

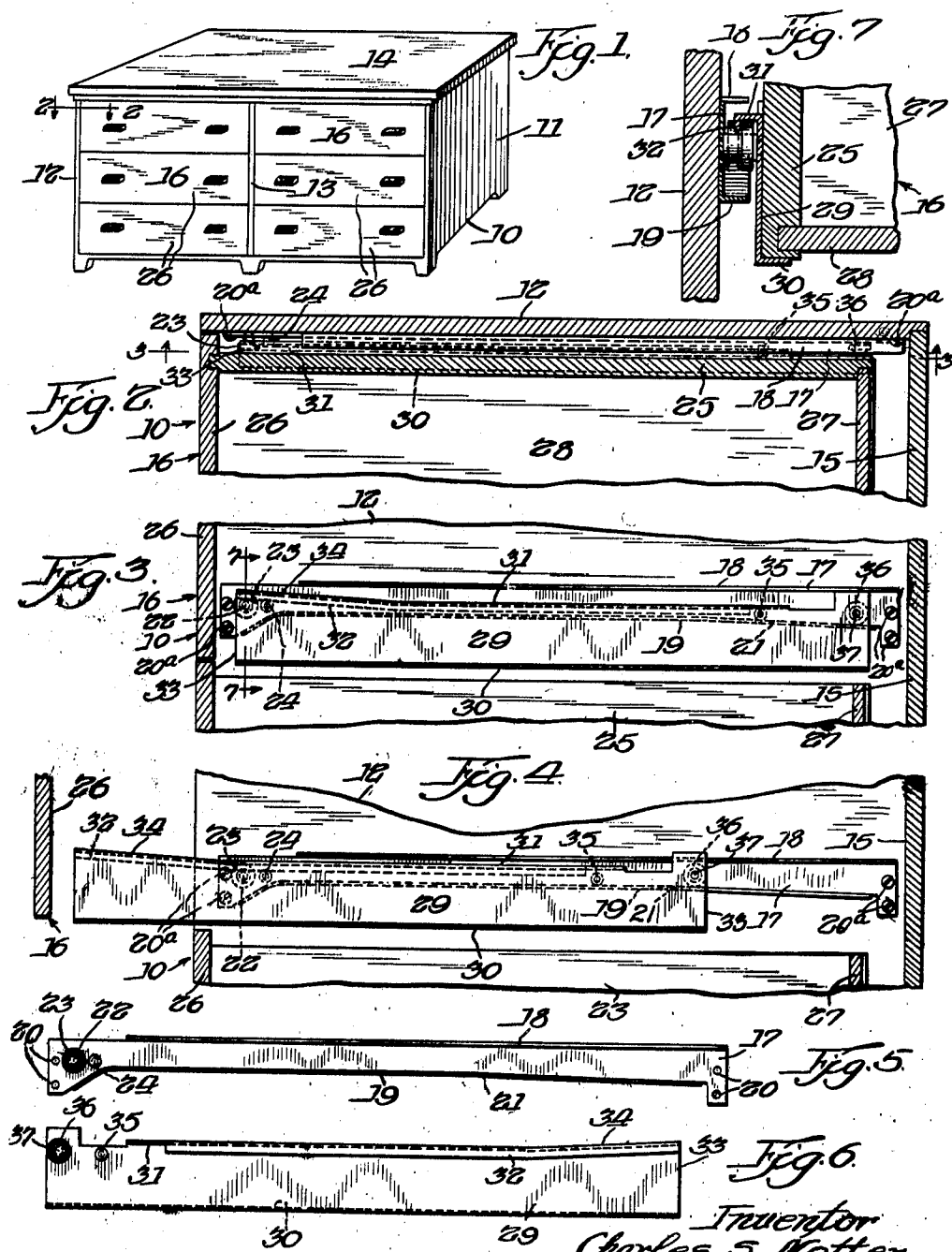
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DRAWER CONSTRUCTION

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DRAWER CONSTRUCTION

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4 Claims. (Cl. 45—77)

My invention relates to drawer construction for use in sales tables, kitchen cabinets, enclosures for kitchen sinks, and for many other like purposes, and has particular reference to a drawer construction which is self-closing when opened only a short distance and also self-closing in the last length of travel of the drawer in the normal closing operation of the drawer.

