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Barber, Jr.

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[45] **July 17, 1973**

[54] **ADJUSTABLE STOPS FOR DRAWER SLIDES**

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[73] Assignee: **Standard Precision, Inc.**, Santa Fe Springs, Calif.

[22] Filed: **Mar. 22, 1971**

[21] Appl. No.: **126,474**

[52] **U.S. Cl.** ..... **312/348,** 312/341 NR

[51] **Int. Cl.** **A47p 88/00**

[58] **Field of Search** ..... 312/348, 341 NR; 248/345.1; 16/82

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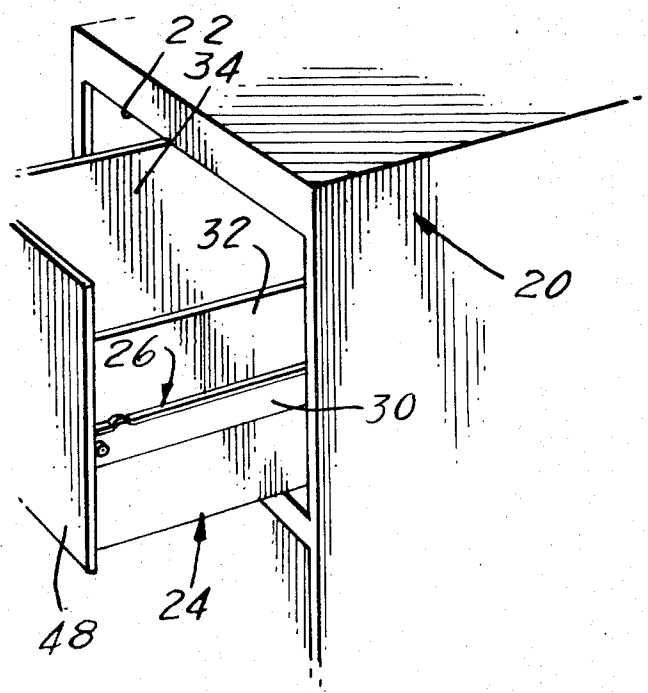
Primary Examiner—James T. McCall

Attorney—J. Carroll Baisch

[57] **ABSTRACT**

Adjustable stop devices for limiting closing movement of slides for drawers and the like. Drawer slides have two or more members longitudinally slidable relative to each other, with one of the members secured to a part of a desk, cabinet, or the like, adjacent the opening and space for a drawer. Another of the members is secured to the drawer and, with slides at both sides of the drawer, the latter may be slidably pulled or pushed in the drawer opening. Such drawers include a front member or panel and the adjustable stop comprises a noise damping cylindrical member eccentrically mounted adjacent the front end of ths slide member of each slide attached to each side of the drawer. The stop member is in the path of a part of the other slide member and is adapted to be struck by the roller at the front end of said other slide member when the drawer is pushed to its innermost position. By loosening the attaching screw on which the stop member is disposed, the latter may be rotated to adjust the point of contact of the stop member with said roller of said slide member. By thus adjusting the cylindrical, eccentrically mounted stop member, the telescoping of the slide members can be stopped at a point whereat the front panel of the drawer will not strike any part of the desk or cabinet, thereby eliminating or minimizing noise and preventing damage to either the front panel of the drawer or adjacent portions of the desk or cabinet when the drawer is closed.

