PANTRY DRAWER SLIDE SYSTEM

Inventors: Bryan K. Tingle, Shelbyville, KY (US); William L. Walburn, Muncie, IN (US); Kenneth R. Rowland, Louisville, KY (US); Paul F. Chambers, Louisville, KY (US); Kevin M. Ward, JR., Louisville, KY (US)

FILED: Aug. 10, 2011

Abstract

A drawer slide system having an elongated base channel, an intermediate assembly at least partially received within the elongated base channel, a longitudinally extending I-beam assembly at least partially received within the intermediate assembly, and a pantry lock assembly including forward and rearward mounting plates adapted to be coupled to a bottom surface of a drawer. The pantry lock assembly can be accessed through the bottom of the drawer to achieve engagement or disengagement between the pantry lock assembly and the I-beam assembly. The rearward mounting plates having lateral portions extending over the upper surfaces of the I-beam assembly upper flanges to permit a tilting adjustment of the drawer relative to the drawer slide system. A soft close assembly can be included to provide a soft close for the drawer. A vertically adjustable rear panel can inhibit goods from being lost over the back of the drawer.
PANTRY DRAWER SLIDE SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS


BACKGROUND

[0002] 1. Technical Field

[0003] The present disclosure relates to slides useful on tall cupboard pull-outs from cabinets, particularly such slides as may include a self-closing bias and a soft close feature, while preferably omitting any top guide.

[0004] 2. Background Information

[0005] Most drawers typically consist of a bottom surrounded by four upright members defining a back wall, two side walls, and a drawer front. The contents of the drawer can be accessed through an open horizontal plane defined generally by the upper margins of the back wall and two side walls. To facilitate such access, a drawer slide can be coupled to each side of the drawer and to each side of the drawer receiving opening in the cabinet holding the drawer. Each drawer slide consists generally of a first rail that is designed to be fixed to the side of the drawer and a second rail that is designed to be fixed to the cabinet. The first and second rails are coupled to each other by inter-engaging surfaces such as slides or bearings that facilitate relative movement between the two rails. A wide variety of such drawer slides exist that are suitable for use to permit drawers to move smoothly and easily in and out of cabinetry, particularly cabinetry typically found in kitchens. Pantry drawers, which are designed to hold up to 500 pounds, or even more, of canned goods and/or other kitchen items can be particularly difficult to support on some drawer slides.

[0006] Some drawers including pantry drawers have a much different construction from that previously described. In particular, some drawers consist of a bottom, a back wall; a drawer front and one or more shelves or racks connected between the back wall and the drawer front. Access to the shelves or racks is gained through one or both of two vertical planes located on either side of the drawer and defined generally by the lateral margins of the back wall and bottom. In view of the desirability of maximizing the side access to such drawers, the use of side-mounded drawer slides is undesirable. As a result, some installations involve the use of a drawer slide mounted between the bottom of the side access drawer and the drawer receiving opening in the cabinet holding the drawer. If the side access drawer is much taller than it is wide, the drawer can exhibit significant vertical instability. To enhance the vertical stability of the side access drawer, another slide or guide can be placed between the top of the back wall and the drawer front and coupled to the top of the drawer receiving opening in the cabinet holding the drawer. Examples of this construction are to be found, for example, in U.S. Pat. Nos. 6,199,966; 6,412,892; and 6,682,159. A unit designed for the heavier loads commonly found with pantry drawers can be found in U.S. Pat. No. 6,039,423. While this top slide or guide works satisfactorily to stabilize the side access drawer, it restricts access to the top shelf or rack in the drawer.