Another and further object of my invention is the provision of a drawer construction which is self-closing from a partially open position, so that it is impossible to leave the drawer in a partially open condition, say, from eight to ten inches, thus eliminating the hazard of a partially open drawer projecting out from a table or the like to damage clothing and the like, and also eliminating the possibility of an accident resulting from tripping over or otherwise striking a part of the body against the partially open drawer.

A further object of my invention is the provision of a drawer construction which when pushed toward a closed position will not rebound into a partially open position, projecting outward from the cabinet or table in which it is mounted, thereby forming an obstruction in an aisle or projecting in such fashion that it is an obstruction when one is passing the table or cabinet.

A still further object of the invention is the provision of a drawer construction which will remain in open position when pulled out completely or when pulled out to, say, one-half or two-thirds of its length, and which will remain in such position until closed in the usual manner by a movement toward its closed position. As the drawer travels toward its closed position for the last eight or ten inches of its distance of travel the closing becomes automatic, and the drawer remains in normally closed position.

These and other objects of my invention will be more fully and better understood by reference to the accompanying sheet of drawing, and in which—

Figure 1 is a perspective view of a sales table embodying my invention;

Figure 2 is a plan sectional view on line 2—2 of Figure 1;

Figure 3 is a view partially in elevation on line 3—3 of Figure 2, showing the drawer in closed position;

Figure 4 is a vertical sectional view in the same position as Figure 3, showing the drawer in partially open position;

Figure 5 is an elevational view of the drawer slide channel;

Figure 6 is an elevational view of the drawer track section; and

Figure 7 is a sectional view taken on line 7—7 of Figure 3.

Referring now specifically to the drawing, and in which like reference characters refer to like parts throughout, a sales table 10 is shown, having the usual side walls 11 and 12, a vertically extending intermediate wall 13, and the usual top 14, and a rear wall 15, and is fitted with the usual drawers 16, 16 mounted upon tracks hereinafter described. This table is of the type commonly used for merchandising purposes in stores where merchandise is normally stored in the drawers, with the top of the table being sufficiently large to be used for displaying the various articles of merchandise, with sufficient room being left on the table for demonstration during the sale of the articles, if desired. In many instances the back wall 15 is disposed of and a series of drawers is placed in the table from the opposite side. In such instances, two of the drawers are of sufficient length to approximately span the width of the table. As shown, the drawers extend substantially the width of the table, but this is purely a matter of choice or design, depending upon the purpose for which the table is to be used.

Secured to each of the side walls 11 and 12 and to the intermediate wall 13 are drawer slide channel members 17, U-shaped in cross section, with an upper flange 18 and a lower flange 19 extending inward toward the drawer compartments of the table. The channel members 17 are slightly widened at each end and have holes 20, 20 therein through which screws 20a or other appropriate fastening devices can be placed for securing the slide channel members 17 in position to the side and intermediate walls of the cabinet. The channel member 17 is widened toward its inner end so that the flange 19, beginning at a point indicated by the numeral 21, is inclined downward toward the rear end of the channel 17 for purposes hereinafter described. A stud 22 is provided near the forward end of the slide channel member 17, upon which a small roller 23 is mounted, preferably with roller bearings as shown to reduce to a minimum the friction of the roller 23 as it rotates upon the stud 22. A pin 24 acts as a limit stop to the outward pull of the drawer in cooperation with another stop hereinafter described, to prevent the drawer from being unintentionally pulled out of the cabinet and dropping to the floor, as might happen if these stops were not employed.

