April 5, 1949. W. F. MARTIN 2,466,033

SLIDING DRAWER

Filed Nov. 1, 1946

FIG. 1.

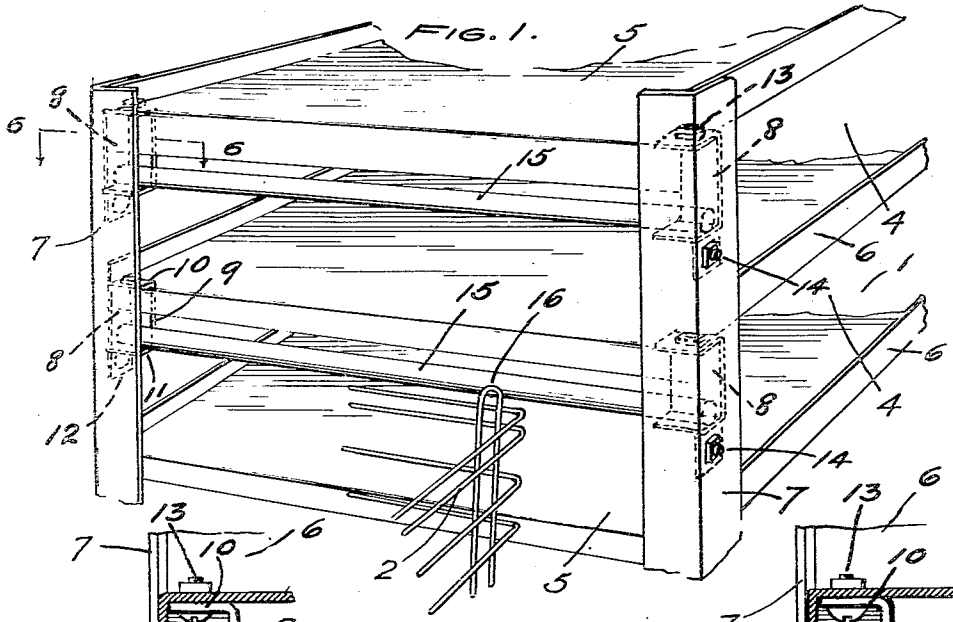


FIG. 2.

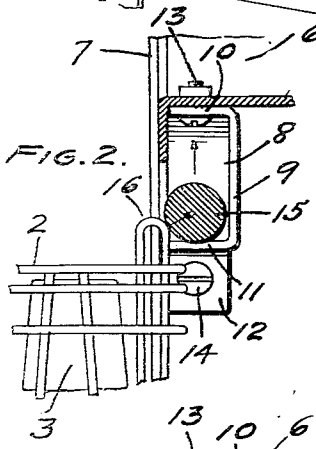


FIG. 6.

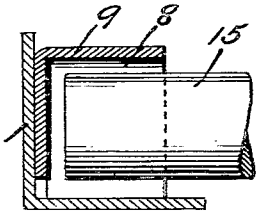


FIG. 3.

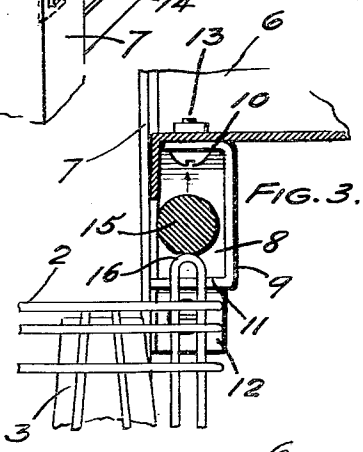


FIG. 4.

