April 18, 1961 C. J. GALLO, JR 2,980,485

RETRACTABLE STOP ATTACHMENT FOR SLIDING DRAWER FOR FURNITURE

Filed Oct. 6, 1958 2 Sheets-Sheet 1

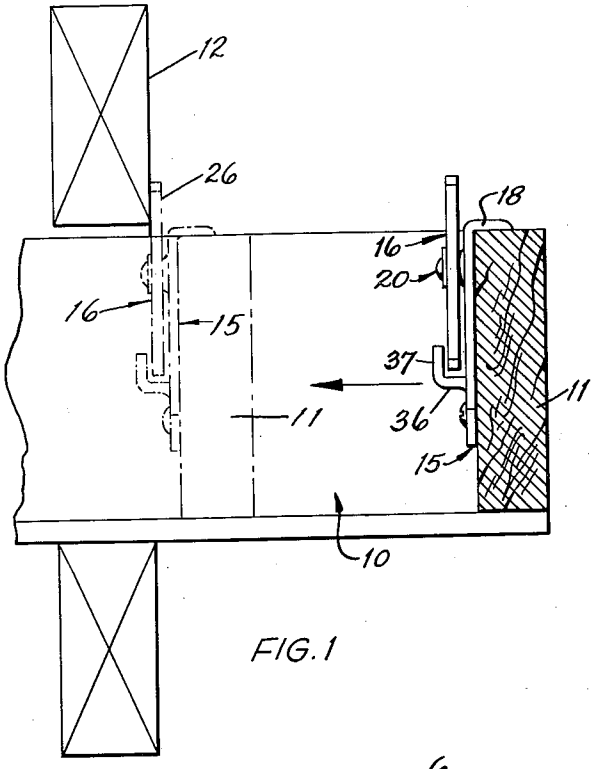


FIG. 1

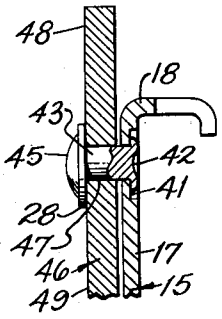


FIG. 7

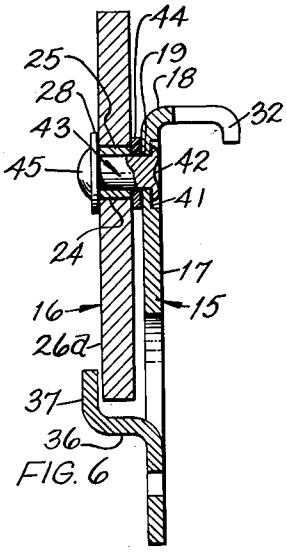


FIG. 6

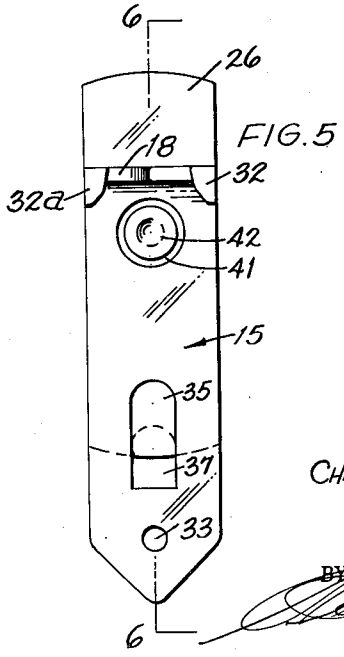


FIG. 5

CHARLES J. GALLO, JR.
INVENTOR.

