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DRAWER GUIDE STRUCTURE

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This invention relates to drawer guide structures. Among the objects of the invention is to provide an anti friction type of drawer guide structure which is easily and quickly installed.

Among other objects of the invention is to provide a drawer guide structure comprising channel grooves on the drawer itself, and guide means adapted to cooperate with said grooves on the frame in which said guide means are self-aligning, easily installed and secure.

Among further objects of the invention is to provide a sliding groove and guide type of structure for drawers in which there is no loss of space between the drawer and the frame to which the guides are attached.

These objects and others ancillary thereto are obtained by providing a pair of guide structures which are attached only to the front portion of the casing or frame structure, adjacent the opening therein for the drawer. Self aligning tabs which act as templets interfitting with the sides and a corner of the opening in the front portion of the casing are provided so that the said guides are automatically aligned and squared when attached.

Another feature of the invention relates to the idea of providing metal channel structures at the sides of the drawers which become part of the side structure of said drawers thereby eliminating loss of space between the drawer channels and the frame structure of the cabinet or other piece of furniture which contains the drawer.

Still another feature of the invention relates to the discovery of a roller structure which prevents the rubbing of the metal of the drawer channels against the metal of the guide structure.

The invention both as to its organization and its method of operation together with additional objects and advantages thereof will best be understood from the following description of a specific embodiment thereof when read in connection with the accompanying drawing, in which,

Fig. 1 is a perspective view of a drawer structure embodying the invention.

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a cross sectional view taken on line 3—3 of Fig. 1.

Structures containing drawers invariably have a casing with a front panel or frame member 10 containing an opening 11 into which the drawer 12 slides. It is common practice to form a groove on each side of a drawer and to provide guide rails which cooperate with the grooves to guide the drawer into the cabinet. Such guide rails, however, have been attached at the front of the cabinet frame and at the back thereof and must be in at least fair alignment for the drawer to operate properly. The proper aligning of such rails calls for the services of a skilled craftsman and even so is a time consuming operation. As indicated above one feature of this invention is that the guide structures 20 and 20' are attached only to the front panel or frame member which contains the drawer opening 11. These drawer openings 11 are accurately formed during manufacture

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of a cabinet structure. The guide structure 20 may be made of a single piece of metal and comprises an upper portion 21 and a side portion 22 at right angles to each other. The portion 22 is adapted to extend close to and parallel with a vertical edge of the drawer opening and the other portion 21 is adapted to extend close to and parallel with a horizontal edge of the drawer opening. Although the members 20 are shown attached at the top edge and the two sides of the opening 11 they could also be attached at the bottom edge and the two sides of the opening 11. The front part of each member 20 comprises side tabs 23 and 24 and corner tab 25 all of which extend continuously with the portions 21 or 22 since tabs 23 and 24 act to align the device. The corner tab 25 can be two separate tabs, if desired or can be omitted. The side portions 21 and 22 also include the elongated bent tabs portions 26 and 27 flaring outwardly at right angles to the plane of the parts 21 or 22. Flared tabs 26 and 27 contain openings for screws 28 for attaching the guides 20 to the back side of the front panel. The tabs 23, 24 and 25 need not be secured to the panel 10 in any way and yet they act as a templet type of aligning means during installation of the device and as stabilizing means once the guides are attached. Even though one or more of the attaching screws 28 become insecure, loose tabs 23, 24 and 25 relieve the pressure exerted on the remaining screws and stabilize the structure.

It can be readily seen that such guides are easily installed by one of only ordinary skill since all that is required is to place the guide 20 with the corner 25 at the corner of the opening 11 and attach it by means of screws 28 or similar fastening means. The time required for installing the pair of guide members 20 and 20' by an average unskilled worker has been timed at an average of about 3 minutes whereas a skilled worker required approximately 20 minutes to align and install two guide members extending from the front to the back of the cabinet. The structures 20 and 20' are of special application to prefabricated products which are unassembled when delivered to the customer.