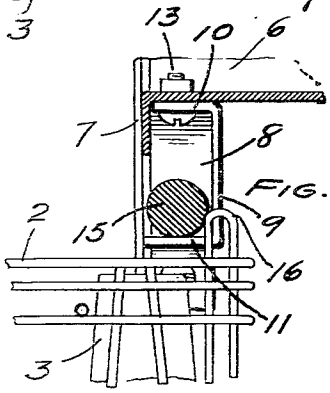
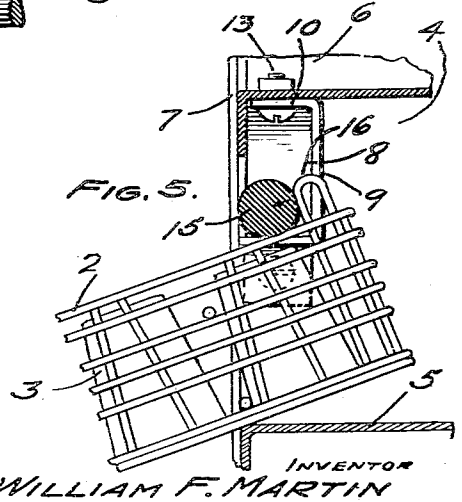


FIG. 5.



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SLIDING DRAWER

William F. Martin, Arlington, Va.

Application November 1, 1946, Serial No. 707,120

2 Claims. (Cl. 45—7)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described herein may be manufactured and used by or for the Government of the United States for governmental purposes without the payment to me of any royalty thereon in accordance with the provisions of the act of April 30, 1928 (Ch. 460, 45 Stat. L. 467).

This invention relates to sliding drawers but more particularly to the wire drawers or trays which are used in cafeterias and the like for holding drinking glasses.

The invention has for its object to prevent a sliding drawer or tray from being accidentally withdrawn from its rack or cabinet, but which permits the drawer or tray to be purposely inserted and completely withdrawn.

A further object of the invention is to retain a sliding drawer or tray in a tilted position when it has been retracted practically its full length, but which permits the complete removal of the drawer or tray from its rack or cabinet in a straight horizontal line.

With these objects in view the invention consists of the novel construction and arrangement of the drawer or tray retaining means, and also in certain novel combinations of parts, all of which will first be fully described and afterwards specifically pointed out in the appended claims.

Referring to the accompanying drawing:

Fig. 1 is a fragmentary perspective view of a rack for wire drawers or trays, and showing a fragmentary view of one corner of a wire drawer or tray.

Fig. 2 is a fragmentary view showing the retaining roller in section and its mounting bracket in elevation, and also illustrating the rear end of the wire tray or drawer in position for insertion in its rack.

Fig. 3 is a similar view illustrating the retaining roller being raised by the upright extension on the wire tray or drawer as it passes under the roller, as when the tray or drawer is being entered into or being completely removed from the rack in a straight horizontal line.

Fig. 4 is a similar view illustrating the position of the retaining roller and tray or drawer just previous to the complete removal of the tray or drawer from its rack.

Fig. 5 is a similar view illustrating the tray or drawer being retained by the roller in extended tilted position; and

Fig. 6 is a horizontal sectional view through a rack corner angle and roller bracket taken on line 6—6 of Fig. 1.

Like numerals of reference indicate the same parts throughout the several figures, in which:

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1 indicates the tray or drawer rack which receives the trays or drawers 2, and which in the type shown is of wire and of the conventional type used for holding drinking glasses 3 in cafeterias and the like.

The tray or drawer rack 1 has compartments 4 to receive the trays or drawers 2, and is constructed preferably of metal having compartment bottoms 5 with side flanges 6 which are secured to the upright corner angle posts 7 in any approved manner so as to form a rigid structure.

8 indicates the retaining roller brackets, which as shown for instance, in Fig. 2 are of substantially channel formation and have a vertical back 9; a top flange 10, a bottom flange 11 and a depending flange 12.

A pair of these brackets 8 is positioned in the two front corners of each compartment 4 of the tray or drawer rack 1 and within the upright corner angle posts 7 thereof and are fastened in position by a bolt 13 passed through the top flange 10 of the bracket 8 and through the compartment bottom 5 of the adjacent upper compartment, and also by a bolt 14 passed through the depending flange 12 of the bracket 8 and through the upright corner angle post 7 of the tray or drawer rack 1, as best shown in Fig. 1.

