May 8, 1962 M. D. EMERY 3,033,639

DRAWER GUIDES

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FIG. 1

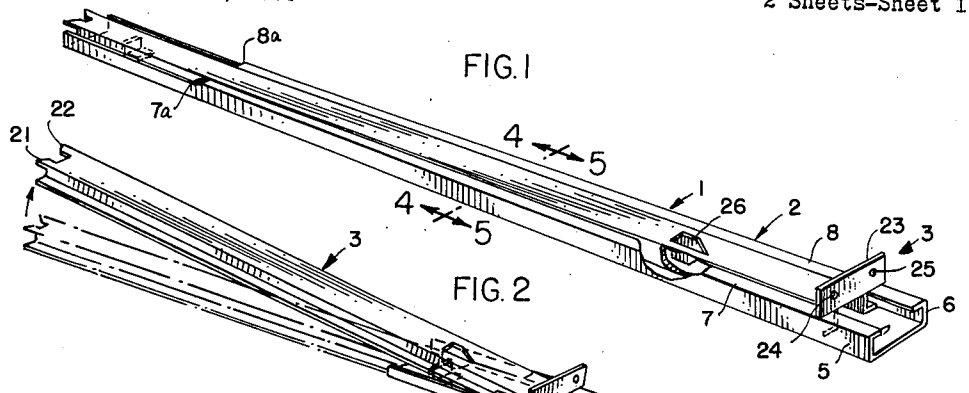


FIG. 2

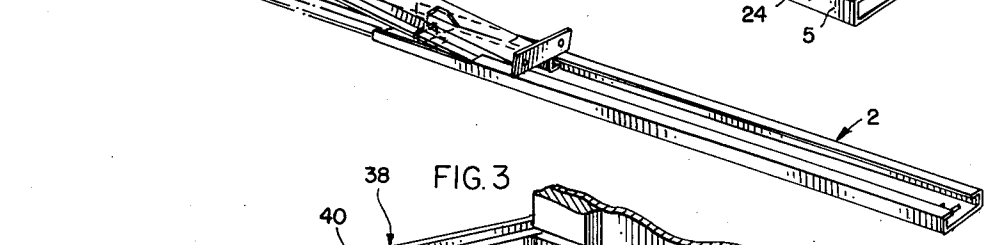
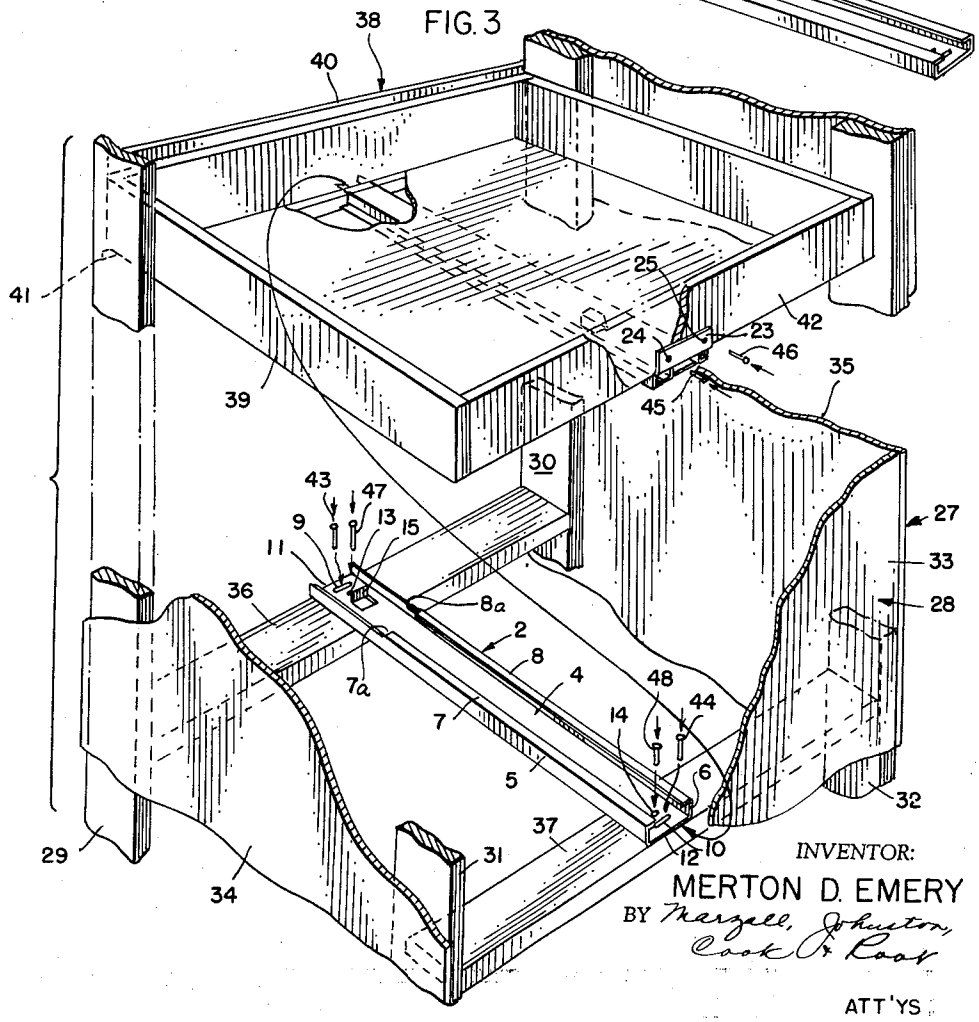


