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DRAWER GUIDE

2,559,322

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2 Sheets-Sheet 1

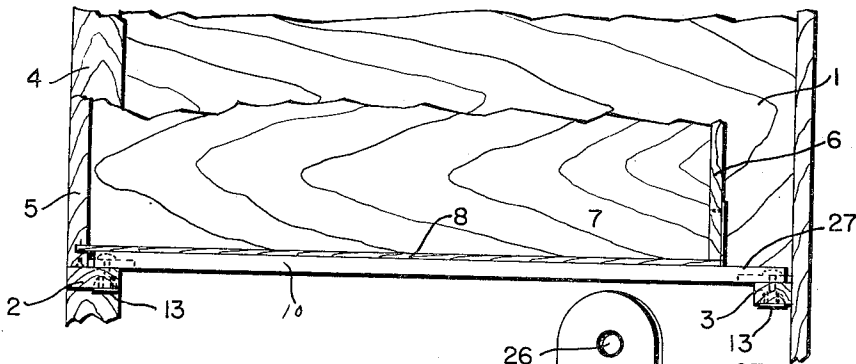


FIG. 1

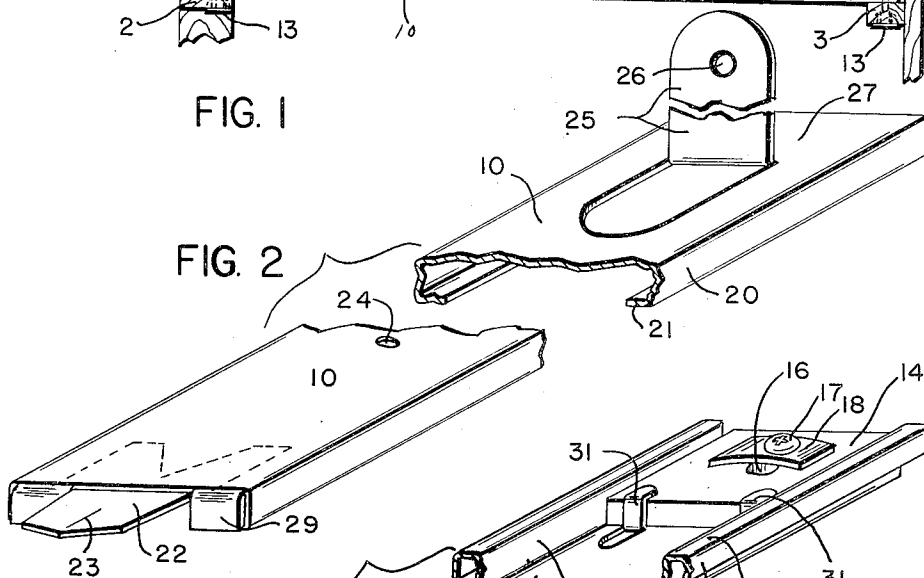


FIG. 2

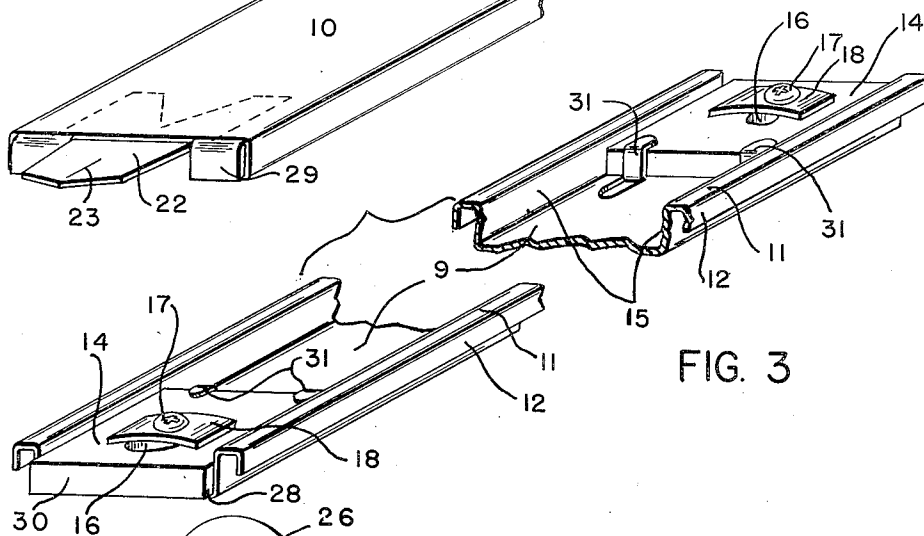


FIG. 3

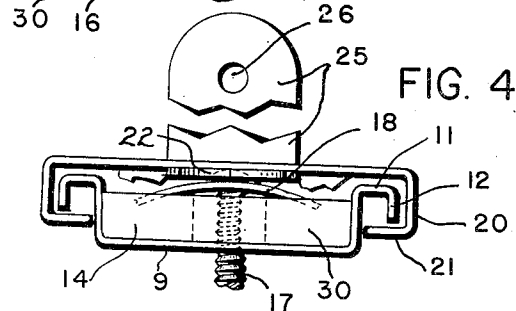


FIG. 4

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2 Sheets-Sheet 2

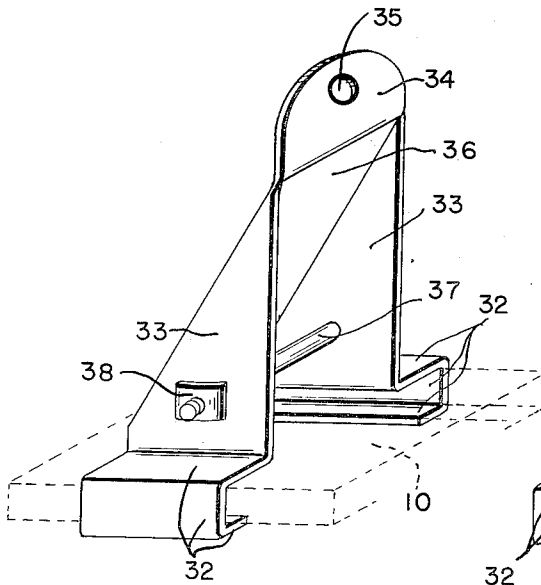


FIG. 5

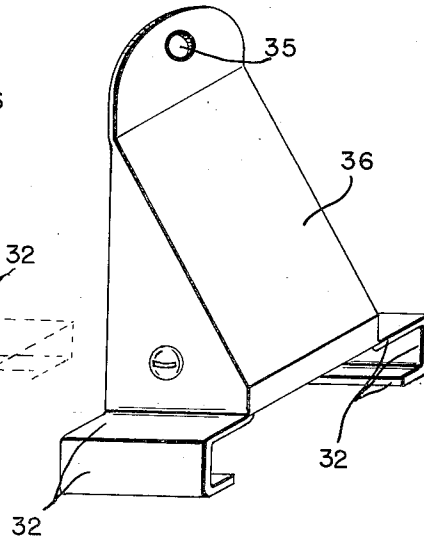


FIG. 6

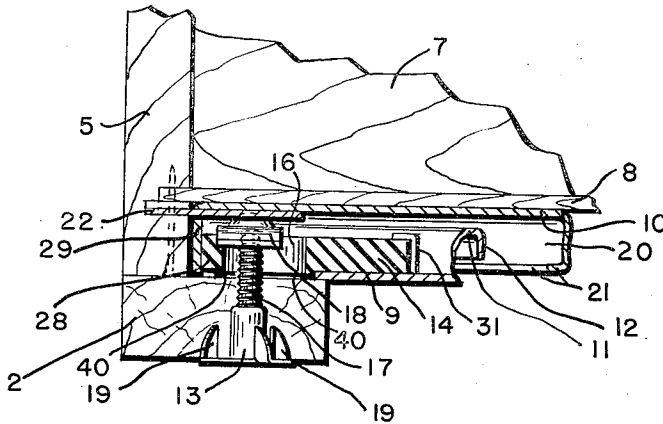


FIG. 7

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DRAWER GUIDE

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6 Claims. (Cl. 312—346)

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This invention relates to drawer slides.

It is well known, to those who make and sell furniture and the like, that drawers cause many and varied difficulties and headaches. For example, when new furniture is made, the wood used may not be thoroughly seasoned, yet the drawers must be made to fit and slide as perfectly as possible before the furniture is shipped. When the furniture arrives at its destination, it may be stored or displayed in a warm, dry room and the wood will dry out. This results in the furniture frame or cabinet shrinking and possibly twisting to some extent. When this happens, the drawers do not fit properly and do not work properly. As a result, the drawers must be re-set and aligned.

One form of drawer slide in furniture comprises a grooved wooden member carried on the frame and a cooperative slide carried on the drawer. There are others of course; however, in almost every case, the slides are glued in place. In order to adjust the position of the drawers so that they will be in proper alignment, at least one of the slides must be removed and repositioned. Frequently the removal of the slide results in the breaking of same, or, at least, the slide is splintered. In addition, the job of repositioning the slide is made more difficult because of the dried glue, etc., which is left when the slide is removed and which it is difficult to remove entirely. In addition, the cabinet is entirely complete and it is difficult to get at the parts to work on same.