8 Claims, 13 Drawing Figures



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SHEET 1 OF 2

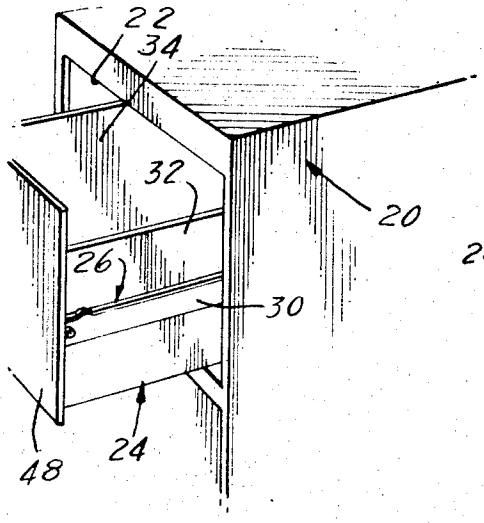


Fig. 1

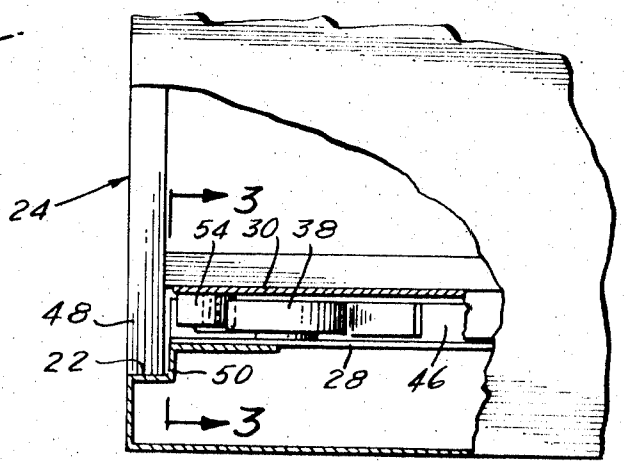


Fig. 2.

Fig. 3.

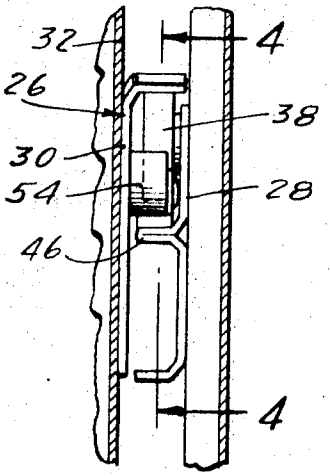


Fig. 4.

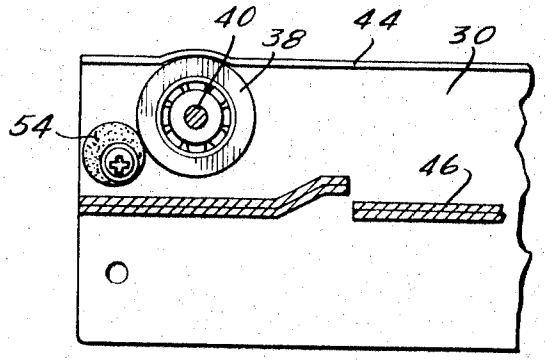


Fig. 5.

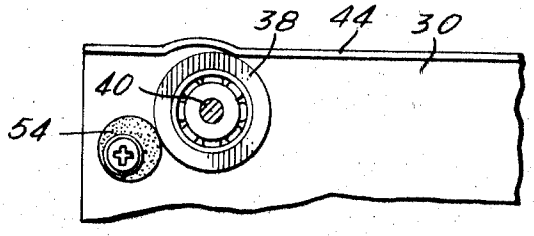
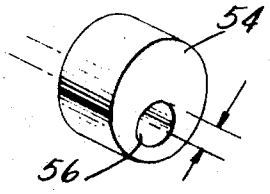


Fig. 6.



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Fig. 7.

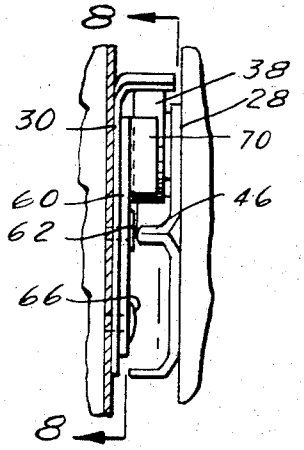


Fig. 8.

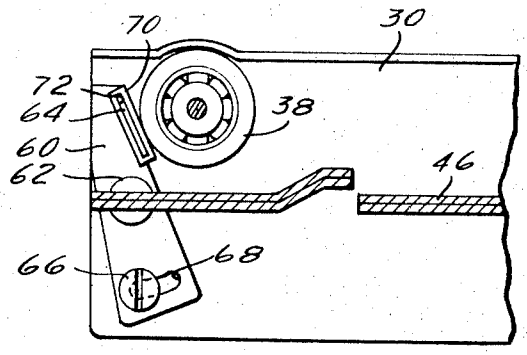


Fig. 10.