FIG. 3



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FIG. 4

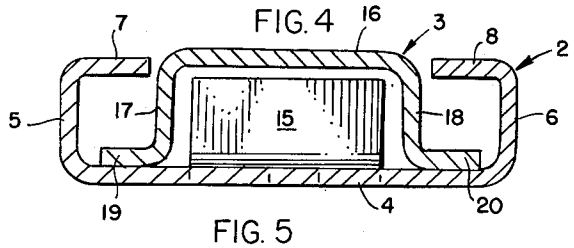


FIG. 5

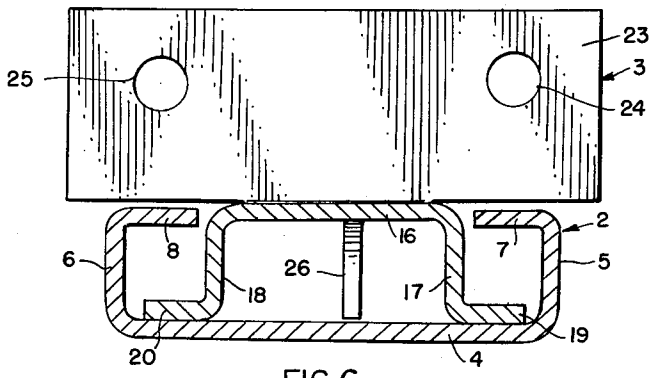


FIG. 6

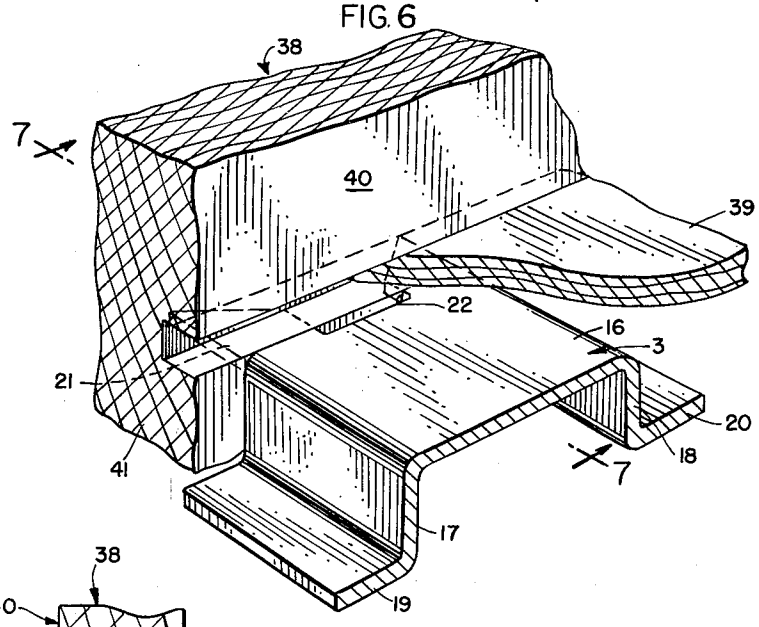
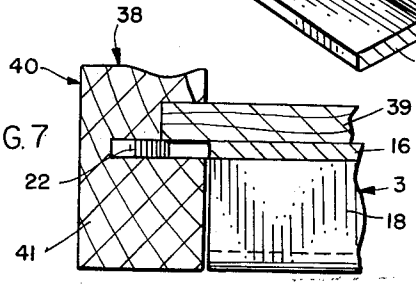