It is, therefore, one of my principal objects to provide a guide or slide device which is readily adjustable to permit the repositioning of a drawer, or the like, within the opening in which it is carried.

Another object is to provide a combination drawer slide and cushion stop whereby the shocks of closing a drawer are not abusive to the cabinet or drawer.

Another object is to provide a drawer slide comprising two major pieces which are slidably united, one piece being secured to the drawer, and the other being carried by the frame of the cabinet or furniture, the pieces being designed to guide the drawer in its reciprocation and insure its aligned travel at all times.

Another object is to provide novel means for adjusting the position of the slide within a drawer opening so that the position of the drawer may be readily varied to align the drawer in its opening.

Another object is to provide means for securing one portion of the drawer slide to a drawer,

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whereby the same slide size may be used on various sizes of drawers.

Another object is to provide a drawer slide device which reinforces the frame of the cabinet in which it is mounted to provide a more rigid structure, and which reinforces the drawer.

Another object is to provide a drawer slide in which it is very easy to install a drawer within its opening by having one member of the slide extend beyond the back of the drawer so that the sliding members may be united in one's full view.

Another object is to install a drawer slide member on a drawer without weakening the drawer front.

These, and other objects and advantages, will become more apparent as the description of the invention proceeds.

In the accompanying drawing forming a part of this application:

Fig. 1 is a vertical sectional view through a furniture cabinet showing one of my drawer slides in place.

Fig. 2 is a broken perspective view of the member of the slide device which is mounted on the drawer.

Fig. 3 is a similar view of the member of the slide device which is mounted in the drawer frame.

Fig. 4 is a broken rear elevational view of the two slide device members in assembled relation.

Fig. 5 is a perspective view of an adjustable bracket for mounting on the rear portion of the slide to permit the use of the slides on drawers of varying lengths.

Fig. 6 is a similar view of the rear face of the bracket shown in Fig. 5.

Fig. 7 is an enlarged vertical sectional view showing the details of the adjusting and cushioning parts of my drawer slide.

In the drawings, the reference numeral 1 indicates the cabinet of a piece of furniture, 2 and 3 indicate frame members which run transversely of the cabinet and define the lower extremities of a drawer opening, one member at the front and one member at the back of the drawer opening. These latter members might be adequately referred to as the base of the drawer opening. The numeral 4 indicates a vertical member of the outer or front frame of the drawer opening.

Every drawer comprises a front 5, a back 6, sides 7, and a bottom 8, and usually the bottom of the drawer is spaced upwardly of the lower edge of the drawer front as shown.

My slide or guide device comprises a fixed

member 9 and a sliding member 10, the fixed member being secured to the base of the drawer opening, which, in this case, is the transverse frame members 2 and 3. The member 9 is, preferably, a single piece of metal having a rectangular cross-section. The upper edges 11 of the member 9 are preferably bent outwardly as shown to form a flat supporting surface on which the sliding member may rest and slide, and the outer wall 12 of the metal from which the member 9 is made, is preferably bent downwardly, the purpose of which will become apparent.

The member 9 is provided with a hole or opening 40 adjacent its front and rear ends, as shown, the hole being considerably larger than any bolt or other fastening means which may be employed to secure the member 9 to the frame members 2 and 3. A piece of resilient material 14, preferably rubber, is mounted between and abutting the opposed side walls 15—15 of the member 9, over each of the openings 40. Each of the resilient members has an opening 16 therethrough in registry with its adjacent opening 40. A bolt 17 is employed through each of the pairs of openings 40—16 to secure the member 9 to the frame members 2 and 3, an upwardly arched spring steel clamp 18 being provided adjacent the bolt heads to extend over the openings 16 and engage the resilient member 14 and support the bolt. A sleeve nut 13 is provided on the under side of each of the frame members 2 and 3 so that the bolts may extend through holes in the members 2 and 3 and be engaged in the sleeve nuts. Prongs or lugs 19 are preferably provided on the flanged head portion of the sleeve nuts so that they may be engaged in the frame members to prevent the nuts from turning when the bolts 17 are tightened by means of a screw driver or the like.