[0007] Efforts have been undertaken to omit the top slide or guide so that access to the top shelf or rack of such a side access drawer can be through either vertical side plane as described before, or through the same horizontal plane as described previously, while still providing the desired lateral stability for the drawer as it moves in and out of the cabinet. A drawer slide system that will provide the desired access and stability for a side access drawer can have a base that includes an outside pair of vertical webs and a centrally situated portion that is elevated with respect to lower margins of the outside pair of vertical webs. Vertically oriented drawer slides can be coupled to each of the vertical webs and a horizontally oriented drawer slide can be coupled to the centrally situated portion of the base. The vertically oriented drawer slides can be coupled to outside margins of a side access drawer adjacent to a bottom of the drawer. The horizontally oriented drawer slide can be coupled to a central portion of the bottom of the drawer. The base can be fixed to a bottom surface of a cabinet to position the side access drawer within a suitable drawer receiving opening in the cabinet. An example of this construction can be found in U.S. Pat. No. 7,306,301.

[0008] There remains a need, however, for a drawer supporting arrangement that will provide the desired access and stability to a side access drawer designed for the heavy loads common with pantry drawers having a locking feature to lock the drawer to the slide, and particularly for such a drawer supporting arrange that will include a soft close feature, and particularly for such a drawer supporting feature that will include an adjustment feature to vary the tilt at the back of the drawer so that repositioning of the drawer front can be omitted.

BRIEF SUMMARY

[0009] A drawer slide system that will provide the desired access and stability for a heavily loadable side access pantry drawer can have an elongated base channel including a bottom portion having outside edges. The bottom portion can be adapted to be secured to a cabinet bottom, and can have a pair of vertical webs extending upwardly from the outside edges. An upper margin of each vertical web can have an inwardly directed flange. The drawer slide system can also have an intermediate assembly at least partially received within the elongated base channel. The intermediate assembly can include a pair of spaced-apart vertically oriented and longitudinally extending parallel members. A plurality of first rollers secured to the intermediate assembly can support each member on the bottom portion of the base channel for longitudinal movement relative to the base channel. Second rollers can be provided on one end of each member for contacting a lower surface of the inwardly directed flange of the elongated base channel. The drawer slide system can also have a longitudinally extending I-beam assembly at least partially received within the intermediate assembly. The I-beam assembly can include laterally outwardly extending lower flanges having a lower surface contacting at least one of the plurality of first rollers and an upper surface in contact with a third roller fixed to the intermediate assembly. The I-beam assembly can also include laterally outwardly extending upper flanges that include an upper surface.

[0010] One feature that can be included in the drawer slide system is a pantry mount lock assembly that can include forward and rearward mounting plates adapted to be coupled to a bottom surface of a pantry drawer. The mounting plates can have lateral portions that will extend over the upper surfaces of the I-beam assembly upper flanges. A longitudinal member can be fixed to extend between the mounting plates
that can include a locking mechanism positioned between the mounting plates, which can be adapted to lock to the I-beam assembly. The pantry mount lock assembly can be coupled to a bottom surface of a pantry drawer that can include an opening over the locking mechanism to permit engagement and disengagement of the locking mechanism manually or by a suitable tool positioned inside the pantry drawer while the pantry drawer is in an open position.

Another feature that can be included in the drawer slide system is a soft close assembly that can be situated in the base channel below the I-beam assembly and between the plurality of first rollers. The soft close assembly can include a gas spring unit having a first end coupled to a stud that can be fixed to a laterally central position of the bottom portion of the elongated base channel. A second end of the gas spring unit can be adapted for movement with the intermediate assembly. The gas spring unit can bias the intermediate assembly toward a closed position where the I-beam assembly is substantially fully received within the intermediate assembly. The gas spring unit can include an oil damper to prevent any abrupt stop of the I-beam assembly.

Another feature that can be included in the drawer slide system is a rear adjustment mechanism that can be coupled to the lateral portions of the rearmost mounting plates of the pantry mount lock assembly that extend over the upper surfaces of the I-beam assembly upper flanges. The adjustment mechanism can permit adjustment of the vertical space between the lateral portions of the rearmost mounting plates and the upper surfaces of the I-beam assembly upper flanges. Desirably, the adjustment mechanism can be accessible through an opening in a bottom of a pantry drawer fixed to the pantry mount lock assembly so that adjustment can occur after the pantry mount lock assembly is locked securely to the I-beam assembly. The adjustment of the adjustment mechanism can cause a pivoting movement of the pantry drawer about a front edge of the drawer slide system to provide easy alignment of the pantry drawer within a cabinet.