FIG. 7



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DRAWER GUIDES

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6 Claims. (Cl. 312—348)

This invention relates to guides and, more particularly, to guides which are particularly well adapted for use as drawer guides, and the like.

It is a primary object of my invention to afford novel guides for drawers, and the like, having the parts thereof constituted and arranged in a novel and expeditious manner.

Drawer guides which have heretofore been known in the art have commonly had several inherent disadvantages such as, for example, requiring special slitting or forming of the drawer or article of furniture on which the guide was to be mounted; being complicated in construction; being difficult to assemble or adjust; or being unreliable and inefficient in operation, and the like. It is an important object of the present invention to overcome such disadvantages.

Another object of the present invention is to enable novel guides for drawers to be afforded which may be readily mounted on drawers and the articles of furniture of which the drawers are to form a part.

Another object of the present invention is to afford novel drawer guides which may be easily adjusted to proper position.

A further object of the present invention is to enable novel drawer guides, and the like, to be afforded which are compact and relatively small in size.

A further object is to afford novel guides of the aforementioned type which require a minimum of connecting parts.

Another object of the present invention is to enable novel drawer guides to be afforded which embody effective stops for preventing the drawers from being accidentally completely withdrawn from the article of furniture in which they are mounted.

Yet another object of the present invention is to enable novel drawer guides to be afforded which embody stops of the aforementioned type, but wherein the parts are constituted and arranged in a novel and expeditious manner whereby the drawers having such guides thereon may be quickly and easily released from the stops for complete removal of the drawer from such an article of furniture when such removal is desired.

Another object of the present invention is to afford novel drawer guides, and the like, which are effective and efficient in operation and may be readily and economically produced commercially.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show the preferred embodiment of the present invention and the principles thereof, and what I now consider to be the best mode in which I have contemplated applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

FIG. 1 is a rear perspective view of a drawer guide embodying the principles of the present invention;

FIG. 2 is a perspective view of the drawer guide shown in FIG. 1, but with the parts thereof disposed in different positions;

FIG. 3 is an exploded view of the drawer guide shown in FIG. 1, with the principal parts thereof shown in operative position on a drawer and a cabinet in which the drawer is to be mounted;

FIG. 4 is an enlarged sectional view taken substantially along the line 4—4 in FIG. 1;

FIG. 5 is an enlarged sectional view taken substantially along the line 5—5 in FIG. 1;

FIG. 6 is an enlarged detail sectional view of a portion of the guide and drawer shown in FIG. 3; and

FIG. 7 is a sectional view taken substantially along the line 7—7 in FIG. 6.

A drawer guide **1**, embodying the principles of my invention, is shown in the drawings to illustrate the preferred embodiment of the present invention.

The guide **1** embodies, in general, an elongated, straight, channel-shaped guide **2**, and an elongated slide **3** adapted to be slidably mounted in, and longitudinally movable along, the guide **2**, as will be discussed in greater detail presently.

When drawers are mounted in cabinets, desks, and the like, it is desirable that they may be readily removed therefrom when this is desired, but that they be so supported in the article of furniture that they will not be accidentally withdrawn therefrom in the normal opening of the drawers. My novel drawer guide **1** affords a novel support and guide for drawers which may be readily mounted in articles of furniture, and the like. Also, my novel drawer guide **1** affords efficient stops for automatically stopping the drawer in fully extended position during normal opening movement thereof, but is so constructed that the stops may be quickly and easily disengaged for complete removal of the drawer from the article of furniture if this is desired.

