Feb. 18, 1936. J. R. CLARK 2,031,251

DRAWER STOP FOR CABINETS AND THE LIKE

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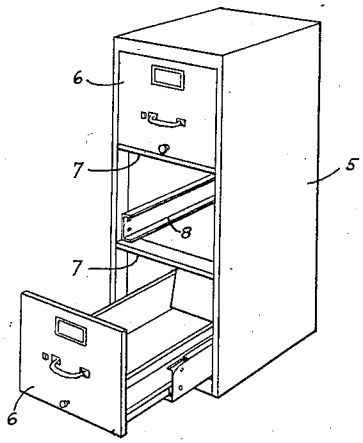


Fig. 1

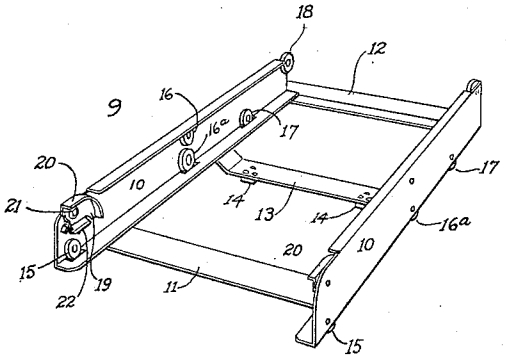


Fig. 2

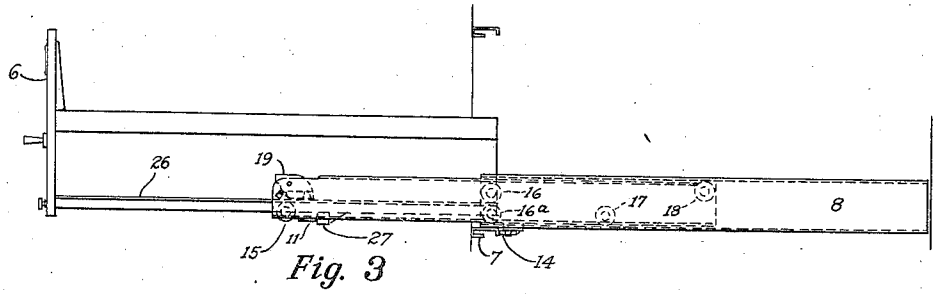


Fig. 3

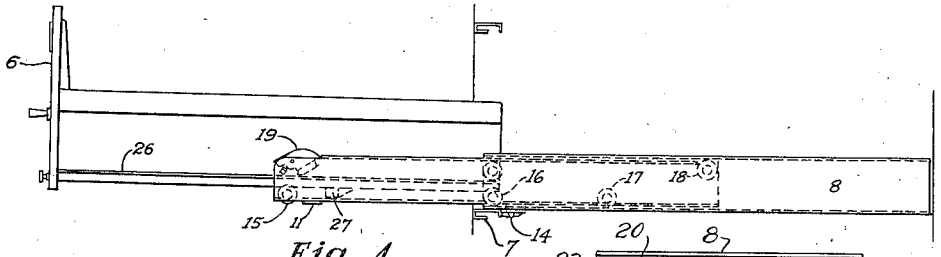


Fig. 4

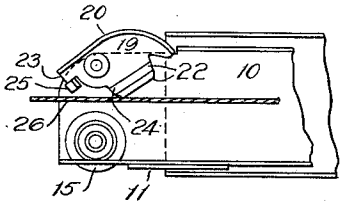


Fig. 5

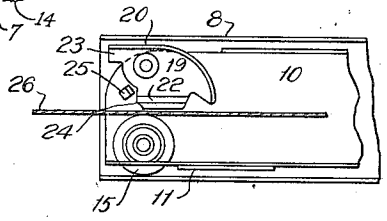


Fig. 6

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DRAWER STOP FOR CABINETS AND THE LIKE

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6 Claims. (Cl. 45—77)

This invention relates to a cabinet and more particularly to a drawer stop construction for use in a cabinet.

In certain types of cabinets, it is desirable to provide an adjustable drawer stop to prevent the unintentional removal of the drawer from the cabinet when the drawer is opened, which stop, however, can be adjusted so that the drawer can be completely removed from the cabinet whenever desired.

In accordance with the main feature of the present invention, a drawer stop is provided which is self-restored to its drawer retaining position merely by its engagement with a stationary part of the cabinet in the course of the closing of the drawer.