BY

ATTORNEY

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RETRACTABLE STOP ATTACHMENT FOR SLIDING DRAWER FOR FURNITURE

Filed Oct. 6, 1958 2 Sheets-Sheet 2

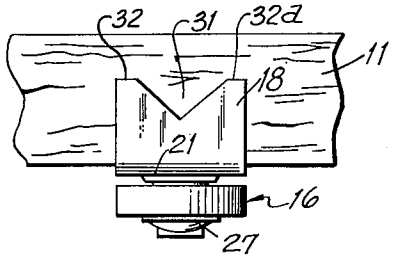


FIG. 4

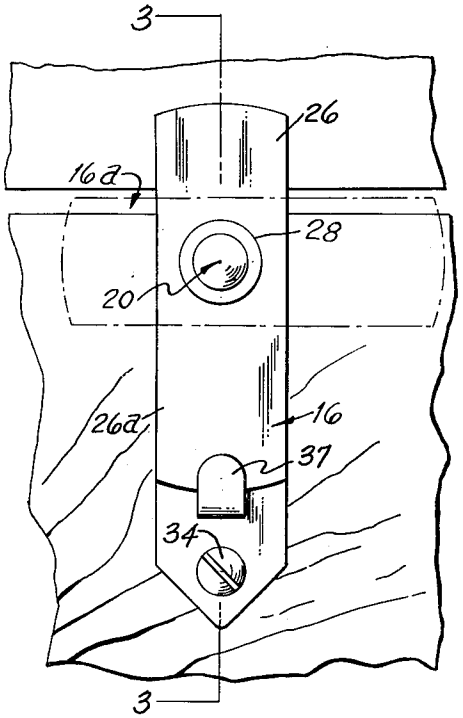


FIG. 2

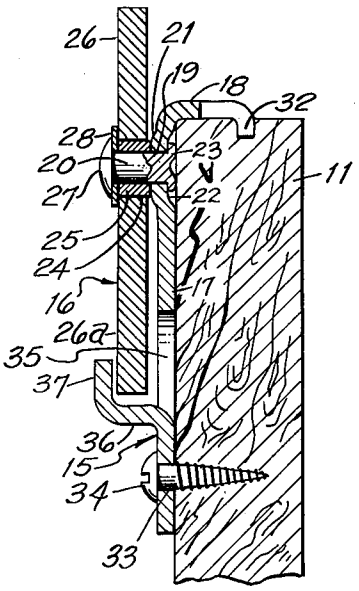


FIG. 3

CHARLES J. GALLO, JR.
INVENTOR.

BY

ATTORNEY

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RETRACTABLE STOP ATTACHMENT FOR SLIDING DRAWER FOR FURNITURE

Charles J. Gallo, Jr., 29 W. 12th St., Linden, N.J.

Filed Oct. 6, 1958, Ser. No. 765,638

4 Claims. (Cl. 312—348)

This invention relates to sliding drawers for desks, or other articles of furniture, and is particularly directed to a retractable stop for limiting the sliding movement of a sliding drawer in an article of furniture, to prevent accidental removal thereof.

It is particularly directed to a pivotally supported retractable stop plate, which limits the sliding movement of the sliding drawer in one direction, when the pivoted stop plate is located in one position, while permitting complete removal of the sliding drawer from the desk, or other article of furniture, when the pivoted stop plate is rotated to another position, clear of the forward panel, or other arresting means attached to the desk, or other article of furniture.

While stops of various types, for use in conjunction with sliding drawers, are available, they are usually relatively difficult to maneuver, and free in such a manner as to release the drawer to permit its removal from the article of furniture, when necessary.

The primary feature of applicant's construction is that it provides a relatively simple stop mechanism, which is readily attached to a sliding drawer fitted to an article of furniture, and is so constructed that the pivoted stop plate can readily be rotated or shifted from one position, in which the pivoted stop plate engages a front panel attached to the article of furniture, thereby limiting the sliding movement of the drawer, to a second position in which the stop plate is rotated into a position, in which it is clear of the front panel, which is attached to the article of furniture, and located adjacent the front wall of the sliding drawer, thus enabling the sliding drawer to be drawn entirely out along the slides which support it, within the article of furniture, and completely removed from the desk, or other article of furniture.

It is primarily directed to a retractable stop mechanism, which is used in conjunction with a drawer, which is slidably supported on a pair of slides fixedly attached to a desk, or other article of furniture, in such a manner that they slidably support the drawer in its closed position, or during the process of opening or closing the drawer.

In conjunction with sliding drawers of this type, a front panel, located in substantial alignment with the front of the desk, or other article of furniture, is generally attached to the article of furniture, adjacent the forward wall of the sliding drawer, the front panel, or other type of cross-bar of the desk, or other article of furniture, being adapted to engage a retractable stopping mechanism attached to the sliding drawer to limit the outward movement of the drawer, thus preventing accidental, or unintentional removal thereof, while still permitting complete removal of the sliding drawer when necessary.

