the display rack **10** is unlocked by rotating the arm **63** of the lock **27** to the position shown in FIG. **3**, the plate **20** may be advanced to a position indicated as **20'** in FIG. **4**, which simultaneously advances the outer ends of all the rods **42** such that the respective posts **40** are pivoted into the vertical slots **51** of the rods **42** and within the tubular hangers **32**, as shown in FIG. **13**. The merchandise cards **35** can now be placed on the several hangers **32** as desired. Then, when the operating handle **48** is released, the movable plate **20** returns to its outer position, and the respective posts **40** on the hangers **32** are pivoted to their outwardly projecting position in which they form a barrier to the removal of merchandise cards **35** off the hangers **32**.

The display rack **10** is now ready for use. Thus, a customer is able to fully examine the different items of merchandise on the cards at his leisure and without the need for taking up the time of the sales clerk. It is only when the customer is ready to make a purchase that the sales clerk need be present to unlock the lock **27**. This enables the sales clerk to then pull up on the operating handle **48** and thereby depress the plate **20** inwardly against the inner end **66** of the travel stop **64**, whereby all the retaining posts **40** are pivoted inwardly at the same time so that the desired merchandise card or cards can be removed from any of the tubular hangers **32**. Upon releasing the plate **20**, the retaining posts **40** are again shifted to their outwardly projecting position and locked upon locking the display rack **10** to prevent inward movement of the plate **20**.

When it is desired to relocate a card holding device **30** to a different location on the pegboard **11**, it is first necessary to reset the travel stop **64** by use of an Allen-head wrench until the stop **64** is withdrawn to extreme outward position, such that the inner end **66** on the stop **64** is in contact with the inner end of the fitting **68**. Now, then, when the display rack **10** is unlocked by rotating the arm **63** of the lock **27**, the plate **20** is advanced towards the pegboard **11** to the position indicated by **20''** in FIG. **4**, so as to advance all the actuating rods **42** of the card holding devices **30** until the knobs **47** on the forward ends thereof are exposed on the front of the hangers **32**, as shown for the hanger in FIG. **14**. The fastener **69** on the bracket **31** of the holding device **30** to be relocated is then removed. By holding onto the knob **47**, the hanger **32** can then be readily tilted upwardly about the ears **33** on the bracket **31** and the card holding device **30** removed from the pegboard **11**. The card holding device **30** can then be replaced to another location on the pegboard as shown and previously described in connection with FIG. **6**.

It should be noted that when the actuating rod **42** is depressed onto the tubular hanger **32** so that the knob **47** on the end of the rod **42** is exposed, the retaining post **40** is positioned within the slot **51** on the rod **42** and completely enclosed within the front end of the hanger **32**. Thus, by locating the slot **65** on the bottom wall of the hanger **32**, as the rod is withdrawn from hanger **32**, use can be made of gravity to cause the outer end of the post **40** to fall through the slot **65** and be pivoted to its vertical position.

While the illustrated embodiment of the improved display rack of the present invention has been described and explained in detail, it will be understood that variations and modifications may be made therein without departing from its scope and spirit. The invention should therefore not be limited to the specific device herein illustrated and described but should include all embodiments thereof coming within the scope of the appended claims.

What is claimed is:

1. A display rack for merchandise card comprising:

a pegboard

a plate mounted on the rear of said pegboard for inward and outward movement while being maintained parallel thereto;

a spring means for normally holding said plate in its outward position; and

a plurality of card holding devices attached to said pegboard;

each of said card holding devices including

a tubular hanger on which the merchandise cards are hung, said tubular hanger having a slot near the forward end thereof,

an actuating rod slidably movable in said tubular hanger and having an extension portion extending from the rear of said pegboard,

a spring on the extension portion of said actuating rod for urging the end of said extension portion against said plate, and

a retaining post pivotally supported near the forward end of said actuating rod adjacent the slot on said tubular hanger;

whereby when said plate is held in its outward position relative to said pegboard by said spring means the actuating rods of the card moving devices are withdrawn from their tubular hangers by the springs on the extension portions thereof to cause the retaining posts pivotally mounted near the front ends of the actuating rods to be projected out of the slots near the front ends of said tubular hangers, and thereby prevent the removal of the merchandise cards; and

whereby when said plate is moved inwardly towards the pegboard against said spring means the actuating rods are simultaneously depressed into said tubular hangers to cause the retaining posts to be pivoted into the slots of said tubular hangers to enable the removal of the merchandise cards.

2. The invention in accordance with claim 1 including a lock means on said pegboard, said lock means having an arm which is positioned in front of said plate when said lock means is locked to prevent the plate from being moved inwardly.

3. The invention in accordance with claim 1 including an adjustable travel stop extending from the rear of said pegboard for limiting the inward movement of said plate.

4. The invention in accordance with claim 1 including an operating lever pivotally mounted on the side of said pegboard, said lever having means on the inner end thereof in contact with said plate for moving said plate inwardly when said lever is pivoted.

5. The invention in accordance with claim 1 including means for limiting the extent of the outward movement of said plate by said spring means.

6. The invention in accordance with claim 3 wherein each of said actuating rods has a knob formed on the front end thereof,

wherein each of said tubular hangers is opened on the forward end thereof, and

whereby said travel stop can be set to enable said plate to be moved forwardly against said spring means to advance the actuating rods in their tubular hangers so that the knobs extend out from the forward ends thereof.

7. The invention in accordance with claim 1 wherein said actuating rod has an elongated vertical slot near the forward end thereof and a shorter horizontal slot which traverses said vertical slot, and

said vertical slot has an internal shoulder on the forward end thereof which engages a lug on said retaining post when said retaining post projects out of the slot on the tubular hanger.

8. The invention in accordance with claim 6 wherein the slot on the forward end of said tubular hanger is on the bottom wall thereof to enable the retaining post to be pivoted by gravity out of the slot of the tubular hanger as the actuating rod is pulled backward by the spring on the extension portion thereof.

9. The invention in accordance with claim 1 wherein said card holding device includes a bracket, said tubular hanger has its inner end secured to an opening on to said bracket, said bracket has ears on the upper corners thereof for engaging holes on the pegboard, and a fastener for holding the lower end of the bracket on the pegboard.

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