Another feature that can be included in the drawer slide system is an adjustable rear panel coupled to a back wall of the drawer to permit vertical adjustment of the height of the back wall to inhibit any goods carried by the drawer from falling behind the drawer. The rear panel can include one or more vertical slots. A suitable number of fasteners, which can be adjustable from inside the drawer, can extend through the back wall and one of the vertical slots in the adjustable rear panel. Upon installation of the drawer and drawer slide system into a cabinet, the adjustable back wall can be extended upward to a desired position, for example, immediately below the ceiling of the cabinet, and secured in that position.

Still other features and advantages of the present system will become apparent from the following description of preferred embodiments, which should be considered in conjunction with the accompanying drawings.

FIG. 1 is a perspective view of a cabinet and side access pantry drawer using the present drawer slide system. FIG. 2 is a perspective view of the drawer slide system in an outwardly extended or open position. FIG. 3 is a perspective view of a base channel for the drawer slide system shown in FIG. 2. FIG. 4 is a side elevation view of an intermediate assembly for the drawer system shown in FIG. 2.

FIG. 5 is a top plan view of the intermediate assembly shown in FIG. 4. FIG. 6 is a sectional view taken along line 6-6 of FIG. 5. FIG. 7 is a perspective view of an I-beam assembly for the drawer slide system shown in FIG. 2. FIG. 8 is a top plan view of the I-beam assembly of FIG. 7. FIG. 9 is a perspective view of a pantry mount lock assembly for the drawer slide system shown in FIG. 2. FIG. 10 is a sectional view taken along line 10-10 of FIG. 9.

FIG. 11 is a perspective view of a soft close sub assembly for the drawer slide system shown in FIG. 2. FIG. 12 is a sectional view for the drawer slide system shown in FIG. 2 in a compact or closed position. FIG. 13 is side elevation view of the drawer slide system shown in FIG. 2. FIG. 14 is a rear perspective view of a drawer designed to be supported on a drawer slide system and including a vertically adjustable rear panel.

FIG. 15 is an exploded perspective detail of a portion of a drawer including a vertically adjustable rear panel.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows a side access pantry drawer 10 supported on a drawer slide system 12 extending outward from a cabinet 14. The use of the term “pantry drawer” is merely intended to emphasize the heavy duty nature of the drawer slide system 12 disclosed herein, and is not intended to limit the use of the drawer slide system 12 to merely support drawers in a particular environment or to limit the type of contents that might be supported on the drawer 10. The pantry drawer 10 includes a bottom shelf 16, a back wall 18, and a front portion 20. Additional shelves 22 can extend between the back wall 18 and the front portion 20 at spaced vertical intervals above the bottom shelf 16. While the additional shelves 22 are shown to include solid planar horizontal surfaces 24 bounded laterally by ridges 26, it will be appreciated that the shelves 22 can be racks, supports, or holders of various shapes and construction. An additional drawer front or cover 28, shown in phantom, can be attached to the front portion 20 to provide a decorative cover for the pantry drawer 10 that can be coordinated with other decorative features or elements of the cabinet 14.

The cabinet 14 can be seen to have a bottom surface 30 and vertical partitions 32 extending upward from the bottom surface 30. The vertical partitions 32 can extend upward to an under surface or ceiling 34 of the cabinet top surface 36. A cabinet front 38 defines a perimeter 40 of an opening 42 in the cabinet 14 that receives the pantry drawer 10. In general, the drawer front 20 or cover 28 extends laterally outward by a distance sufficient to overlap the cabinet front 38 adjacent to the perimeter 40 to provide closure of the space within the cabinet 14 when the pantry drawer 10 is in a closed position. It is to be noted that there is no guide or slide attached between the top of the pantry drawer 10 and the cabinet 14 since such a structure is rendered un-necessary by the present drawer slide system 12, but such a top guide or slide could be optionally included, if desired. The movement of the pantry drawer 10 into and out of the cabinet 14 is facilitated by the drawer slide system 12, which has an elongated base channel 44 that is fixed to the cabinet bottom surface 30. An intermediate
assembly 46 can be, at least partially received within the elongated base channel 44. The drawer slide system 12 can also include a longitudinally extending I-beam assembly 48 and a pantry mount lock assembly 50 as illustrated further in FIGS. 2-13.