An essential feature of the retractable stop mechanism construction, is that a bracket formed of strip steel, or other suitable material, which pivotally supports the stop plate, is readily and fixedly attached to the rear wall of the sliding drawer, in such a manner, that the pivotally mounted stop plate, when located in one operating position thereof, engages the front panel, cross-bar, or other

stop-engaging means attached to the desk, or other article of furniture, thus limiting the opening movement of the sliding drawer, the stop plate being readily rotatable about its pivot support, into a position in which it is completely clear of the front panel, or cross-bar, thus enabling the sliding drawer to be drawn outward along its slide supports, and completely removed from the desk, or other article of furniture.

Another feature of the construction, is that the entire assembly, including the support bracket, which is utilized to attach the retractable stop mechanism to the rear wall of the sliding drawer, and the pivoted stop plate proper, are simple, relatively inexpensive to produce, and can be utilized over sustained periods without special attention or adjustment.

Another feature of the construction is that the stop element can readily be rotated by the operator, from the stop position in which it is adapted to engage the forward panel, to the free position clear of the forward panel, without special tools or skills, the stop element being automatically restored to its initial, or stop position, by the pendulum action of the lower portion of the stop element, the lower portion of the stop plate being sufficiently longer, and therefore heavier than the upper portion thereof to facilitate free rotation thereof into the stop position.

Another feature of the stop mechanism is that essentially the same retractable stop mechanism construction can be utilized for a wide range and variety of sizes and types of sliding drawers, the essentials of the construction and the method of mounting and operation of the retractable stop mechanism remaining substantially the same.

Another feature of the retractable stop mechanism construction, is that it is readily adaptable to a wide range of sizes and types of sliding drawers, the retractable stop mechanism being so constructed as to readily withstand the load imposed upon it by a particular application, the thickness of the material of which the stop plate and the bracket supporting it are made, the strength of the material, and the support means provided therewith, being varied to suit the requirements of a particular sliding drawer construction, or installation.

The accompanying drawings, illustrative of one embodiment of the invention, and several modifications thereof, together with the description of their construction and the method of mounting, operation, adjustment and utilization thereof, will serve to clarify further objects and advantages of the invention.

In the drawings:

Fig. 1 is a longitudinal section through, and partial side elevational view of one embodiment of the rear portion of a sliding drawer, fitted to a desk, or other article of furniture, showing a portion of the stop mechanism attached to the rear wall of the sliding drawer, with the pivoted stop plate in its normal operative position, the shorter, or stop portion of the stop plate being located above the pivot point, also showing in dot-dash lines, the rear wall of the sliding drawer, moved into the limiting open position, with the upper, or stop portion of the stop plate in engagement with the forward panel of the desk, or other article of furniture, to arrest the forward movement of the sliding drawer.

Fig. 2 is a front elevational view of the retractable stop mechanism shown in Figs. 1 and 3, showing the support bracket attached to the rear wall of the sliding drawer, the screw which attaches the lower portion of the support bracket to the rear wall of the sliding drawer, the rivet pivotally supporting the stop plate, with the stop plate shown in its normal substantially vertical position, with the shorter, or stop portion of the stop plate projecting above the upper edge of the support bracket, to enable the stop plate to engage the forward panel of the

desk, or article of furniture, also showing the ledge and lower flange integral with the lower portion of the vertical section of the support bracket, which limits the angular movement of the lower portion of the stop plate, in one plane.

Fig. 3 is a vertical section, similar to Fig. 1, through the support bracket attached to the rear wall of the sliding drawer, and the stop plat pivotally attached to the support bracket, showing the prongs integral with the top flange of the support bracket, which are pressed into the rear wall of the sliding drawer, also the method of pivotally attaching the stop plate to the vertical section of the support bracket, the outer face of the vertical section of the support bracket, opposite the pivoted stop plate, being depressed over a circular area, to clear the upset or headed portion of the hollow end of the rivet, the face of the vertical section of the bracket, located adjacent the stop plate, being raised, toward the stop plate, to provide greater clearance between the face of the pivoted stop plate and the vertical section of the support bracket, also showing a tubular bushing fitted to the stop plate, and a washer located between the head of the rivet and the adjacent face of the stop plate, in order to facilitate rotation of the stop plate, from the vertical or stopping position, shown in Fig. 3, to the clear position shown in dot-dash lines in Fig. 2.