This and other features of the invention will appear from the detailed description, claims and drawing in which Fig. 1 is a perspective view of a cabinet with one drawer partially open and a second drawer completely removed therefrom; Fig. 2 is a perspective view of a carriage slide for use in the cabinet of Fig. 1; Fig. 3 is a fragmentary side view of a cabinet showing the drawer and the carriage slide in their extreme open positions and disclosing the drawer stop in its normal position; Fig. 4 is a view similar to that of Fig. 3 except that the drawer stop is illustrated in the drawer releasing position and the front end of the drawer is shown slightly elevated so that the drawer bumper will be free to disengage the carriage slide; and Figs. 5 and 6 are enlarged detailed views of the drawer stop respectively in its drawer releasing and its drawer retaining positions.

Referring especially to Fig. 1, 5 designates the casing of a three drawer filing cabinet, although the invention is not limited to any particular number of drawers. Two such drawers 6 are illustrated, of which the upper drawer is shown closed and the lowermost drawer is illustrated as partially open to show the mounting of the drawer, while the middle drawer has been completely removed to disclose the case rail 7 and the interior construction of the case. On the inner surface of each of the side walls of the case there is mounted in any suitable manner, a pair of channel-shaped case strips 8 for each drawer. The inwardly extending flanges of each pair of case strips 8, 8, serve as tracks for a carriage slide generally designated 9. As best illustrated in Fig. 2, each carriage slide comprises two spaced channel-shaped members 10 having their flanges facing each other which members are approximately equal in length to the length of the drawer. The slide also comprises two end strips, one a flat spacing strip 11 and the other an angle iron spacing strip 12, attached at their ends to the ends of the flanges of the channel members 10, these strips having their lowermost surfaces in substantially the plane of the last-mentioned flanges. At an intermediate portion of the slide there is provided a third spacing strip 13 having its ends fastened to the lower flanges of the channel members. The strip 13, except at its ends, is offset slightly below the lowermost planes of the spacing strip 11 and 12 and the offset part thereof is provided with bumpers or stops 14 to engage a case rail 7, in order to limit the outward movement of the carriage slide as it is withdrawn from the case. Each of the channel members 10 is provided near one end with a friction roller 15, a pair of spaced friction rollers 16, 16a at an intermediate portion thereof and friction rollers 17 and 18 adjacent the other end of the member. These rollers respectively engage the upper and lower face of a drawer strip 26 mounted on each side of the drawer, to facilitate the opening and closing of the drawer.

Each channel member near its front end is also provided with a drawer stop 19 having an upper arcuate camming surface 20. This drawer stop is pivoted at 21 on the member 10 and has suitable friction washers also mounted on the pivot to resist the swinging movement of the stop. The lower portion of the drawer stop is provided with a flange 22 to engage the upper surface of the drawer strip for the purpose of normally preventing the upward movement of the drawer as will be further described. The stop 19 is also provided with two spaced lugs 23 and 24 cooperating respectively with an ear 25 struck up from the channel member to limit the swinging movement of the stop to two extreme positions.

The drawer 6 may be of any conventional construction, but as herein disclosed it is formed of sheet metal. Each side of the drawer is provided with a drawer strip 26 which slides between the rollers 16, 16a on the drawer slide and which rides on the top of the rollers 15 and 17 and engages the bottom of the roller 18 depending on the position of the drawer with respect to the case. The rollers 15, 16a and 17 project thru the lower flange of the member 10 to roll on the lower flange of the case strip as a track, while the roller 18 projects above the upper flange of the member 10 to engage the upper flange of the case strip 8 for the purpose of maintaining the carriage slide in horizontal position in the case. The bottom of the

drawer is provided with a bumper or stop 27 which engages the strip 11 on the carriage slide, when the drawer has been moved to its outermost position.

In the normal use of the cabinet when it is not desired to remove the drawer from the carriage slide, the drawer stops 19 are in the position illustrated in Figs. 3 and 6 to hold the drawer in horizontal position shown in Fig. 3. While the drawer is thus maintained in horizontal position the bumper 27 will engage the strip 11 whenever the drawer and carriage slide are moved to the position illustrated in Fig. 3, so that the drawer cannot be disengaged from the carriage slide. However, when it is desired to separate the drawer from the slide, the stops 19 are manually moved to the position shown in Figs. 4 and 5 whereby the lower surface of the flange 22 is separated from the drawer strip 26 a distance somewhat greater than the thickness of bumper 27. In this position of the stops 19, the front end of the drawer can be elevated as shown in Fig. 4 so that the bumper 27 can be raised above the upper surface of the strip 11 after which the drawer can then be further withdrawn toward the left as shown in Fig. 4 to disengage it from the slide.

