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SLIDE SUSPENSION

John K. Tomlinson, 1210 S. Morgan St., Chicago, Ill.

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This invention relates in general to a slide for mounting a drawer, tray or the like on companion supporting member, which slide is constructed of internested extensible members slidable relative to each other.

It is an object of the present invention to provide a slide of the type stated in which the stops for limiting the amount of outward movement of the extension members are releasable to facilitate removal of the members.

It is a further and more specific object of the present invention to provide a slide of the type stated in which one of the stops is formed on a resilient strip so shaped and arranged that it may be manually actuated with a minimum of physical effort to release the stop, and thereby permit removal of the drawer or tray.

It is another object of the present invention to provide a slide of the type stated wherein one of the members includes a plurality of slide-forming flanges struck outwardly therefrom which results in substantial saving in materials cost in the fabrication thereof.

With the above and other objects in view, the invention resides in the novel feature of form, construction, arrangement and combination of parts presently described and pointed out in the claims.

In the accompanying drawing:

FIG. 1 is a fragmentary perspective view of a cabinet having a drawer supported thereon by a slide constructed in accordance with and embodying the present invention;

FIG. 2 is a fragmentary perspective view of the slide;

FIG. 3 is a fragmentary perspective view of the slide channel forming part of the present invention;

FIG. 4 is a fragmentary sectional view taken along line 4-4 of FIG. 2;

FIG. 5 is a fragmentary sectional view taken along line 5-5 of FIG. 1; and

FIG. 6 is a sectional view taken along line 6-6 of FIG. 2.

Referring now in more detail and by reference characters to the drawing which illustrates a practical embodiment of the present invention, 1 designates a cabinet having a side wall 2 and a forwardly opening drawer cavity 3 for receiving a suitable drawer 4. Bolted or otherwise rigidly secured to the inside face of the side wall 2 is a sheet metal outer rail 5 having a web 6 the upper and lower margins of which are provided with inwardly turned flanges 7, 8 which, together with the web 6, form upper and lower trackways 9, 10. Intermediate its front and rear vertical margins, the web 6 struck outwardly in the provision of a stop abutment 11, the edge 13 of which is presented away from the opening of the drawer cavity 3.

Slidably mounted on the outer rail 5 is a sheet metal slide channel 14 comprising a vertical web 16 terminating at its upper and lower horizontal edges in spaced parallel legs 17, 18. The legs 17, 18 terminate at their free ends in outwardly diverging flanges 19, 20 which are slidable in the trackways 9, 10. Struck outwardly from the legs 17, 18 are two groups of spaced aligned flanges 21, 22 having outwardly diverging ends 23, 24. The ends 23, 24 may, however, project substantially at right angles to the flanges 21, 22. Bolted, riveted or otherwise rigidly secured to the drawer 4 is an inner horizontal rail 25, which is similar to the outer rail 5, previously described, and comprises a web 26 terminating at its upper and lower longitudinal edges in inwardly turned flanges 27, 28 to form trackways 29, 30 which slidably receive the diverging ends 23, 24 of the flanges 21, 22. The web 26 is, furthermore, provided intermediate its ends with a stop

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abutment 31 struck outwardly from plane thereof and having an edge 32 presented oppositely to the edge 13.

Integrally formed on the web 16 in forwardly spaced relation to the rear edge thereof is a socket 33 for receiving a flat spring steel strip 34. At its rear end the strip 34 is bent in the provision of a tab or detent 35 which projects loosely through a hole 36 formed in the web 16 adjacent its rear edge, and the detent 35 is disposed substantially at right angles to the web 16 and is adapted to strike the edge 13. Between the detent 35 and socket 33 the strip 34 is bent in the provision of an intermediate portion 37 which is spaced from the web 16. Also formed in the web 16 forwardly of the socket 33 is another socket 38 for receiving an elongated strip of spring steel 39 integrally including a blade portion 40 which is spaced outwardly from the web 26. At its forward end the blade portion 40 terminates in a segment 41 comprising a pair of arms 42, 43 which intersect at an apex 44 and form an obtuse angle. The arm 43 normally lies facewise against the web 26 and at its front end is bent substantially at right angles in the provision of a stop-forming detent 45, the latter projecting loosely through a hole 46 formed in the web 26 adjacent the front end thereof.

In use, the outer rail 5 is secured to the side wall 2 and, similarly, the inner rail 25 is mounted on the drawer 4. The slide channel 14 is then mounted on the outer rail 5 allowing the flanges 19, 20 to slide along the trackways 9, 10. As the detent 35 contacts the stop abutment 11, the resiliency of the strip 34 will allow the detent 35 to ride over the stop abutment 11 so that when the slide channel 14 is thereafter shifted outwardly, the detent 35 will strike the edge 13. Thereafter, the drawer 4 with the inner rail 25 thereon is mounted on the slide channel 14 so that the trackways 29, 30 receive the diverging ends 23, 24. The detent 45 will ride over the stop abutment 31 due to the resiliency of the strip 38 so that upon movement of the drawer 4 and the inner rail 25 outwardly of the drawer cavity 3, the stop abutment 31 will strike the detent 45. It will of course be apparent that two slides of the foregoing type will be used with each drawer 4 and associated cabinet 1, and each of the slides will be equidistant from the bottom of the drawer.