Fig. 4 is a plan view of the assembled retractable stop mechanism, shown in Figs. 2 and 3, attached to the rear wall of the sliding drawer, shown in Fig. 1, showing the upper flange integral with the upper portion of the support bracket, which is attached to the rear wall of the sliding drawer, as shown in Fig. 1, also showing the prongs integral with the upper flange of the support bracket, which are pressed into the rear wall of the sliding drawer, as shown in Fig. 3 and the pivoted stop plate attached to the vertical section of the support bracket in the manner shown in Figs. 2 and 3.

Fig. 5 is a rear elevational view of a modification of the retractable stop mechanism, shown in Fig. 6, which is substantially the same as that shown in Fig. 3, showing the support bracket, which is attached to the rear wall of the sliding drawer, shown in Fig. 1, also the prongs integral with the upper flange of the support bracket, which are pressed into the upper edge of the rear wall of the sliding drawer, to support the upper end of the support bracket, also showing the cutout for the ledge, which is integral with the vertical section of the support bracket, the forward flange integral with the ledge, the forward flange limiting the angular movement of the stop plate, in one plane, as shown in Figs. 3 and 6, as well as the stop plate, which is pivotally attached to the support bracket, in its vertical or stop position, substantially as shown in Figs. 3 and 6.

Fig. 6 is a vertical section, similar to Fig. 3, through a modification of the tractable stop mechanism shown in Fig. 3, as shown in Fig. 5, showing the vertical section of the stop support bracket and a portion of the pivoted stop plate in its vertical position, substantially as shown in Fig. 3, also a modification of the method of pivotally supporting the stop plate, and attaching the stop plate to the vertical section of the support bracket, the rear face of the vertical section of the support bracket having a circular counterbore therein, to clear the upset headed section of the hollow ended rivet, around the opening, through which the rivet which supports the stop plate is inserted, a washer, or thin spacer, being introduced between one face of the vertical section of the support bracket, and the adjacent face of the pivoted stop plate, a tubular bushing, similar to that shown in Fig. 3, being fitted to the pivoted stop plate to facilitate rotation of the pivoted stop plate, from the substantially vertical, or stop position, shown in Fig. 3, to the substantially horizontal, or clear position, shown in dot-dash lines, Fig. 2.

Fig. 7 is a vertical section, similar to Fig. 6 of a portion of another modification of the method of attaching the pivoted stop plate to the vertical section of the support bracket, the stop plate being supported directly on the cylindrical portion of the rivet, the rear face of the vertical section of the support bracket having a circular counterbore therein, to clear the upset headed end of the hollow ended rivet, a thin flat washer being located between the stop plate and the head of the rivet.

It will be understood that the following description of the construction and the method of mounting, operation, support, retracting, and utilization of the retractable stop attachment for sliding drawer for furniture, is intended as explanatory of the invention and not restrictive thereof.

In the drawings, the same reference numerals designate the same parts throughout the various views, except where otherwise indicated.

One embodiment of the construction, such as that shown in Figs. 1, 2 and 3, is mounted on a sliding drawer 10, such as that shown in Fig. 1, the sliding drawer having a rear wall 11 incorporated therewith and attached thereto, the rear wall of the sliding drawer being located slightly below and substantially parallel to the forward panel 12, which is located in substantial alignment with the front wall of the article of furniture, and attached to the desk, or other article of furniture, to which the sliding drawer is fitted, the front panel normally clearing the side wall of the drawer, and the rear wall 11 thereof, the front panel being located far enough forward of the rear wall 11 of the sliding drawer, as to enable the sliding drawer to be opened far enough to provide access to almost the entire inner length of the drawer, thus enabling the user to reach the contents thereof, while still retaining the sliding drawer within the desk, or other article of furniture, when a stop mechanism attached to the rear wall 11 of the sliding drawer, engages the front panel of the desk, or other article of furniture.

The sliding drawer stop mechanism, shown in Figs. 1, 2 and 3, which is supported by the rear wall 11 of the sliding drawer, comprises a support bracket 15 formed of strip steel, or a similar material, with a stop plate 16, pivotally supported by the support bracket, at a point near the upper end of the support bracket.

The support bracket 15, comprises a relatively thin vertical section 17, formed of strip steel, with a flange or head 18 integral with the upper end of the vertical section, and substantially perpendicular thereto.