15 indicates the tray or drawer retaining rollers which extend across the front of each tray or drawer compartment 4, the ends of which rollers are loosely mounted within the roller brackets 8, as shown in the drawing so as to permit free vertical movement of the rollers 15 within their brackets 8, without being bound or restricted in any direction.

Each of the wire trays or drawers 2 is provided at its two rear corners with an upright wire loop 16 which extends slightly above the top edge of wire tray or drawer 2, while the depth of the roller brackets 8 is such that when the roller 15 is at rest on the bottom flanges 11 of the brackets 8, the center of the roller 15 is slightly above the top of the upright wire loops 16 of the wire tray or drawer 2 when said tray or drawer is in position to be inserted on a straight line into its compartment 4, as shown in Fig. 2, or is in position to be completely removed from its compartment 4 on a straight line, as shown in Fig. 4.

Having thus described the invention, its operation is as follows:

When inserting a tray of drinking glasses into a compartment in the tray or drawer rack, the tray is held in horizontal position in line with its compartment. This causes the extended wire loops 16 on the tray to contact the retaining roller

15 at a point slightly below the center of the roller, as shown in Fig. 2, and raises the retaining roller 15 into position shown in Fig. 3. As the extended wire loop 16 passes under and beyond the roller 15, the roller drops down into its normal position in its brackets 8, as shown in Fig. 4. The tray or drawer is then pushed back into its compartment.

When it is desired to obtain drinking glasses from the tray or drawer, the tray or drawer is pulled out and as the weight of the forward extended portion of the tray overbalances the weight of the rear portion of the tray or drawer, the tray or drawer assumes a downwardly tilted position, and in this tilted position may be withdrawn until the upwardly extending wire loops 16 engage the roller 15 at a point above the center line thereof, as shown in Fig. 5. The tray or drawer is thus retained in full extended tilted position, and in such tilted position cannot be completely removed from its compartment in the tray or drawer rack. To completely remove the tray or drawer, its outer end is lifted into horizontal position, which lowers the extended wire loop 16 into position shown in Fig. 4 and permits the tray or drawer to be completely withdrawn from its compartment in a straight horizontal line, the roller 15 being lifted by the wire loop 16 as shown in Fig. 3, as the said loop passes under the roller.

Having thus described the operation of the invention, I claim:

1. A device of the character described including a tray rack provided with a plurality of compartments to receive trays therein, a pair of roller retaining brackets at the front end of each compartment, a tray retaining roller loosely mounted and vertically movable in each pair of brackets, each roller extending across the upper portion of its compartment, a tray for each compartment positioned under each roller, a pair of upright extensions at the rear end of each tray of a height with relation to the position of their retaining roller so that the upright extensions engage their retaining roller at a point below the center of said roller to lift the said roller in its brackets and permit the entrance of the tray into its compartment in a straight line horizontal position, said upright extensions being also adapted to engage its retaining roller at a point below the center thereof to lift the said roller in its brackets and permit the complete withdrawal of the tray from its compartment in a straight line horizontal position, the parts being arranged so that upon downward tilting of the tray in its compartment the upright extensions on the tray engage the said roller at a point above the center thereof whereby the said roller retains the tray in such tilted position and prevents complete removal of the tray from its compartment while the tray is in such tilted position.

2. A device of the character described including a tray rack having a compartment to receive a sliding tray therein, a tray retaining roller at the front end of the compartment, means for loosely mounting the roller in the compartment to permit free vertical movement thereof, a sliding tray, an upright extension at the rear end of the tray of a height with relation to the position of its retaining roller so that the upright extension engages its retaining roller at a point below the center thereof to lift the said roller in its mounting means and permit the entrance of the tray into the compartment in a straight line horizontal position, said upright extension being also adapted to engage the retaining roller at a point below its center to lift the said roller in its mounting means and permit the complete withdrawal of the tray from its compartment in a straight line horizontal position, the parts being arranged so that upon downward tilting of the tray in its compartment the upright extension on the tray engages the said roller at a point above the center thereof, whereby the said roller retains the tray in such tilted position and prevents complete removal of the tray from the compartment while the tray is in such tilted position.

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