As the bolts are tightened, the outer ends of the clamps 18 dig into the resilient member and provide a non-slip, secure fastening for the member 9 to the frame members 2 and 3. It is preferred that the openings 40 be rectangular in shape and that the holes 16 have rounded corners and be slightly smaller than the holes 40 so that the resilient member will be compressed to overlap the edges of the holes 40 and prevent any slipping of the member 9 from its appointed position as clearly shown in Fig. 7 of the drawings.

In addition, when the resilient member is compressed, it is forced against the side walls 15—15 of the member 9 and is held firmly in position.

It is deemed apparent, from the above, that the slide member 9 may be placed in its desired position when the bolts 17 are loosened, and held securely in that position when the bolts are tightened into place to compress the resilient member 14.

In addition, the secure installation of the member 9 in a cabinet will, obviously, reinforce the frame of the cabinet.

The sliding member 10 of the instant device is secured to the drawer, along the bottom thereof as shown in Fig. 1, and may comprise a single piece of metal as shown in Fig. 2. The member 10 is preferably rectangular in cross section and is of a size to fit over the member 9 as shown in Fig. 4. The upper portion of the member 10 is preferably flat and the inner face thereof may, if desired, engage the supporting surfaces 11 of the bottom member to carry the drawer. The sides 20 of the member 10 ex-

tend downwardly from the upper face thereof and the lower walls 21 of the member 10 are bent inwardly to overlap the lower edge of the outer walls 12 of the member 9, but the walls 21 are above the lower extremity of the member 9, as shown in Fig. 4, so that there will be no friction or drag from the walls 21 engaging any part of the drawer opening frame.

The inner face of the wall 21 engages the lower edge of the wall 12 of the member 9 to prevent the members 9 and 10 from being disassembled in any way except longitudinal sliding, and, also, this prevents a drawer from tipping downwardly to any great extent when it is pulled out very far, thereby maintaining horizontal alinement of the drawer.

The member 10 is preferably secured to the bottom of a drawer, centrally and longitudinally thereof. As means to secure the member 10 to the drawer, I prefer to make a saw cut in the inner face of the drawer front 5 in line with the bottom surface of the drawer bottom 8. A lip or projection 22 is provided on the forward end of the member 10 to extend into the said saw cut, and a crease or slit 23 is pressed into the projection or lip 22, from the under side thereof, so that a nail, or the like, may be driven from the bottom edge of the drawer front 5 through the slit 23 to anchor the lip in place. If the slit is longer than necessary so that it extends outwardly from the saw cut, it will indicate the exact position in which to nail. The slit will readily open to receive the nail, having been pressed from the under side of the lip, but will not permit removing the nail very easily as any pull, to try to bring the nail back through the slit, will clamp the edges of the slit into the nail and prevent its removal.

A hole 24 may be provided about centrally of the member 10 to provide means for fastening the member 10 to the drawer bottom 8 approximately centrally thereof. A lug 25 may be struck from the member 10 and bent to extend upwardly therefrom normal to the member. This lug 25 should engage the back 6 of the drawer, as shown, and is provided with a hole 26 whereby it may be securely fastened to the drawer. Obviously, the position of the lug 25 is governed by the length of the drawer.

Thus, the member 10 is securely fastened to the drawer, on the bottom thereof, and when the member 10 is engaged over the member 9 as shown in Fig. 4, the drawer may be moved in and out easily, and the drawer slide 9—10 will guide the movement of same. In addition, the slide 9—10 will control the position of the drawer in the drawer opening, which position may be adjusted by loosening the bolts 17 and changing the position of the member 9 as above described.

When a manufacturer installs the instant drawer slides in his furniture, it will be a simple matter for a dealer to quickly correct the position of the drawers if and when necessary. In addition, the final owner of the furniture may make adjustments whenever necessary without the need for skilled assistance or special tools.

The reciprocation of a drawer equipped with my slides will not be affected by weather or climate, obviously as the metal parts are not subject to change by weather variations.

To facilitate installing drawers in their drawer openings when equipped with my slides 9—10, I prefer to have the slide members extend beyond the back 6 of the drawer as at 27 so that the

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member 10 may be positioned on the member 9 while the back 6 of the drawer is still inches away from the drawer opening, thereby permitting one to see clearly what he is doing.

In addition to facilitating the installation of drawers in their openings, this feature permits the drawers to be pulled out all the way without dropping to the floor, as the slide is an inch or two longer than the drawer, thus avoiding unpleasant accidents.

An additional feature of my invention is that the resilient member 14 serves a dual purpose by acting as a cushioning stop for the drawer. The resilient member 14 extends beyond the member 9 a suitable distance, such as $\frac{1}{8}$ to $\frac{1}{4}$ of an inch as shown at 28, and the front end of the member 10 is closed by means of end walls 29. When the drawer is closed, the end walls 29 engage the outwardly projecting end 30 of the resilient member and cushions the stopping of the drawer.