The vertical section of the support bracket has an opening 19, therethrough, below the upper flange of the bracket, a hollow ended or other type of cylindrical rivet 20, inserted through the opening in the vertical section of the support bracket, pivotally supporting the stop plate 16, which is located adjacent a substantially circular raised section 21, which is integral with the forward face of the vertical section of the bracket, opposite the face which engages the rear wall of the drawer, in the mounted position shown in Fig. 1. The rear face of the vertical wall of the bracket, has a substantially circular stamped depression 22 formed therein, around the circular rivet opening 19 therethrough, the circular depression being deep enough to clear the formed or upset head 23 of the rivet 20, which is fitted through the circular opening 19. As the thickness of the offset section of the bracket wall, around the circular opening therethrough, is substantially equal to the thickness of the vertical section of the bracket, the depth of the raised section 21 at the rear face of the vetrical section of the bracket, is substantially equal to the depth of the circular depression 22. The opening through the pivoted stop plate 16 is located substantially on the vertical center line of the stop plate 16, the center of the opening 24 through the stop plate 16, into which a tubular bushing 25, made of bronze, graphite bronze, or other suitable bearing material, is pressed, or otherwise attached to the stop plate, the tubular bushing 25 shown in

Fig. 3, being somewhat longer than the thickness of the stop plate, thus providing definite clearance between the face of the stop plate **16** and the outer face of the raised section **21** of the vertical section **17** of the support bracket **15**. The opening through the vertical section of the support bracket, through which the bushing supporting the cylindrical rivet **20** is inserted, is offset relative to the upper and lower edges of the stop plate **16**, thus providing a relatively short section **26**, which extends from the center of the rivet opening through the tubular bushing **25** inserted through the stop plate, to the upper end of the stop plate **16**, in the substantially vertical or stop position shown in Figs. 1 and 3, and a longer lower section **26***a*, which extends from the center of the rivet opening, through the tubular bushing **25** fitted to the stop plate, to the lower edge of the stop plate. The greater length of the lower section **26***a* of the stop plate, and consequently the greater weight thereof, relative to the shorter upper section **26** thereof, causes the stop plate to normally automatically assume a substantially vertical position, such as that shown in Figs. 1, 2 and 3, with the shorter upper section **26** of the stop plate projecting beyond the upper edge of the top of the rear wall of the sliding drawer **10**, and the top flange **18** of the support bracket **15**, the head **27** of the rivet and the upset or headed section **23** of the hollow end of the cylindrical rivet, being loosely fitted longitudinally relative to the vertical section **17** of the support bracket, the stop plate **16**, and a thin, flat, substantially tubular washer **28**, which is located between the forward face of the stop plate **16**, and the under surface of the head **27** of the rivet **20**, thus enabling the stop plate to rotate freely about the cylindrical body of the rivet, by means of the tubular bushing **25** inserted through the stop plate, relative to the vertical section of the support bracket, and normally automatically assume the substantially vertical position, such as that shown in Figs. 1, 2 and 3, due to the pendulum action of the longer and consequently heavier lower section **26***a* of the pi voted stop plate **16**.

The rear portion of the head, or top flange **18** of the support bracket is split into two edge sections by a V-slot **31**, or other type of cut-out through the top flange of the support bracket, the ends of the two outer edge sections of the top flange **18**, being bent downward, in a direction substantially parallel to the vertical section of the support bracket, to form a pair of depending prongs **32**, **32***a*, which are forced into the upper edge of the rear wall **11** of the sliding drawer, thereby retaining the upper portion of the vertical section of the bracket in engagement with the rear wall of the sliding drawer **10**. The sloping sides of the V-section slot **31**, through the upper flange **18** of the support bracket, tapers the inner edges of the prongs **32**, **32***a* thereof, thus bringing the ends of the prongs **32**, **32***a* to a relatively dull point and facilitating insertion of the tapered prongs into the top of the rear wall **11** of the sliding drawer **10**, which is usually made of wood, or a similar material.

In order to enable the upper surface of the upper flange **18** of the support bracket to be substantially flush with, or somewhat below the upper edge of the rear wall of the sliding drawer, a rectangular slot, the depth of which is substantially equal to, or somewhat greater than the thickness of the material of the support bracket, may be cut through the upper edge of the rear wall **11** of the sliding drawer, thus enabling the upper flange **18** of the support bracket to be substantially flush with, or located slightly below the upper edge of the rear wall of the sliding drawer.