The guide elements 20 and 20' are also provided with one or more anti-friction guide rollers 30 and 31. Depending on the weight of the drawer and/or its intended contents the number of rollers can be increased but two are ordinarily sufficient. Guide rails 32 and 33 are also cut and pressed outwardly from the portion 22 to provide rails to guide the drawer 12 from the first roller 30 to the second roller 31. Preferably the rails extend just inside the tangent lines between rollers 30 and 31. Stop mechanism 35 containing flattened end portion 36, adapted to contact the end 14 of drawer 12, may also be stamped out of the upper portion 21 of the guide member 20. Two guide rollers 30 and 31 are shown in the drawing, but one of the guide rollers 30 or 31 would be sufficient.

The guide rollers 30 and/or 31 are rotatably mounted on the side portion 22 by means of shafts 37, 38. As shown in Fig. 3 these rollers 30 and/or 31 are constructed with a beveled portion 39 adjacent the roller portion 40. The total thickness of the roller and beveled portion is sufficient to act as a stop to prevent the edges 51, 52 of channel member 50 from rubbing against the sides of the metal guide member 20 or 20'. When said rollers are made of nylon or similar material no rasping sound of the rubbing of metal against metal results when the drawer of the invention is operated.

Although the guide structures 20 or 20' may be employed with any type of drawer which contains side grooves (assuming of course that the rollers 30 and/or 31 are of proper size and in the proper position), the said guide structures 20 and 20' are especially adapted

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for drawers with the groove structure 50 shown in Figs. 1 and 3. In this drawer 12 the sides 15 and 16 are made of a height which is reduced just sufficiently to provide for the channel members 50. This reduces the cost of material and provides for easy alignment for the grooved members since the top surface 17 of a side 15 or 16 can easily be made accurately. Guide members 50 are attached to sides 15 and 16 and the inside surfaces of the channel portions 53 become part of the drawer structure. The channel members 50 are attached to the sides 15 or 16 by the nails 54 or screws in overhanging portions 51. Although the channel members 50 are attached or added to the drawers, no loss of space results from the attachment since the members 50 become a part of the drawer sides.

In the device shown the channel members and guides are attached to a cabinet and drawer made of wood but it is obvious that, by adjusting the various attaching means, etc. that the channel members and guides can be attached to metal structures or structures made of synthetic materials.

The features and principles underlying the invention described above in connection with specific exemplifications will suggest to those skilled in the art many other modifications thereof. It is accordingly desired that the appended claims shall not be limited to any specific feature or details thereof.

I claim:

1. A guide device for guiding drawers which have guide grooves in the sides thereof adapted to be affixed to a cabinet of the type which has a front panel containing at least one rectangular opening for the admission of a drawer, said guide device comprising an angle member having a first substantially planar portion adapted to extend parallel to a vertical edge of the opening in said front panel and a second substantially planar portion adapted to extend parallel to a horizontal edge of said opening, at least one angular tab on an end of said first portion extending at right angles to the plane of said portion in a direction opposite to the direction that said second portion extends from said first portion, at least one similar angular tab on said second portion, at least one tab on the end of said first portion extending in the

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same plane as the latter and beyond the plane of said angular tab, at least one similar tab on said second portion, and guide means adapted to extend into the groove of said drawer on the horizontal portion of said device.

2. The guide device as set forth in claim 1 comprising in addition a corner tab extending from the adjoining edges of both of said first and second portions thereof beyond the plane of the angular tabs.

3. The guide device as set forth in claim 1 in which said guide means comprises at least two rollers rotatably mounted to the horizontal portion of said device.

4. The guide device as set forth in claim 3 in which said guide rollers are made of nylon.

5. In a cabinet of the type having a front panel containing at least one rectangular opening for the admission of a drawer, the combination comprising a drawer having at least one side which ends below the level of the front and back portions thereof, a metal member having the shape of a channel with a flange extending from one edge thereof parallel to the bottom of the channel, means for attaching said flange to said side of the drawer so that the channel faces outwardly, a guide device for attaching to the front panel of said cabinet, said guide device comprising an angle member having a first substantially planar portion adapted to extend parallel to a vertical edge of the opening in said front panel and a second substantially planar portion adapted to extend parallel to a horizontal edge of said opening, at least one angular tab on an end of said first portion extending at right angles to the plane of said portion in a direction opposite to the direction that said second portion extends from said first portion, at least one similar angular tab on said second portion, at least one tab on the end of said first portion extending in the same plane as the latter and beyond the plane of said angular tab, at least one similar tab on said second portion, and guide means adapted to extend into the groove of said drawer on the vertical portion of said device.

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