The drawers are of the usual construction, having side members 25, a front member 26, a rear member 27 and the usual bottom 28, with drawer tracks 29 secured to the sides of the drawer in any approved manner. These drawer tracks 29 are Z-shaped in cross-section and have extensions 30 at the bottoms thereof which preferably extend under the sides 25 of the drawer, with a track portion 31 at the upper side of the drawer track 29. Formed integrally with the track portion 31 is a downwardly turned flange 32, with the end 33 of the drawer track 29 being turned slightly at an angle or widened, if desired, so that a portion 34 of the track 31 is inclined downwardly for approximately the same distance as the inclined portion of the drawer slide channel members 17, as illustrated in Figure 5. A stop 35 is mounted on the drawer track 29, which, when the drawer tracks 29 and drawer slide channel members 17 are in assembled relation, cooperates with the stop 24 on the drawer slide channel member 17 to prevent the unintentional removing of the drawer 16 or to prevent its being pulled out to a point where it would drop out of its position in the table or cabinet.

A roller 36 is mounted upon a stud 37 in one end of the drawer track 29 and fits into the channel member between the flanges 18 and 19 on the drawer slide channel member 17, which form the tracks for this roller 36 during the movement of the drawer into open and closed position in the table 10. The drawer slide channel members 17 are made in rights and lefts and in practice are mounted upon the side walls 11 and the intermediate wall 13, as illustrated particularly in Figures 3 and 4 of the drawing, with the open sides of the channel members 17 extending toward the side walls of the drawers 16. The drawer tracks 29 are also made in rights and lefts, with the flange portion 30 extending under the bottom edges of the drawers, as shown in Figure 7, and with the ends 33 of the drawer tracks 29 on which the rollers 36 are mounted being placed at the rear ends of the drawers 16 upon which the drawer tracks 29 are mounted, so that when the drawers 16 are in position in the table 10 they are supported at each side by the rollers 23 and 36 in the drawer slide channel members 17 and the drawer tracks 29, respectively. The roller 23 engages the under side of the track 31 and its inclined portion 34 at all times in both open and closed positions of the drawer 16. The roller 36 from approximately half closed to full closed position travels on the upper side of the flange 19, and from approximately half open to full open position travels along the under side of the flange 18 on the drawer slide channel member 17, depending to a certain extent upon the distribution of material in the drawer. The rollers 36 are only slightly less in diameter than the distance between the flanges 18 and 19 so the operation of the drawers is smooth even though the drawer may tilt slightly when fully open.

A drawer 16 is inserted in the usual manner, with the outer end of the drawer lifted slightly so the rollers 36 on the drawer tracks 29 pass over the rollers 23 in the slide channel members 17. The outer end of the drawer is then tilted at an angle to allow the rollers 36 to pass between the stops 35 on the drawer tracks 29 and the end of the flange 18 adjacent the stops 35, and the drawer pushed forward in this position until the stops 35 pass over the stops 24 in the drawer slide channel members 17, when the

drawer is allowed to come to a horizontal position. It is thereafter pushed into position in the normal manner, with the rollers 36 on the drawer track 29 being normally in engagement with the flange 18 for approximately one-half the distance of travel of the drawer, when they begin to travel upon the flange 19 with the change in the center of gravity of the drawer 16. When these rollers 36 reach the point 21, the rollers 23 are about at the point 32 on the drawer track 29, so that the drawer travels for the last portion of its distance in a downward direction, and when it reaches the position described above automatically passes by gravity to a closed position. The flange 18 is terminated short of the front end of the channel member 17 to allow for the passage of the roller 36 into the channel formed by the flanges 18 and 19 during the insertion of the drawer into position in the cabinet as described above, and provides sufficient clearance for the angular insertion of the drawer 16 initially.