In order to attach the lower end of the vertical section **17** of the support bracket **15** to the rear wall **11** of the sliding drawer, a substantially circular opening **33** is cut through the vertical section of the support bracket, adjacent the lower end thereof, a tapered threaded wood screw **34**, or other type of screw, or other fastening means, being inserted through the opening **33** through the vertical section of the support bracket, in order to fixedly attach the lower portion of the vertical section of the support bracket **15** to the rear wall of the sliding drawer.

In order to provide a limit for the longer, lower portion of the pivoted stop plate, when the upper or stop portion of the stop plate engages the forward panel **12** of the article of furniture, when the sliding drawer is opened, a narrow substantially parallel-faced slot **35**, is cut through the vertical section of the support bracket, substantially along the longitudinal axis thereof, the blanked material cut out of the substantially parallel-faced slot being bent outward, in a direction substantially perpendicular to the vertical section **17** of the support bracket **15**, to form a bottom ledge **36**, which clears the lower edge of the pivoted stop plate, the extreme outer portion of the ledge being bent upward, in a direction substantially parallel to the forward face of the vertical section of the support bracket **15**, to form a forward flange **37**, which is adapted to engage the lower end of the stop plate, thereby providing a stop or limit to the angular movement of the stop plate about the pivot, in a plane substantially perpendicular to the face of the stop plate **16**, when the upper, or stop portion of the stop plate, engages the front panel of the article of furniture, after the sliding drawer is opened, while the stop plate is in its normal substantially vertical position shown in Figs. 2 and 3. The distance between the inner face of the substantially parallel forward flange **37** and the forward face of the vertical section **17** of the support bracket **15**, is somewhat greater than the thickness of the pivoted stop plate, thus enabling the pivoted stop plate to rotate freely about the rivet **20**, which pivotally supports the stop plate, relative to the vertical section of the support bracket **15**, while the stop plate is in its normal substantially vertical operative position shown, in Fig. 3, before the upper edge of the stop plate engages the forward panel **12**, of the article of furniture. The ledge **36** and the forward flange **37** integral with the vertical section of the support bracket **15**, also serve as a means for limiting the angular movement of the stop plate **16**, in a plane substantially perpendicular to the faces of the stop plate, if the upper end of the pivoted stop plate engages an obstruction in the desk, or other article of furniture, during the process of opening the sliding drawer, thus avoiding excessive strains on the stop plate, and the rivet **20**, which pivotally supports the stop plate.

Where it is desired to remove the sliding drawer **10** entirely from the two slides, which support it in the article of furniture, the slides being attached to the desk, or other article of furniture, adjacent the side walls of the sliding drawer, in the conventional manner, the stop plate may be manually rotated about the rivet **20**, which rotatably supports the stop plate **14**, by means of the tubular bushing **25** fitted through the stop plate, to a substantially horizontal position **16***a*, such as that shown by dot-dash lines, Fig. 2, thus enabling one longitudinal edge of the stop plate to be located in substantial alignment with, or slightly below the upper edge of the upper flange **18** of the support bracket, and in that manner enabling the stop plate **16** to completely clear the forward panel **12**, attached to the article of furniture to which the sliding drawer is fitted, as shown in Fig. 1, thereby allowing the sliding drawer to be completely removed from the slides, which slidably support it in the desk, or other article of furniture.

The opening **19** through the vertical section **17** of the support bracket **15**, through which the rivet **20** is fitted, is located below the top of the upper flange of the support bracket, a distance substantially equal to, or slightly greater than the distance between one longitudinal edge of the stop plate and the longitudinal center thereof, the mating opening **24**, through the stop plate, being located substantially on the longitudinal axis thereof, thus

enabling the longitudinal edge of the stop plate 16, when it is rotated into the substantially horizontal position, shown by dot-dash lines, in Fig. 2, to be located at or below the upper edge of the upper flange 18 of the support bracket, thereby definitely clearing the forward panel 12, attached to the article of furniture, above the sliding drawer, and allowing the sliding drawer to be completely removed from the slides which slidably support it.