[0032] FIG. 2 shows a perspective view of the drawer slide system 12 in an extended or open position. The drawer slide system 12 is shown in FIG. 2 to include an elongated base channel 44, an intermediate assembly 46, a longitudinally extending I-beam assembly 48 and a pantry mount lock assembly 50. The elongated base channel 44, which is also shown in FIG. 3, can include a bottom portion 52 having outside edges 54. The bottom portion 52 can be adapted to be secured to a cabinet bottom 30 with screws, bolts, or other fasteners, not shown that pass through openings 56 in the bottom portion 52 and extend at least partially into the cabinet bottom 30. A pair of vertical webs 58 can extend upwardly from the outside edges 54 of the bottom portion 52 to upper margins 60. An inwardly directed flange 62 can be provided along the length of each of the upper margins 60. A mounting stud 64 can be fixed to a laterally central position of the bottom portion 52 for utilization with a soft close feature, detailed below. A stop bumper 66 can be provided at the front end 68 of the base channel 44 to limit the outward movement of the intermediate assembly 46, longitudinally extending I-beam assembly 48 and pantry mount lock assembly 50 relative to the base channel 44. The stop bumper 66 can take the form of elastomeric blocks 70 fixed to posts 72 on the vertical webs 58 adjacent to a forward end of the upper margins 60.

[0033] The intermediate assembly 46 is seen partially received within the elongated base channel 44 in FIG. 2, and in more detail in FIGS. 4-6. The intermediate assembly 46 can include a pair of spaced-apart vertically oriented and longitudinally extending parallel members 74 having forward ends 76 which protrude from the front end 68 of the base channel 44 and rearward ends 78 retained within the base channel 44. A plurality of first rollers 80 can be secured to a lower portion of a laterally inner surface 82 the members 74 forming the intermediate assembly 46. The first rollers 80 can support each member 74 on the bottom portion 52 of the base channel 44 to permit longitudinal movement of the intermediate assembly 46 relative to the base channel 44. Second rollers 84 can be provided on a laterally outer surface 86 of members 74 adjacent the rearward end 78 of each member 74. The second rollers 82 can contact a lower surface of the inwardly directed flanges 62 of the elongated base channel 44 to provide, in combination with first rollers 80, a cantilever support for the pantry drawer 10 when the pantry drawer is extended out of the cabinet 14. The two longitudinally extending parallel members 74 can be coupled to each other by bolts, rivets, or other fasteners 90 extending between the inner surfaces 82 of the two members 74, as shown in FIG. 5. A limit member 92 can be situated between the two members 74 for contact with the longitudinally extending I-beam assembly 48 in a manner described below. A stop pin 94 can extend laterally outward from each of the members 74 to interact with the stop bumpers 66 at the front end 68 of the base channel 44 to limit the outward movement of the intermediate assembly 46. Third rollers 96 can be provided on an upper portion of the laterally inner surfaces 82 the members 74 forming the intermediate assembly 46. The third rollers 96 interact with the longitudinally extending I-beam assembly 48, as described below, to permit longitudinal movement of the extending I-beam assembly 48 relative to the intermediate assembly 46.