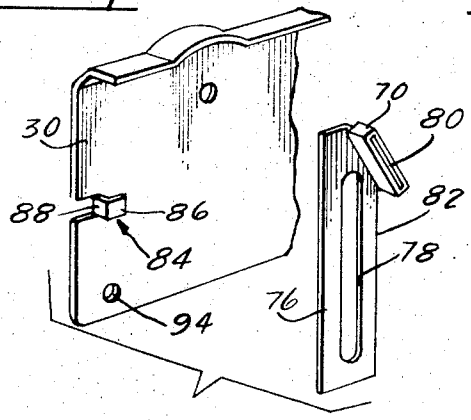


Fig. 9.

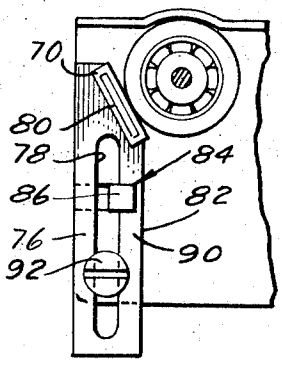
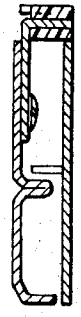


Fig. 12.



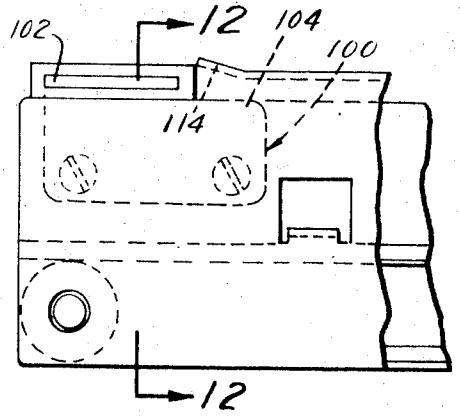
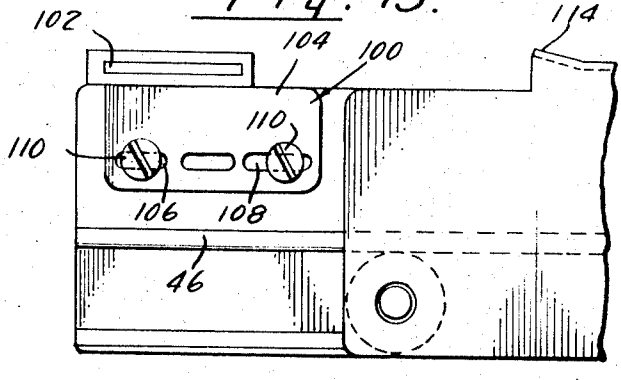


Fig. 11.

Fig. 13.



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ADJUSTABLE STOPS FOR DRAWER SLIDES

BACKGROUND OF THE INVENTION

1. Field of the Invention

The drawers for many desks or cabinets have slides at the sides thereof to reduce friction of the drawers when pulled outwardly or pushed inwardly of the drawer opening. When such drawers are pushed to the innermost position, there is a thud or thump due to the front panel of the drawer striking adjacent portions of the desk or cabinet, or striking the front end of the slide member.

2. Summary of the Invention

The invention comprises stop means on one of the sliding members or drawer slides having a plurality of slide members that are telescopically slidable longitudinally relative to each other. The stop means limits closing movement of drawers carried by such slides, for preventing the front face of the drawer from hitting the cabinet or front end of the slide. By having the stop means adjustable, it is possible to regulate where the drawer will stop so as to prevent the front face of the drawer from hitting the cabinet or front end of one of the slide members.

In reference to the slide members, it is to be understood that, as used herein, the term slide member includes the parts that are attached or secured to the telescoping members.

OBJECTS AND ADVANTAGES OF THE INVENTION

It is, therefore, an object of the invention to provide stop means for limiting inward movement of the drawer.