Figs. 5 and 6 show a modification of the support bracket and stop plate construction, shown in Figs. 2 and 3.

In this construction, the vertical section 17 of the support bracket 15, which supports the pivoted stop plate 16, is substantially the same as that shown in Fig. 3, except that a relatively shallow circular counterbore 41 is cut into the rear face of the vertical section of the support bracket 15, co-axially with the substantially circular opening 19 through the vertical section of the support bracket, the counterbore 41 being adapted to receive the upset headed section 42, of the hollow ended cylindrical rivet 43, which is inserted through the opening 19, through the support bracket.

A relatively thin flat washer 44, or spacer, is inserted around the body of the rivet 43, between the pivoted stop plae 16, which is pivotaly supported by the rivet 43, and the vertical section 17 of the support bracket 15, in substantially the same manner as that shown in Fig. 3.

In order to facilitate rotation of the stop plate 16 about the body of the rivet 43, a tubular bushing 25, made of bronze, or other suitable bearing material, similar to that shown in Fig. 3, may be fitted through the opening 24, through the stop plate, and pressed into the opening 24 therethrough, in the manner shown in Figs. 3 and 6, thus enabling the stop plate to automatically assume its normal stop, or substantially vertical position, such as that shown in Figs. 3 and 6, or be manually rotated to a substantially horizontal position 16*a*, such as that shown in Fig. 2, to clear the forward panel 12, which is attached to the article of furniture, and thereby facilitate complete removal of the sliding drawer 10 from the article of furniture.

The position of the center of the opening 24 through the stop plate 16, relative to the upper and lower edges thereof, is substantially the same as that shown in Figs. 2 and 3, the longer heavier section 26*a* of the stop plate, which is located below the rivet 43, serving to retain it in substantially the vertical position shown in Figs. 1, 2, and 6, in substantially the same manner as that hereinbefore described.

The upper and lower ends of the stop plate 16 are of circular segmental, or other arcuate form, as shown in Fig. 2, to enable the longer lower section of the stop plate to clear the upper surface of the ledge 36, integral with the vertical section of the support bracket 15.

A thin flat substantially tubular washer 28 substantially the same as that shown in Fig. 3, is located around the body of the rivet 43, between the forward face of the stop plate 16 and the under surface of the head 45, of the cylindrical rivet 43, inserted through the bushing 25 fitted to the stop plate 16, in substantially the same manner as that shown in Fig. 3.

The length of the body of the rivet 43, between the head 45, and the upset headed section 42 thereof, is slightly greater than the overall length, including the two washers 28, 44, fitted to the body of the rivet 43, the stop plate 16, and the thickness of the vertical section 17 of the support bracket 15, below the counterbore 41 therethrough, thus enabling the stop plate 16, with the bushing 25 inserted therethrough, to rotate freely about the cylindrical body of the rivet, and thereby normally automatically assume the substantially vertical, or stop position of the stop plate 16, in the manner hereinbefore described.

The relation between the forward flange 37, integral with the ledge 36 and the stop plate is substantially the same as those shown in Figs. 2 and 3, the forward flange 37 and the ledge 36 integral therewith, serving substantially the same purpose as those shown in Figs. 2 and 3, and hereinbefore described.

The top flange 18 of the support bracket is substantially the same as that shown in Fig. 4, the prongs 32, 32*a* integral with the rear end of the top flange, being substantially the same as those shown in Figs. 2 and 3, the prongs being inserted in the rear wall of the sliding drawer 10 in substantially the same manner.

The parallel-faced slot 35 through the vertical section of the support bracket is substantially the same as that shown in Fig. 3, the ledge 36 integral with the vertical section of the support bracket, and the forward flange 37 integral with the forward edge of the ledge being substantially the same, the forward flange 37 functioning in substantially the same manner, relative to the stop plate, as that shown in Fig. 3.

The opening 33 through the lower end of the vertical section of the support bracket, is substantially the same as that shown in Fig. 3, the opening 33 being adapted to receive a wood screw 34, or other type of screw, to attach the vertical section of the support bracket to the rear wall of the sliding drawer 10, in substantially the same manner as that shown in Fig. 3.