When it is desired to replace the drawer on the slide, the drawer strips 26 are inserted between the stops 19 and the rollers 15 on the front end of the drawer slide and the drawer is moved toward the right as shown in Fig. 4, while the front end of the drawer is elevated, until the bumper 27 passes beyond strip 11. Then the drawer front is lowered until the drawer strips engage the rollers 15. In the course of the further movement of the drawer toward the right, the drawer strips pass between the rollers 16, 16a and subsequently engage the upper surface of the rollers 17 and then the under surface of the rollers 18. As the drawer moves toward the right, the cam surfaces 20 of the drawer stops 19 telescopically engage the front portion of the upper flanges on the case strips 8 and on the further movement of the drawer into the cabinet, these flanges rock the stops 19 on their pivots 21 to restore them to their normal position as shown in Figs. 3 and 6. By this arrangement, the stops on the drawer slide are restored to their normal position merely by the operation of inserting the drawer into the case and this is effected without any manual adjustment of the stops.

While each stop has been shown as being arranged to be restored by engagement with its related case strip, it will be understood that it can be restored by engagement with any stationary part properly positioned on the case.

What I claim is:

1. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide slidable on said supports, a drawer slidable on said carriage, a bumper on said drawer, a drawer stop normally causing said bumper to engage a portion of the slide to limit the relative movement between said drawer and said slide, said drawer stop being movable to permit the separation of the drawer from the carriage slide, and stationary means mounted on a side of the cabinet and having a surface engaging said drawer stop on the closure of the drawer after its replacement in the carriage slide for restoring the stop to its drawer retaining position, the uppermost surface of said stop in its normal position being in a plane below the engaging surface of said stationary means.

2. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide movable on said supports, a drawer slidable on said carriage slide, said carriage slide being progressively movable in response to the sliding movement of the drawer, and a drawer stop mounted for limited swinging movement only on each side of said carriage slide at the front thereof, the uppermost surface of each drawer stop being substantially flush with the upper surface of its related carriage slide, said drawer stops normally causing said bumper to engage a portion of the slide to limit the relative movement between said drawer and said slide but being movable to permit the separation of the drawer from the carriage slide, said drawer supports engaging said drawer stops on the closure of the drawer after its replacement in the carriage slide for restoring the stops to their drawer retaining positions.

3. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide slidable on said supports, a drawer slidable on said carriage slide, a bumper on said drawer, a drawer stop mounted on the forward end of said carriage slide to limit further relative movement between said drawer and said slide but being movable to permit the separation of the drawer from said slide, said drawer stop having a camming surface, the uppermost part of which in its normal position is substantially flush with the upper surface of said carriage slide, and stationary means mounted on the side of said cabinet and having a surface engaging said drawer stop on the closure of the drawer after its replacement in the carriage slide for restoring the stop to its normal drawer-retaining position, the uppermost surface of said stop in its normal position being in a plane below the engaging surface of said stationary means.

4. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide slidable on said supports, a drawer slidable on said carriage slide, a bumper on said drawer, a drawer stop pivotally mounted on the forward end of said carriage slide and normally causing said bumper to engage a portion of the slide to limit further relative movement between said drawer and said slide but being movable to permit the separation of the drawer from said slide, said drawer stop having a flange providing a camming surface, the uppermost part of which in its normal position is substantially flush with the upper surface of said slide, and stationary means mounted on the side of the cabinet and having a surface engaging said flange during the closure of the drawer after its replacement in the carriage slide for restoring the stop to its normal drawer-retaining position, the uppermost surface of said stop in its normal position being in a plane below the engaging surface of said stationary means.

5. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide slidable on said supports, a drawer slidable on said carriage slide, a bumper on said drawer, a drawer stop pivotally mounted on the forward end of said carriage slide to engage a portion of said drawer whereby said bumper engages a portion of the slide to limit further relative movement between said drawer and said slide but being movable to permit the separation of the drawer from said slide, the pivot of said drawer stop being in substantially vertical alinement with a point of engagement between said stop and said drawer, and stationary means mounted

on the side of the cabinet and having a surface engaging said drawer stop on the closure of the drawer after its replacement in the carriage slide for restoring the stop to its normal drawer-retaining position.

6. A cabinet provided on its respective sides with a pair of opposing drawer supports, a carriage slide slidable on said supports, a drawer slidable on said carriage slide, a bumper on said drawer, a drawer stop pivotally mounted on the forward end of said carriage slide to engage a portion of said drawer whereby said bumper engages a portion of the slide to limit further relative movement between said drawer and said slide, but being movable to permit the separation of the drawer from said slide, the pivot of said drawer stop being in substantially vertical alinement with a point of engagement between said stop and said drawer, the said drawer stop having a camming surface the uppermost part of which in its normal position is substantially flush with the upper surface of said slide, and stationary means mounted on the side of the cabinet and having a surface engaging said drawer stop during the closure of the drawer after its replacement in the carriage slide for restoring the stop to its normal drawer-retaining position.

JAMES R. CLARK.