Another object of the invention is to provide stop means of this character which may be adjusted for individual drawers so that the front face or panel of the drawer will be prevented from hitting the cabinet or front end of the slide.

It is still another object of the invention to provide means of this character which will eliminate the thud or thump that would otherwise occur when the drawer is fully closed.

The characteristics and advantages of the invention are further sufficiently referred to in connection with the accompanying drawings, which represent one embodiment. After considering this example, skilled persons will understand that variations may be made without departing from the principles disclosed and I contemplate the employment of any structures, arrangements or modes of operation that are properly within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring to the drawings, which are for illustrative purposes only:

FIG. 1 is a perspective view of a portion of a desk, showing a partly opened drawer and a slide embodying the invention on the facing side;

FIG. 2 is an enlarged view with portions broken away to show the adjustable stop of the present invention, showing its position when the drawer is closed;

FIG. 3 is an enlarged sectional view taken on line 3—3 of FIG. 2;

FIG. 4 is an enlarged sectional view taken on line 4—4 of FIG. 3;

FIG. 5 is a view similar to FIG. 4, but showing the adjustable stop in a different position than that of FIG. 4;

FIG. 6 is an enlarged perspective view of the adjustable stop shown in FIGS. 1 to 5;

FIG. 7 is an enlarged sectional view of an alternative arrangement;

FIG. 8 is an enlarged sectional view taken on line 8—8 of FIG. 7;

FIG. 9 is an enlarged side-elevational view of an alternative arrangement;

FIG. 10 is an exploded view of the arrangement shown in FIG. 9;

FIG. 11 is a side-elevational view of another alternative arrangement with the adjustable stop engaged by a part of a slide member when the slide members are telescoped;

FIG. 12 is a sectional view taken on line 12—12 of FIG. 11; and

FIG. 13 is a view similar to FIG. 11, but showing the slide members partly extended.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, there is shown a desk, indicated generally at 20, having a drawer opening 22 in which is slidably disposed a drawer, indicated generally at 24. The drawer is slidably supported by drawer slides, indicated generally at 26, there being a drawer slide at each side of the drawer.

The drawer slides 26 are of the type having at least a pair of telescoping slide members 28 and 30.

Slide member 28 is secured to parts of the desk adjacent the drawer opening by any suitable well-known means, such as, for example, screws (not shown).

The slide member 30 is secured to side wall 32. The side wall 34 of the drawer also has attached to it a slide member 30, with a slide member 28 attached to the desk part at the sides of the drawer opening.

While the present invention may be used with various types of slides, the slide disclosed herein has a roller 38 operably mounted on a pin 40 secured to the upper part of the outer slide member 28, there being a similar roller at the inner, or rear end, and at the bottom of the slide member 30, the latter roller not being shown in FIGS. 1 to 6. The slide member 30 has an outwardly turned flange 44 which rides on the roller 38, while the outer slide member 28 has an inturned flange 46 extending along the longitudinal center of said slide member 28, and flange 46 rides on the rear roller on the slide member 30. Thus, the drawer is operably supported by the slides at the sides thereof.

The drawer has a front face or panel 48 which, when the drawer is at its innermost position, should have its front base flush with the adjacent part of the desk. However, the inner side of the panel 48 should not strike adjacent parts of the desk nor the adjacent end of the slide members 28. In order to prevent this from occurring, applicant has provided adjustable stop means so that inward movement of the drawers will be stopped at exactly the right position, whereat the outer side of the drawer panel 48 will be flush with the adjacent portions of the desk and the inner side of the drawer will be prevented from striking certain parts of the desk, such as the parts 50, or the adjacent ends of the slide members 28.

Because of manufacturing variations, applicant has provided adjustable stop means so that each drawer will be stopped at exactly the right position.

The adjustable stop means of the arrangement of FIGS. 1 to 6 comprises a round or cylindrical shaped eccentric stop having a longitudinally-extending bore 56 therethrough which is offset from the axis of the stop. This eccentric stop is secured to the slide member 30 adjacent the forward end thereof and somewhat below the axis of the roller 38, a screw 58 being used to secure the eccentric stop 54 on the slide member 30 and also secure said eccentric stop in adjusted positions.