[0034] The longitudinally extending I-beam assembly 48 can be seen partially received within the intermediate assembly 46 in FIG. 2, and in more detail in FIGS. 7 and 8. The I-beam assembly 48 can include laterally outwardly extending lower flanges 98 having a lower surface 100 contacting at least one of the plurality of first rollers 80 and an upper surface 102 in contact with the third roller 96 fixed to the intermediate assembly 46 to permit longitudinal movement of the I-beam assembly 48 relative to the intermediate assembly 46. The third rollers 96, in contact the upper surface of the flanges 98 of the I-beam assembly 48, provide, in combination with first rollers 80, a cantilever support for the pantry drawer 10 when the pantry drawer is extended out of the cabinet 14. The I-beam assembly 46 can also include laterally outwardly extending upper flanges 104 that include an upper surface 106. As shown in FIGS. 7 and 8, the I-beam assembly can be formed from two C-channel members 108 coupled together by a plurality of bolts, rivets, or other fasteners 110. A pawl 112 can be provided adjacent a rearward end 114 of the I-beam assembly 48 for interaction with a soft close assembly described below.

[0035] The pantry mount lock assembly 50 can be seen coupled to the I-beam assembly 48 in FIG. 2, and in more detail in FIGS. 9 and 10. The pantry mount lock assembly 50 can include forward mounting plate 116 and rearward mounting plate 118 that include openings 119 to receive screws, bolts, or other fasteners, not shown, to couple the pantry mount lock assembly 50 to a bottom surface of a pantry drawer 10. The mounting plates 116 and 118 can have lateral portions 120 that extend over the upper surfaces 106 of the I-beam assembly upper flanges 104. A longitudinal member 121 can be fixed to extend between the mounting plates 116 and 118 that can include a locking mechanism 122 positioned between the mounting plates 116 and 118, which can be adapted to lock to the I-beam assembly 48. The locking mechanism 122 can take the form of a J-hook 124 having an adjustable fastener 126 for adjusting the position of the J-hook 124 in relation to the longitudinal member 121. One or more additional hooks 125 can be provided on the longitudinal member 121, as shown in FIG. 10, for coupling the pantry mount lock assembly to the I-beam assembly 48 for simultaneous movement relative to the intermediate, assembly 46. The pantry mount lock assembly 50 can be coupled to a bottom surface of a pantry drawer 10 that can include an opening 128, shown in FIG. 1, positioned over the locking mechanism 122 to permit engagement and disengagement of the locking mechanism 122 manually or with the aid of a suitable tool positioned inside in the pantry drawer 10 while the drawer is in an open position.

[0036] A rear adjustment mechanism 130 can be coupled to the lateral portions 120 of the rearward mounting plate 118 of the pantry mount lock assembly 50 to interact with the upper surfaces 106 of the I-beam assembly upper flanges 104. The adjustment mechanism 130 can take the form, for example, of threaded or stepped rods 132 that will permit adjustment of the vertical space between the lateral portions 120 of the rearward mounting plates 118 and the upper surfaces 106 of the I-beam assembly upper flanges 104. Desirably, the adjustment mechanism 130 can be accessible through an opening 133, shown in FIG. 1, in a bottom of a pantry drawer 10 fixed to the pantry mount lock assembly 50 so that adjustment can
occur after the pantry mount lock assembly 50 is locked securely to the I-beam assembly 48. The adjustment of the adjustment mechanism 130 can cause a pivoting movement of the pantry drawer 10 about a front edge 98 of the drawer slide system 12 to provide easy alignment of the drawer front 20 and/or cover 28 within the cabinet 14.

[0037] A soft close assembly 134 as shown in FIGS. 11 and 12 can be situated in the base channel 44 below the I-beam assembly 48 and between the plurality of first rollers 80 supporting the intermediate assembly 46. The soft close assembly 134 can include a gas spring unit 136 having a first end 138 coupled to the stud 64 fixed to a laterally central position of the bottom portion 52 of the elongated base channel 44 as shown in FIG. 12. A second end 140 of the gas spring unit 136 can be coupled to a slide 142 that is received for sliding movement between an confronting pair of guides 144, shown in FIG. 11, that are fixed to base channel 44. The slide 142 is shown to include a downwardly extending coupling 146 that can be attached to the second end 140 of the gas spring unit 136. The slide 142 is shown to also include a pair of laterally extending projections 148 and 150, which protrude on both sides of the slide 142, to be received in slots 152 of guides 144. The slide 142 also includes an upper surface 154 including a front inclined portion 156, a pawl-receiving portion 158, and a back wall portion 160. The slide 142 is adapted for engagement by and for some movement with the pawl 112 of the intermediate assembly 46 as can best be understood from a consideration of FIG. 12, which shows the drawer slide system 10, including the soft close assembly 134, in a closed position.