The guide member **2** may be made of any suitable material such as, for example, sheet steel, and embodies a longitudinally extending bottom wall **4**, two upstanding side walls **5** and **6**, and two spaced uniplanar flanges **7** and **8** projecting inwardly toward each other from the upper edge portions of the side walls **5** and **6**, respectively. Two elongated slots **9** and **10** are formed in the bottom wall **4** at the front end portion **11** and rear end portion **12**, respectively, of the guide member **2**, the slots **9** and **10** being disposed in parallel relation to each other and extending perpendicularly to the length of the bottom wall **4**, FIG. 3. Two round openings **13** and **14** are also formed in the bottom wall **4**, in closely adjacent, inwardly spaced relation to the slots **9** and **10**, respectively. A stop member **15**, in the form of a tongue struck upwardly from the bottom wall **4**, is formed in the front end portion **11** of the slide member **2** in inwardly spaced relation to the opening **13**, for a purpose which will be discussed in greater detail presently. The stop member **15** terminates at its lower end portion in downwardly spaced relation to the plane of the lower face of the flanges **7** and **8**, FIG. 4.

The side walls **5** and **6** of the guide member **2** extend the full length of the bottom member **4** thereof, but the flanges **7** and **8** terminate at their front ends **7***a* and **8***a*, respectively, in inwardly or rearwardly spaced relation to the stop member **15**, FIG. 3, for a purpose which will be discussed in greater detail presently.

The slide member **3** may also be made of any suitable material such as, for example, sheet steel, and includes a longitudinally extending top wall **16**, two longitudinally extending upright side walls **17** and **18**, and two spaced uniplanar flanges **19** and **20** projecting outwardly from the bottom edge portions of the side walls **17** and **18**, respectively. Flanges **19** and **20** extend the full length of the side walls **17** and **18**, respectively, and the side walls **17** and **18** extend the full length of the top wall **16**, except that two points **21** and **22** on the front end portion of the top wall **16** project forwardly beyond the side

walls 17 and 18. A mounting bracket 23, having openings 24 and 25 therein, is formed integrally with the top wall 16 and projects perpendicularly upwardly from the rear end thereof for a purpose which will be discussed in greater detail presently. A stop member 26, in the form of a tongue struck downwardly from the top wall 16, is afforded in the rear end portion of the top wall 16 for a purpose which will be discussed in greater retail presently. The tongue 26 terminates at its lower end portion in closely adjacent upwardly spaced relation to the plane of the lower faces of the flanges 19 and 20, FIG. 5.

The guide member 2 and the slide 3 are of such size and configuration that the slide 3 may be mounted in normal at-rest position in the guide member 2, as shown in FIG. 1, wherein the flanges 19 and 20 rest on the upper face of the bottom wall 4, in vertically underlying relation to the flanges 7 and 8, respectively, and the side walls 17 and 18 project upwardly between the flanges 7 and 8, to dispose the top wall 16 in substantially aligned relation with the flanges 7 and 8. Also, it will be seen that when the slide 3 is disposed in the aforementioned normal at-rest position in the guide member 2, the front ends of the side walls 17 and 18 and the flanges 19 and 20 are disposed in vertical aligned relation with the front end of the guide member 2, and the points 21 and 22 project forwardly therefrom, FIG. 1.

When the slide member 3 is so positioned in normal at-rest position in the guide member 2, it is freely longitudinally slidable axially of the guide member 2 forwardly from the position shown in FIG. 1, to a normal full-forward position shown in broken lines in FIG. 2. When the slide 3 is disposed in the aforementioned normal full-forward position, the stop member 26 on the slide 3 abuttingly engages the stop member 15 on the guide member 2 to thereby prevent further forward movement of the slide 3 directly along the longitudinal axis of the guide member 2. However, when the slide 3 is disposed in this last mentioned position, it will be seen that the rear end portions of the flanges 19 and 20 thereof are still in underlying relation to the front end portions of the flanges 7 and 8 of the guide member 2, so that the slide 3 is prevented from falling downwardly and forwardly out of the guide member 2.

The flanges 7 and 8 of the guide member 2 are disposed in sufficiently closely overlying relation to the flanges 19 and 20, respectively, of the slide 3 that during such movement between the aforementioned normal at-rest position and the aforementioned normal full-forward position of the slide 3, the slide 3 is held against undesirable upward and downward movement perpendicular to the bottom wall 4 of the guide member 2.