In order to adjust the stop 54, the screw 58 is loosened and the eccentric stop member 54 rotated on said screw to thereby vary the amount of material between the screw 58 and the roller 38 when the slide members are fully telescoped and the drawer is in its innermost position. After the eccentric stop member is adjusted, the screw 58 is tightened to maintain said stop member in its adjusted position.

Referring to FIGS. 7 and 8, there is shown an alternative adjustable stop means which comprises a lever 60 attached to the slide member 30 adjacent the front end thereof by means of a rivet or pin 62. Other suitable attaching means may be used, such as a screw, for example.

Lever 60 has a laterally turned flange 64 adjacent the upper end thereof and at the inner side of said lever, said flange 64 being in the path of the roller 38 so that when the slide members are telescoped the roller 38 will strike the flange 64 of the stop means and thereby limit telescoping of the slide member for positioning the front panel of the drawer in the manner described here and above.

The stop means 60 is adjustable to vary the position of the flange 64 relative to the roller 38 and this is effected by providing a screw 66 threaded into a tapped opening provided therefor in the slide member 30 adjacent the bottom thereof. An arcuate slot 68 is provided in the lower end of the lever or stop means 60 and the screw 66 is disposed in said slot. By loosening the screw, the lever 60 may be rotated on its pivot 62 and when the proper adjustment has been made the screw 66 is tightened.

A sound and vibration damping element may be attached to the flange 64, said element having a slot 72 therein whereby the element may be slipped onto the flange 64. The side or part of the element 70 adjacent the roller 38 is struck by said roller when the drawer is pushed to its innermost position.

Referring to FIGS. 9 and 10, there is shown another alternative arrangement. In this arrangement, the adjustable stop means comprises a vertically arranged, slidable plate 76 having a longitudinally-extending slot 78 therein and said plate has a laterally turned flange 80 at its upper end, the inner face of said flange being at an acute angle relative to the inner edge 82 of said plate.

Slide member 30 has an ear, indicated at 84, struck or cut therefrom and there is a part 86 thereof that is parallel to the slide member 30 but is spaced from the plane of said slide member 30 by a portion 88 at the inner end of the part 86. The spacing of the part 86 from the plane of the slide member 30 is slightly greater than the thickness of the plate 76 which has its outer part 90 disposed under the part 86. A screw 92 is received in the slot 78 and is screwed into a tapped opening 94 provided therefor in the slide member 30. A sound and vibration damping element may be disposed on the flange 80.

In order to adjust the slidable stop means or plate 76, the screw 92 is loosened and said plate is moved upwardly or downwardly to vary the position at which the roller 38 will engage the inner part of the element 70. When the plate is suitably adjusted the screw 92 is tightened.

Referring to FIGS. 11, 12 and 13, there is shown another alternative adjustable stop device or means. This stop means comprises a horizontal plate, indicated generally at 100, and has a laterally turned flange 102 at the top of the body portion 104 of the plate 100, said flange being turned inwardly and being normal to the body 104. The body 104 has a plurality of slots 106 and 108, respectively, for reception of screws 110 threaded into tapped openings provided therefor in the slide member 28. There is an element 70 disposed on the flange 102 to provide a resilient sound and vibration damping bumper. The flange 102 with the element 70 thereon is above the top longitudinal edge of the slide member 28 and is in the path of a slightly upturned end portion 114 at the rear of the flange 44 of the slide member 30.

The plate 100 is adjustable longitudinally relative to the slide members, adjustment being made by first loosening the screws 110 and moving the plate longitudinally to the correct position for preventing the front panel of the drawer from striking the adjacent portions of the desk and/or the front end of the slide member 28. When the adjustable plate of stop member 100 is correctly positioned, the screws 110 are tightened to retain said plate in adjusted position.

The element 70 may be of any suitable material such as a plastic. The B. F. Goodrich Co. "Geon" vinyl No. 8815 may be used, or any other suitable plastic having vibration and sound damping characteristics.