When placed in position in the cabinet the drawers operate in a substantially horizontal position, except that in the initial opening of the drawer for a distance of approximately one-third of the travel they are raised slightly owing to the inclination of the flanges 19 on the drawer slide channel members 17 and the inclined portions 34 of the flanges 31. During the closing operation, the drawers travel horizontally until, as described above, they reach the downwardly inclined portions of the tracks, when gravity becomes effective and the drawers travel automatically to their closed position from a point approximately one-third of the open position of the drawer. In this manner when a clerk or anyone else gives a drawer a push either in its full or partially open position, it travels to a completely closed position and because of the inclined tracks will not rebound so as to project outward from the table a sufficient distance to become an obstruction, which is now a common occurrence with tables of the ordinary type. When the drawer is pulled out a sufficient distance to reach the horizontal portion of the tracks it will, of course, remain in this position until moved by the user in one direction or the other, so that there is no necessity for holding the drawer open for the removal of merchandise or other material therefrom. It is only when they are partially open that the drawers become automatically self-closing, so that both from the standpoint of appearance and of the removal of a hazard the drawers are in closed position and do not obstruct the aisle or present the unsightly appearance of partially opened drawers.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form and the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit or scope of the appended claims.

What is claimed is:

1. In combination with a casing having a drawer opening therein, the said casing having drawer supporting portions along the sides of the said drawer opening, a drawer fitting into the said drawer opening, a combined guide and drawer support on each side of the said drawer having an outwardly turned flange on one side thereof, a roller on said drawer support, a channel member on each side of the said drawer fixed

to the drawer supporting portion and having upper and lower flanges thereon for engagement with the roller on the drawer support, and a roller on the said channel member on which the flange on the drawer support travels, the lower flange on the channel member being inclined downwardly at one of its ends and the flange on the drawer support being inclined upwardly at its end opposite the downwardly inclined end of the flange on the channel member, the said inclined portions of the flanges causing the drawer to close from a predetermined partially open position.

2. In combination with a casing having a drawer opening therein, the said casing having drawer supporting portions along the sides of the said drawer opening, a drawer fitting into the said drawer opening, a combined guide and drawer support on each side of the said drawer having an outwardly turned flange on one side thereof, a roller on said drawer support, a channel member on each side of the said drawer fixed to the drawer supporting portion and having upper and lower flanges thereon for engagement with the roller on the drawer support, and a roller on the said channel member on which the flange on the drawer support travels, the lower flange on the channel member being inclined downwardly at its inner end and the flange on the drawer support being inclined upwardly at its outer end opposite the downwardly inclined end of the flange on the channel member.

3. In combination with a casing having a drawer opening therein, the said casing having drawer supporting portions along the sides of the said drawer opening, a drawer fitting into the said drawer opening, a combined guide and drawer support on each side of the said drawer having an outwardly turned flange on one side

thereof, a roller on the inner end of said drawer support, a channel member on each side of the said drawer fixed to the drawer supporting portion and having upper and lower flanges thereon for engagement with the roller on the drawer support, and a roller on the outer end of said channel member on which the flange on the drawer support travels, the lower flange on the channel member being inclined downwardly at one of its ends and the flange on the drawer support being inclined upwardly at its end opposite the downwardly inclined end of the flange on the channel member, the said inclined portions of the flanges causing the drawer to close from a predetermined partially open position.

4. In combination with a casing having a drawer opening therein, the said casing having drawer supporting portions along the sides of the said drawer opening, a drawer fitting into the said drawer opening, a combined guide and drawer support on each side of the said drawer having an outwardly turned flange on one side thereof, a roller on said drawer support, a channel member on each side of the said drawer fixed to the drawer supporting portion and having upper and lower flanges thereon for engagement with the roller on the drawer support, and a roller on the said channel member on which the flange on the drawer support travels, the lower flange in the channel member being inclined downwardly at one of its ends and the flange on the drawer support being inclined upwardly at its end opposite the downwardly inclined end of the flange on the channel member, the said inclined portion of each of the flanges being substantially of the same length causing the drawer to close from a predetermined partially open position.

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