The slide 3 is freely movable into and out of the guide 2 at the rear end thereof, but this is useful primarily in the assembling of the slide 3 in the guide member 2 during manufacture of the same, because, as will be appreciated by those skilled in the art, articles of furniture embodying drawers are normally closed at the rear so that if the drawers are to be removed therefrom they must be removed from the front.

In FIG. 3 an exploded view of my novel guide 1 and a cabinet 27 are shown to illustrate a manner in which my novel guide 1 may be mounted in an article of furniture. The cabinet 27 shown in FIG. 3 embodies a substantially rectangular-shaped housing 28 having four vertical legs 29, 30, 31 and 32, a rear wall 33 and two side walls 34 and 35, the housing 28 being open at the front. Two cross braces 36 and 37 extend horizontally between the front legs 29 and 30, and the rear legs 31 and 32, respectively, in parallel spaced relation to each other. The drawer 38 shown in FIG. 3 embodies a body portion 39 and a front panel 40, the front panel 40 projecting above and below the front face of the body portion 39. The drawer 38 is adapted to be mounted in the housing 28, with the lower edge portion 41 of the front

panel 40 disposed in abutting relation to the front face of the brace 36 when the drawer 38 is mounted in normal closed position in the housing 28. When the drawer 38 is disposed in such position in the housing 28, the rear end 42 of the body portion 39 is preferably in forwardly spaced relation to the rear wall 33 of the housing 28. As is usual, the body portion 39 of the drawer 38 is of such size that it fits with a freely slidable fit between the legs 29 and 30, and between the legs 31 and 32.

In mounting the drawer 38 in the housing 28 with my novel drawer guide 1, the guide member 2 may be mounted in the housing 28 in such position that it extends between and is disposed in overlying juxtaposition to the braces 36 and 37. The guide member 2 is preferably of such length that when it is disposed on the braces 36 and 37, the front and rear ends 11 and 12 thereof are disposed in vertical alignment with the front and rear faces, respectively, of the braces 36 and 37, respectively. The guide member 2 may be initially disposed in approximately proper position between the side walls 34 and 35, and suitable fastening members such as, for example, screws 43 and 44 may be inserted downwardly through the middle of the slots 9 and 10, respectively, into the braces 36 and 37. The screws 43 and 44 are preferably not tightly clamped against the bottom wall 4 of the guide member 2 during this initial adjustment.

After the guide member 2 has thus been temporarily positioned in the housing 28, the slide 3 may then be mounted on the bottom of the body portion 39 of the drawer 38, with the front face of the bracket 23 disposed in juxtaposition to the rear face of the rear end 42 of the body portion 39, and with the top face of the top wall 16 disposed in juxtaposition to the bottom of the body portion 39. In so mounting the slide 3 on the drawer 38, the slide 3 is preferably slid forwardly along the body portion 39 into such position that the points 21 and 22 thereon are embedded in the rear of the lower edge portion 41 of the front panel 40, FIGS. 3, 6 and 7. As shown in FIGS. 3, 6 and 7 of the drawings, the bottom wall 39*a* of the body portion 39 of the drawer 38 is disposed in a slot 41*a* in the front panel 40, with the points 21 and 22 of the slide 3 disposed in the slot 41*a* below the wall 39*a*. However, as will be appreciated by those skilled in the art, in drawers not embodying a slot 41*a*, the points may be driven into the front panel of the drawer on which the slide 3 is to be mounted.

When the slide 3 is disposed in proper position on the drawer 38, screws 45 and 46 may be inserted through the openings 24 and 25 in the mounting bracket 23 into the end portion of the body portion 39 of the drawer 38 so that the slide 3 is firmly supported on the drawer 38, the points 21 and 22 being embedded in the lower edge portion 41 of the panel 40, and the rear end portion of the slide 3 being firmly attached to the rear end 42 of the drawer 38 by the screws 45 and 46.