The invention and its attendant advantages will be understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts of the invention without departing from the spirit and scope thereof or sacrificing its material advantages, the arrangement hereinbefore described being merely by way of example, and I do not wish to be restricted to the specific forms shown or uses mentioned, except as defined by the accompanying claims.

I claim:

1. Adjustable stop means for slides for drawers and the like, said slides having a plurality of slide members telescopically connected together for longitudinal extension and telescopic movement, one of the slide members including a laterally turned flange, the other slide member having roller means including a front roller rotatably mounted thereto adjacent the forward end thereof, said laterally turned flange riding on the roller means, said adjustable stop means being characterized by:

A. an adjustable stop member for the slide member having a flange, said adjustable stop member being cylindrical with an off-set bore extending longitudinally therethrough, said cylindrical stop member being of resilient, sound damping material;

B. and securing means for securing said adjustable stop member to said slide member having the flange and in a position whereat said adjustable stop member comes into engagement with the front

roller when said slide members are telescoped to thereby limit telescoping of said slide members;

C. said securing means comprising a screw in the bore of the cylindrical stop member and in a tapped hole provided therefore in the slide member having the flange, said screw being adapted to be loosened to permit rotatable adjustment of said adjustable stop member relative to said front roller to vary the telescoped relation of said slide members to each other according to the adjusted position of said adjustable stop member;

D. said screw being adapted to be tightened to retain said adjustable stop member in adjusted position.

2. The invention defined by claim **1**, wherein the round adjustable stop member is cylindrical and is of resilient, sound damping material, and wherein the securing means comprises a screw disposed in a tapped bore provided therefor in said one of said slide members.

3. Adjustable stop means for slides for drawers and the like, said slides having a plurality of slide members telescopically connected together for longitudinal extension and telescopic movement, said adjustable stop means being characterized by:

A. an adjustable stop member for one of said slide members, the adjustable stop member comprising a lever pivoted intermediate its ends and having a part for engagement with the part of the other slide member, said lever having an arcuate slot adjacent one end;

B. and securing means for securing said adjustable stop member to said one slide member in a position whereat a part of the other slide member and said adjustable stop member come into engagement with each other when said slide members are telescoped to thereby limit telescoping of said slide members;

C. said securing means being adapted to be loosened to permit adjustment of said adjustable stop member relative to said part of the other slide member to vary the telescoped relation of said slide members to each other according to the adjusted position of said adjustable stop members;

D. said securing means being adapted to be tightened to retain said adjustable stop member in adjusted position;

E. and the securing means includes means disposed in the slot and adapted to be loosened to permit adjustment of said lever, and tightened to retain the lever in adjusted positions.

4. The invention defined by claim **3**, wherein said lever has a flange thereon and a resilient, sound damping element on said flange for engagement with said part of the other slide member.

5. Adjustable stop means for slides for drawers and the like, said slides having a plurality of slide members telescopically connected together for longitudinal extension and telescopic movement, said adjustable stop means being characterized by:

A. an adjustable stop member for one of said slide members, the adjustable stop member a longitudinally-extending slot therein, said plate having an angularly arranged flange aligned with said part of the other slide member, various parts of said flange being variously positioned to vary the telescoped relationship of the slide members, and a guide disposed in said slot;

B. and securing means for securing said adjustable stop member to said one slide member in a position whereat a part of the other slide member and said adjustable stop member come into engagement with each other when said slide members are telescoped to thereby limit telescoping of said slide members; said securing means being disposed in the slot and adapted to be tightened and loosened;

C. said securing means being adapted to be loosened to permit adjustment of said adjustable stop member relative to said part of the other slide member to vary the telescoped relation of said slide members to each other according to the adjusted position of said adjustable stop member;

D. said securing means being adapted to be tightened to retain said adjustable stop member in adjusted position.

6. The invention defined by claim **5**, wherein a resilient vibration and sound damping element is disposed on said flange.

7. The invention defined by claim **1**, wherein the adjustable stop member comprises a horizontally movable plate having a part aligned with said part of said one slide member.

8. The invention defined by claim **7**, wherein said plate has a laterally turned flange thereon aligned with said part of said other slide member, and a sound and vibration damping element on said flange.

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