[0038] As the pantry drawer 10 is moved from a closed position toward an open position, as shown in FIG. 1, the pantry mount lock assembly 50 and the I-beam assembly 48, which are locked to each other, move to the right from the position shown in FIG. 12 toward the position shown in FIG. 13. The pawl 112, engaged within the pawl-receiving portion 158 of the slide 142, pulls the slide 142 to the right, which compresses the gas spring unit 136. This compression action continues until the front laterally extending projections 148 of the slide 142 received within slots 152 of guides 144 encounter front downwardly curved surfaces 162. The interaction between the projections 148 and the surfaces 162 causes a downward movement of the projections 148 into pockets 164, which are designed to capture and retain the projections 148. This downward movement of projections 148 causes a forward and downward pivoting movement of the slide 142 around the rear laterally extending projections 150 leading to a disengagement of the pawl 112 from the slide 142. During the movement prior to disengagement of the pawl 112 from the slide 142, the gas spring unit 136 exerts a bias on the drawer against further opening. Once the pawl 112 is disengaged from the slide 142, any further movement of the pantry drawer 10 toward the fully open position is without any biasing force so that if the pantry drawer 10 is released, the pantry drawer 10 will remain in the open position. An outward limit of the movement of the pantry drawer 10 can be defined by a contact between the stop pins 94 that extend laterally outward from each of the members 74 of the intermediate assembly 46 and the stop bumpers 66 at the front end 68 of the base channel 44.

[0039] As the pantry drawer 10 is moved from an open position, as shown in FIG. 1, back toward a closed position the pantry mount lock assembly 50 and the I-beam assembly 48, which are locked to each other, move to the left from the position shown in FIG. 13 back toward the position shown in FIG. 12. An initial portion of the movement may be without any bias whatsoever. At some point in the movement, the pawl 112 will contact the back wall portion 160 of the slide 142. This contact will provide a force causing a rearward and upward pivoting movement of the slide 142 around the rear laterally extending projections 150 leading to a disengagement of the front laterally extending projections 148 from the pockets 164 back into longitudinal slots 152. At this point, the gas spring unit 136 can again bias the I-beam assembly 48 and intermediate assembly 46 toward a closed position, where the I-beam assembly 48 is substantially fully received within the intermediate assembly 46. The gas spring unit 136 can include an oil damper to prevent any abrupt stop of the I-beam assembly 48 and pantry drawer 10, thus leading to a soft close. In the event of a premature release of the front laterally extending projections 148 from the pockets 164 back into longitudinal slots 152, the slide 142 will naturally return to the position shown in FIG. 12 under the biasing influence of the gas spring unit 136. Any subsequent closing of the pantry drawer 10 will cause the pawl 112 to ride up the front inclined portion 156 of the slide 142 against the bias of spring 166 and into the pawl-receiving portion 158, thereby providing for satisfactory re-engagement between the pawl 112 and slide 142 for the next opening of the pantry drawer 10.

[0040] FIG. 14 shows a perspective view of a side access pantry drawer 10 including a bottom shelf 16, a back wall 18, and a front portion 20. The back wall is seen to include a central lower opening 17 through which the drawer slide system 12 can extend as the drawer 10 is moved outward from a cabinet 14. Additional shelves 22 are shown extending between the back wall 18 and the front portion 20. An adjustable rear panel 168 can be coupled to the back wall 18 of the drawer 10. The adjustable rear panel 168 can include one or more vertical slots 170. A suitable number of fasteners 172, which can be adjustable from inside the drawer 10, can extend through the back wall 18 and one of the vertical slots 170 in the adjustable rear panel 168. The fasteners 172 can penetrate the back wall 18 immediately below the uppermost shelf 19. Upon installation of the drawer 10 and drawer slide system 12 shown in FIG. 14 into a cabinet 14 as shown in FIG. 1, the adjustable rear panel 168 can be extended upward to a desired position, for example, immediately below the ceiling 34 of the cabinet 14, and secured in that position. So positioned, the adjustable rear panel 168 inhibits any goods carried by the drawer 10 from falling behind the drawer 10.