The drawer 38 may then be mounted in position in the housing 28 by tipping it at an upwardly and forwardly opening acute angle such that the slide 3 may be disposed in the guide member 2 in the position shown in solid lines in FIG. 2. The drawer 38 and the guide 2 may then be moved rearwardly in the housing 28, with the slide 3 moving rearwardly along the guide member 2 at an upwardly opening acute angle until the slide 3 has moved inwardly a sufficient distance that the stop member 26 has moved past the stop member 15. Thereafter, the drawer and slide may be dropped downwardly and slid axially along the guide member 2 into fully closed position, wherein the lower edge portion 41 of the front panel 40 of the drawer 38 is disposed in abutting engagement with the front face of the cross brace 36, and the slide 3 is disposed in normal at-rest position in the guide member 2. During this initial rearward movement of the drawer 38 and slide 2 into the housing 28, the guide member 2 is free to slide sideways to thereby properly position it longitudinally of the braces 36 and 37 to properly

receive the slide 3. Thereafter, the drawer 38, with the slide 3 attached thereto, may be again withdrawn from the housing 28, and the screws 43 and 44 may then be tightened into firmly holding position on the guide member 2. If desired, additional screws 47 and 48 may then be inserted through the openings 13 and 14 into the cross braces 36 and 37, respectively, to insure that the guide member 2 will be held in proper adjusted position on the braces 36 and 37.

As will be appreciated by those skilled in the art, although I prefer that the guide member 2 be of such length that when it is disposed in a housing, such as the housing 28, the front and rear ends 11 and 12 thereof are disposed in vertical alignment with the front and rear edges of the supporting members such as the cross braces 36 and 37, this is not essential and, if desired, the guide member 2 may be shorter than this desired length, it merely being necessary that the guide member 2 will be of sufficient length that it may be secured in proper spanning relation ot the supporting members, and not be of too great length whereby it undesirably projects outwardly from the housing in which it is mounted.

It will be seen that with my novel drawer guide 1 attached to a drawer and to the supporting means for the drawer, the drawer is effectively supported for inward and outward sliding movement, the spaced flanges 7 and 8 preventing undesirable rocking of the drawer on the guide member 2, and the slide 3 and guide member 2 effectively cooperating to properly guide the drawer inwardly and outwardly of the housing in which it is mounted.

Also, it will be seen that with my novel drawer guide, when the drawer is pulled forwardly in a normal drawer-opening movement, the stops 15 and 26 are effective to prevent the drawer from accidentally being pulled completely out of the housing 28. However, on the other hand, if it is desired, for some reason, to completely remove the drawer 38 from the housing 28, this may be readily accomplished by merely lifting upwardly on the front end portion of the drawer 38 and thereafter moving the drawer 38 and the slide member 3 upwardly and forwardly out of the guide member 2.

Also, it will be seen that my novel drawer guide may be quickly and easily installed in articles of furniture by relatively unskilled persons.

In addition, it will be seen that I have afforded a novel drawer guide which is effective and efficient in operation and which may be readily and economically produced commercially.

Thus, while I have illustrated and described the preferred embodiment of my invention, it is to be understood that this is capable of variation and modification, and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. A drawer guide for slidably mounting a drawer for horizontal sliding movement relative to supporting means for such a drawer and comprising an elongated channel-shaped guide member adapted to be mounted in horizontally extending position on such supporting means, said guide member having an open, upwardly facing, longitudinally extending side, an elongated slide adapted to be mounted on the bottom of such a drawer, said slide being mounted in said guide member for longitudinal sliding movement axially of said guide member between a normal position and a forwardly extending position, said guide member having a stop member thereon in the laterally central portion thereof, and said slide having a stop member thereon in the laterally central portion thereof in position to abuttingly engage said first mentioned stop member when said slide is disposed in said forwardly extending position to thereby hold said slide against further outward movement axially of said guide member, said slide being movable transversely to said guide member when said slide is disposed in said forwardly extending position to thereby disengage said stop members and free said slide for further forward movement relative to said guide member.