If it is desired to remove the drawer 4, a force can be applied to the blade portion 40 in the direction of the arrow shown in FIG. 4. This force will deflect the blade portion 40 and move the latter, together with the arms 42, 43 and detent 45 to the position shown in dotted lines in FIG. 4. In this connection it should be noted that since the strip 38 is fabricated of spring steel the force will displace the apex 44 slightly toward the hole 46 while at the same time cause the entire segment 41 to rock about a fulcrum located at the line of contact between the apex 44 and web 26. Consequently, the detent 45 will be retracted from the edge 32 and allow the inner rail 25 to be pulled outwardly off of the slide channel 14. Since the drawer 4 will be in the open position, as shown in FIG. 1, prior to applying the force to the blade portion 40, this force can be readily applied by finger pressure. Furthermore, since the blade portion 40 is relatively long as compared with the segment 41, and the fingers will ordinarily apply pressure to the blade portion 40 somewhat centrally thereof, the moment arm between the resultant force on the blade portion 40 and the fulcrum is large as compared to the moment arm between the fulcrum and detent 45. As a result, the detent 45 will be sufficiently rigid to prevent its being accidentally moved out of stop-forming position as the drawer 4 is repeatedly opened and closed while at the same time a relatively small amount of finger pressure will release the detent 45.

Ordinarily, it is not necessary to remove the slide channel 14 from the outer rail 5. However, if it is desired to do so, a suitable prying tool may be inserted between the

bight 16 and intermediate portion 37 to flex the latter and thereby pull the detent 35 away from the abutment 11 and allow the slide channel 14 to be shifted forwardly off of the outer rail 5.

In compliance with the requirements of the patent statutes I have here shown and described a preferred embodiment of the present invention. It is, however, to be understood that the invention is not limited to the precise construction here shown, the same being merely illustrative of the principles of the invention.

What is considered new and sought to be secured by Letters Patent is:

1. A slide comprising a slide channel having a web provided on its opposite ends with a pair of spaced legs, a flange formed on the outer end of each leg, said flanges projecting outwardly from the slide channel in substantially opposite directions, and a plurality of spaced aligned flanges struck outwardly from each of said legs and reversely bent to project outwardly from the junction of the web and each leg, the last mentioned flanges having ends, and the ends of the flanges that are struck from one leg projecting away from the ends of the flanges that are struck from the other leg.

2. A slide comprising a slide channel having a web provided on its opposite ends with a pair of spaced legs, a flange formed on the outer end of each leg, said flanges projecting outwardly from the slide channel in substantially opposite directions, a first group of spaced aligned flanges struck outwardly from one leg and reversely bent to project outwardly from the junction of the web and that leg, and a second group of spaced aligned flanges struck outwardly from the other leg and reversely bent to project outwardly from the junction of the web and said other leg, the flanges in each group having ends and the ends in one group extending in a direction substantially opposite to that of the ends in the other group.

3. A slide comprising a slide channel having a web provided on its opposite ends with a pair of spaced legs, a flange formed on the outer end of each leg, said flanges projecting outwardly from the slide channel in substantially opposite directions, and a plurality of spaced aligned flanges struck outwardly from said legs and having ends which are bent to project away from the web at an angle thereto.

4. A slide comprising a slide channel having a web provided on its opposite ends with a pair of spaced legs, a flange formed on the outer end of each leg, said flanges projecting outwardly from the slide channel in substantially opposite directions, a plurality of spaced aligned flanges struck outwardly from said legs and having ends

which are bent to project away from the web at an angle thereto, and a member slidably mounted on said ends.

5. A slide comprising an outer rail adapted for support within a drawer cavity and having a web, said web having inwardly turned marginal flanges which form, with said web, opposed trackways, an inner rail parallel to said outer rail and also having a web and inwardly turned flanges which form with said last-mentioned web opposed trackways thereon, said inner rail being adapted for securement to a drawer or the like, said inner and outer rail webs each having a stop abutment lying between the trackways thereof, a slide channel having a web which overlies said stop abutment, said slide channel web having a pair of spaced legs on opposite sides thereof and a flange formed on the outer end of each leg, a group of spaced aligned flanges struck outwardly from the junction of the web and each leg and each of said last-mentioned flanges having ends, the ends of the flanges in one group extending in a direction substantially opposite to the ends of the flanges in the other group, said ends and the flanges on the outer ends of the legs being slidable in the trackways on said inner and outer rails such that the inner rail is slidable along the slide channel and the slide channel is slidable along the outer rail, an elongated resilient strip secured to each side of the web of the slide channel and having a stop projecting through the slide channel web and into the path of the stop abutments, said strips each having a portion thereof spaced from the slide channel web and also each including a segment, each said segment having a pair of intersecting arms with the region of intersection of said arms being adapted to bear against the slide channel web at a fulcrum thereon, each fulcrum being between the stop and said portion of the strip, whereby the application of a force to either of said portions in a direction toward the slide channel web will cause the segment connected thereto to rock about the fulcrum associated therewith and retract the stop from the path of the abutment against which it is otherwise adapted to strike.

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