[0041] FIG. 15 shows an exploded perspective detail view of another side access pantry drawer 10 including an adjustable rear panel 168. The adjustable rear panel 168 is shown to include only a single vertical slot 170. A fastener 172, which can take the form of a screw 178 and a nut 180, can secure the adjustable rear panel 168 to the back wall 18 at any point over the range of vertical movement provided by the slot 170. This same arrangement of parts can also be used in the two slot embodiment shown in FIG. 14.

[0042] Variations in dimensions and other characteristics will become apparent to those skilled in the art that are still within the scope of the invention defined in the following claims. The foregoing detailed description should be regarded as merely illustrative rather than limiting, and the following claims, including all equivalents, are intended to define the spirit and scope of this invention.
1. A drawer slide system comprising:
an elongated base channel including a bottom portion hav-
ing outside edges, the bottom portion adapted to be
secured to a cabinet bottom, a pair of vertical webs
extending upwardly from the outside edges, an upper
margin of each vertical web having an inwardly directed
flange,
an intermediate assembly at least partially received within
the elongated base channel and including a pair of
spaced-apart vertically oriented and longitudinally
extending parallel members, a plurality of first rollers
supporting each member on the bottom portion of the
base channel for longitudinal movement relative to the
base channel, and second rollers on one end of each
member contacting a lower surface of the inwardly
directed flange of the elongated base channel,
a longitudinally extending I-beam assembly at least par-
tially received within the intermediate assembly and
including laterally outwardly extending lower flanges
having a lower surface contacting at least one of the
plurality of first rollers and an upper surface in contact
with a third roller fixed to the intermediate assembly,
laterally outwardly extending upper flanges including an
upper surface, and
a pantry mount lock assembly including forward and rear-
ward mounting plates adapted to be coupled to a bottom
surface of a drawer, the mounting plates having lateral
portions extending over the upper surfaces of the I-beam
assembly upper flanges, and a longitudinal member
fixed to and extending between the mounting plates
including a locking mechanism positioned between the
mounting plates adapted to lock to the I-beam assembly.

2. The drawer slide system of claim 1, wherein the elon-
gated base channel further comprises a mounting stud fixed to
a laterally central position of the bottom portion.

3. The drawer slide system of claim 1, wherein the elong-
gated base channel further comprises a stop bumper at a front
end of the base channel limiting any outward movement of the
intermediate assembly relative to the base channel.

4. The drawer slide system of claim 1, wherein the inter-
mediate assembly further comprises a plurality of fasteners
extending between confronting inner surfaces of the longitudi-
ally extending parallel members.

5. The drawer slide system of claim 3, wherein the inter-
mediate assembly further comprises at least one stop pin
projecting laterally outward from at least one of the longitudi-
ally extending parallel members for interaction with the
stop bumper.

6. The drawer slide system of claim 1, wherein the longi-
itudinally extending I-beam assembly further comprises two
C-channel members and a plurality of fasteners coupling the
two C-channel members to each other.

7. The drawer slide system of claim 1, wherein the pantry
mount lock assembly wherein the locking mechanism com-
pares a J-hook having an adjustable fastener.

8. The drawer slide system of claim 1, wherein the forward
and rearward mounting plates of the pantry mount lock
assembly include a plurality of openings to receive fasteners
to fasten the pantry mount lock assembly to a bottom surface
of a drawer.

9. The drawer slide system of claim 1, wherein the pantry
mount lock assembly further comprises a rear adjustment
mechanism between the lateral portion of at least one of the
rearward mounting plates and at least one upper surface of an
upper flange of the I-beam assembly.