2. A drawer guide for slidably mounting a drawer for horizontal sliding movement relative to supporting means for such a drawer and comprising an elongated channel-shaped guide member adapted to be mounted in horizontally extending position on such supporting means, said guide member having a longitudinally extending bottom wall, two oppositely disposed, longitudinally extending side walls having upper edge portions, and two spaced coplanar flanges projecting inwardly toward each other from respective ones of said upper edge portions, a slide mounted in said guide member, said slide having a normal position in said guide member and being slidable longitudinally thereof between said normal position and a forwardly disposed outwardly extending position, said slide having two oppositely disposed, outwardly projecting bottom flanges, said first mentioned flanges overlying respective ones of said second mentioned flanges in position to hold said slide against removal from said guide member directly perpendicular to said bottom wall between said normal and extended positions, a stop member on said bottom wall and projecting upwardly therefrom between said side walls, and a downwardly projecting stop member on said slide in position to engage said first mentioned stop member when said slide is disposed in said extending position to thereby prevent further forward movement of said slide axially of said guide member, said flanges on said guide member terminating in spaced relation to one end of the latter in such position that said slide may be pivoted upwardly relative to said guide member when said slide is disposed in said extending position to thereby disengage said stop members and free said slide for removal from said guide member forwardly of the latter.

3. A drawer guide as defined in claim 2 and in which said slide has a pointed end portion adapted to be embedded in one portion of such a drawer, and mounting means on the other end portion thereof for attaching said other end portion to another portion of said drawer.

4. A drawer guide as defined in claim 2 and in which said bottom wall has two elongated slots in opposite end portions thereof and disposed in parallel relation to each other, and which includes fastening means adapted to extend through said slots into said supporting means for thereby adjustably attaching said guide member to said supporting means.

5. In an article of furniture including a drawer, having a body portion, and a front panel projecting downwardly from said body portion, and means for supporting said drawer, an elongated, straight, channel-shaped guide member having front and rear end portions, said guide member having a longitudinally extending bottom wall, two longitudinally extending side walls, and two uniplanar, spaced flanges projecting inwardly toward each other from respective ones of said side walls, said guide member being mounted on said supporting means with said bottom wall disposed in juxtaposition to the latter, and an elongated, straight slide having front and rear end portions, said slide having a longitudinally extending top wall, two longitudinally extending side walls, and two oppositely disposed, longitudinally extending flanges projecting outwardly from the bottom of respective ones of said last mentioned side walls, said top wall having points on the front end portion thereof, said slide being mounted on said drawer with said top wall disposed in juxtaposition to the bottom of said body member, and with said points embedded in said front panel, said slide also being mounted in said guide member with said last mentioned flanges disposed between said first mentioned flanges and said bottom wall, said slide being longitudinally slidable axially of said guide member between a normal position, wherein said panel is disposed in en-

gagement with said supporting means, and a forward position wherein said slide projects forwardly of said guide member, said bottom wall having a stop member projecting upwardly therefrom, said top wall having a stop member projecting downwardly therefrom in position to abuttingly engage said first mentioned stop member when said slide is disposed in said forward position to thereby prevent said sliding movement of said slide axially of said guide member from said normal position forwardly past said forward position, said drawer and slide being pivotable upwardly relative to said guide member when said slide is disposed in said forward position to thereby disengage said stop members and free said slide and drawer for further forward movement relative to said guide member.

6. The combination in an article of furniture of the type defined in claim 5, and in which said flanges on said guide member terminate in spaced relation to the front end thereof in position whereby said slide may be pivoted upwardly relative to said guide member when said slide

is disposed in said forward position to free said slide for removal from said guide member in a movement wherein said flanges on said slide move upwardly and forwardly past the front end of said flanges on said guide member.

References Cited in the file of this patent

UNITED STATES PATENTS

1,148,573	Carlson	Aug. 3, 1915
2,011,189	Anderson	Aug. 13, 1935
2,074,371	Cummings	Mar. 23, 1937
2,142,898	Harmon	Jan. 3, 1939
2,239,618	Muirhead	Apr. 22, 1941
2,325,896	Waller	Aug. 3, 1943
2,328,835	Motter	Sept. 7, 1943
2,514,664	Miller	July 11, 1950
2,559,322	Skamser	July 3, 1951
2,560,721	Gibson	July 17, 1951
2,747,943	Metcalf	May 29, 1956
2,822,231	Golz	Feb. 4, 1958
2,822,232	Lhota	Feb. 4, 1958