It is to be noted that the cushioning stress or shock is borne by the drawer slides themselves rather than the drawer front, or the rear edges of the drawer as is common in the art. The drawer slide 9-10 is fixed to the furniture piece securely, and the stress and shock is distributed by the slides. This, obviously, is an advantageous feature.

In addition, there is no noise when drawers are slammed shut, as sometimes happens.

I have provided a pair of lugs 31-31 to hold each of the inner ends of the resilient member from sliding when the drawer is closed, and thereby, further means is provided to prevent the drawer slides from moving out of place when the drawers are closed. The lugs 31-31 overlap the top of the members 14 as at 32 to prevent the member 14 from buckling when it is compressed by the bolts 17.

In Figs. 5 and 6 I have shown an adjustable, preferably sheet metal, bracket for mounting on the rear end of the member 10 for securing the latter to a drawer. The bracket has its lower end members 32-32 bent to a shape corresponding to that of the member 10 so that the bracket may be slidably mounted on the member as shown in dotted lines. The upstanding portion of the bracket is composed of a pair of side members 33-33 extending upwardly from the ends 32, and a lug 34 is carried on the upper end of the side members, the lug having a hole 35 therein to receive a fastener, such as a screw, for securing the bracket to the back member 6 of a drawer.

The slide members are preferably substantially right triangular in shape, tapering from their rear edges upwardly as shown, and the tapered edges of the sides are joined by a spacer 36. This construction provides a very strong bracket which will not bend or give under any stress which may be applied to same in normal use.

When the member 10 is mounted on a drawer bottom, the instant bracket may be slid on the member until it engages the back of the drawer, then a screw, or the like, may be installed through the hole 35 to secure the bracket to the drawer. In order to secure the bracket to the member 10, I have provided a bolt 37 which extends through the side members 33-33, and has a spring steel nut 38 thereon as shown. By tightening the bolt, the free, perpendicular edges of the side members are pulled together, and, of course, the lower ends 32 of the bracket are pulled together and may be clamped securely on the member 10.

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This adjustable bracket will, obviously, permit one standard size of my drawer slide to be used on drawers of various lengths.

It is deemed apparent that while I have here shown the preferred form of my invention, various modifications of same may be made within the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A device for guiding a drawer in its in and out movement in respect to a drawer opening of a cabinet comprising: a pair of elongated members telescopically united, means on one of said members for securing same to said drawer on the bottom thereof, means on the second one of said members for securing same in engagement with said cabinet within said opening, and means for adjusting the position of said second member within said opening, said last mentioned means comprising resilient members having openings therethrough, one of said resilient members being carried at each end of said second member, said second member having openings therethrough larger than and aligned with the openings in said resilient members to permit the shifting of the position of said second member on said cabinet, and fastening means extending through said openings and engaged at one end on said resilient members and at the opposite end on said cabinet whereby said fastening means may be tightened to compress said resilient member into said opening in said second member to hold the latter in place.

2. The structure as set forth in claim 1 and portions of said resilient members extending beyond said second member to engage said drawer as it moves into said opening to cushion the stopping thereof.

3. In combination with a cabinet having a drawer and a drawer opening defined by means of frame members; a drawer guide comprising two telescopically united members, one of said members being secured to the drawer on the bottom thereof, means on the other member for securing same to said frame in the bottom of said opening, said means comprising a resilient member carried on said second member adjacent each end thereof, said second member having a relatively large opening through each end thereof between said resilient members and said frame members to permit adjustment of the position of said second member, said resilient member having an opening therethrough of lesser size to first said opening and in substantial alinement with the latter, and fastening means extending through said openings and engaged at one end on said frame members and at the other over said resilient member whereby the tightening of said fastening means will force portions of said resilient members into first said openings to prevent movement of said second member on said frame members.

4. The structure as set forth in claim 3 and said second member having side walls, said resilient members being in engagement with portions of said side walls to assist in holding said second member in place when said fastening means are tightened, and said opening in said resilient member being larger than the diameter of said fastening means yet less than the diameter of first said opening to permit said second member to be moved if desired.

5. The structure as set forth in claim 1 and said fastening device including an enlarged

washer-like member having substantially squared edges to engage into said resilient member when said fastening means is tightened.

6. The structure as set forth in claim 1 and a lug pressed upwardly from the first said one of said members, said lug forming means to secure said first one of said members to the back of said drawer.

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