10. The drawer slide system of claim 2, further comprising
a soft close assembly having a first end coupled to the mount-
ing stud of the elongated base channel and a second end
adapted for movement with the intermediate assembly rela-
tive to a closed position of the assembly.

11. A drawer slide system comprising:
an elongated base channel including a bottom portion hav-
ing outside edges, the bottom portion adapted to be
secured to a cabinet bottom, an upwardly extending stud
fixed to a laterally central position of the bottom portion,
an pair of vertical webs extending upwardly from the
outside edges, an upper margin of each vertical web
having an inwardly directed flange,
an intermediate assembly at least partially received within
the elongated base channel and including a pair of
spaced-apart vertically oriented and longitudinally
extending parallel members, a plurality of first rollers
supporting each member on the bottom portion of the
base channel for longitudinal movement relative to the
base channel, and second rollers on one end of each
member contacting a lower surface of the inwardly
directed flange of the elongated base channel,
a longitudinally extending I-beam assembly at least par-
tially received within the intermediate assembly and
including laterally outwardly extending lower flanges
having a lower surface contacting at least one of the
plurality of first rollers and an upper surface in contact
with a third roller fixed to the intermediate assembly,
laterally outwardly extending upper flanges including an
upper surface, and
a soft close assembly situated in the base channel below the
I-beam assembly and between the plurality of first roll-
ers including a gas spring unit having a first end coupled
to said stud and a second end adapted for movement with
the intermediate assembly, the gas spring unit biasing
the intermediate assembly toward a closed position
where the I-beam assembly is substantially fully
received within the intermediate assembly, the gas
spring unit including an oil damper to prevent any abrupt
stop of the I-beam assembly.

12. The drawer slide system of claim 11, wherein the gas
spring unit comprises a pair of confronting guides having
longitudinal slots, and a slide coupled to the gas spring unit
second end, the slide having a pair of lateral projections
engaging the longitudinal slots of the confronting guides.

13. The drawer slide system of claim 12, wherein the inter-
mediate assembly includes a pawl and the slide includes
a pawl receiving portion for engaging the pawl of the inter-
mediate assembly to provide cooperative movement of the
intermediate assembly and the gas spring.

14. The drawer slide system of claim 13, wherein the longi-
itudinal slots of the confronting guides include down-
ward extending portions at a forward end of the slots allowing
for disengagement of the slide and pawl when the intermed-
iate assembly is displaced forward by a selected distance.

15. The drawer slide system of claim 14, wherein the slide
includes a back wall portion adapted to engage the pawl of
the intermediate assembly upon rearward movement of the in-
termediate assembly, the engagement of the pawl and slide back
wall causing withdrawal of the slide from the downward
extending portions of the longitudinal slots of the confronting
guides.
16. The drawer slide system of claim 11, wherein the elongated base channel further comprises a stop bumper at a front end of the base channel, and the intermediate assembly further comprises at least one stop pin projecting laterally outward from at least one of the longitudinally extending parallel members for interaction with the stop bumper.

17. The drawer slide system of claim 16, further comprising a pantry lock assembly adapted to be coupled to a bottom surface of a drawer and having a locking mechanism adapted to lock to the I-beam assembly.

18. The drawer slide system of claim 17, wherein the pantry lock assembly further comprises forward and rearward mounting plates having lateral portions extending over the upper surfaces of the I-beam assembly upper flanges, and a rear adjustment mechanism operating between at least one of the lateral portions of the rearward mounting plate and at least one of the I-beam assembly upper flanges.

19. The drawer slide system of claim 18, wherein the pantry lock assembly further comprises a longitudinal member fixed to and extending between the forward and rearward mounting plates, and wherein the locking mechanism is located on the longitudinal member between the forward and rearward mounting plates.

20. The drawer slide system of claim 18, wherein the locking mechanism comprises a J-hook having an adjustable fastener engaging the I-beam assembly.

* * * * *