The opening 19 through the vertical section 17 of the support bracket 15, through which the rivet 43 is inserted, is located in substantially the same position relative to the upper flange of the support bracket 15, as that shown in Fig. 3, thus enabling the stop plate 16 to be rotated into a substantially horizontal position, clear of the forward panel 12 of the article of furniture to which the support bracket is attached, in substantially the same manner as that shown in Figs. 1 and 2.

In all other respects the modified retractable stop construction shown in Figs. 5 and 6 is substantially the same as that shown in Figs. 1, 2 and 3, and hereinbefore described.

The construction shown in Fig. 7, is substantially the same as that shown in Figs. 5 and 6, except that the thin flat washer located between the stop plate 16 and the vertical section of the support bracket 15, is eliminated, the rear face of the pivoted stop plate being located close to, but clearing by a relatively short distance, the forward face of the vertical section of the support bracket, thus enabling the stop plate to rotate freely about the hollow-ended substantially cylindrical rivet 43. The pivoted stop plate 46 is also substantially the same as that shown in Fig. 6, except that the tubular bushing 25, fitted to the opening through the stop plate, is eliminated, a smaller opening 47, of substantially circular form, being cut through the stop plate around the cylindrical body of the rivet 43, the diameter of the opening 47 through the stop plate 46 being slightly greater than the diameter of the body of the rivet 43, to enable the stop plate to rotate freely about the substantially cylindrical body of the rivet, in substantially direct engagement with the cylindrical body of the rivet 43, in the same manner as that shown in Figs. 3 and 6.

The pivoted stop plate 46 is substantially the same as that shown in Figs. 3 and 6, except for the elimination of the tubular bushing 25, the circular opening 47 through the stop plate, being rotatably fitted to the cylindrical body of the rivet 43, in substantially the same manner as that shown in Fig. 6.

The rear face of the vertical section 17 of the support bracket 15 is counterbored at 41, co-axially with the center of the opening therethrough, the counterbored portion of the vertical section of the bracket being adapted to receive the upset headed section 42 of the hollow end of the cylindrical rivet 43, which is headed over, or upset, in substantially the same manner as that shown in Fig. 6, in order to retain the stop plate in the assembled position shown in Figs. 3, 6 and 7.

In order to facilitate the rotation of the stop plate 46,

about the cylindrical body of the rivet 43, the upset headed section 42 of the hollow end of the rivet, is so formed longitudinally, as to allow clearance between the head 45 of the cylindrical rivet, and the face of the flat washer 28 located adjacent the stop plate 16, between the head 45 of the rivet, and the forward face of the stop plate, in substantially the same manner as that shown in Fig. 6, thereby facilitating rotation of the stop plate 16 about the cylindrical body of the rivet 43, in substantially the same manner as that shown in Figs. 3 and 6, as hereinbefore described.

The support bracket 15, shown in Figs. 6 and 7, may be made of strip steel, corrosion resistant steel, or other suitable material, which can readily be formed and stamped to substantially the contour shown in Figs. 1 and 3.

The pivoted stop plates 16 and 46, would also be made of strip steel, corrosion resistant steel, or a similar material, the material selected being controlled by the size of the stop plate, and the load to which the pivot stop plate 16, 46 is to be subjected, in arresting the movement of a sliding drawer, such as that shown in Fig. 1.

Where ordinary strip, or sheet steel, is used, the support bracket 15 and the pivoted stop plate used in conjunction therewith, would be plated, or otherwise surface coated, or finished in such a manner as to resist corrosion and enhance the appearance of the assembled unit.

The height of the upper section of the pivot stop plate 46, from the upper edge of the pivoted stop plate, to the center of the opening for the rivet 43, would depend upon the relation between the forward panel 12 of the article of furniture, to which the sliding drawer is fitted, and the upper edge of the rear wall of the sliding drawer, to provide a large enough area of engagement between the pivoted stop plate 46 and the forward panel 12 of the article of furniture, to which the sliding drawer is fitted, in order to arrest and thereby limit the opening movement of the sliding drawer 10.

The distance between the lower edge of the pivoted stop plate, and the center of the rivet opening therethrough, which is greater than the length of the upper section 48 thereof, would be determined to some extent by the length of the upper section 48 of the pivoted stop plate 46, the difference between the length of the lower section 49 and that of the upper section 48 of the pivoted stop plate, being sufficiently great to provide the necessary counterweighting, to enable the pivoted stop plate to normally assume the substantially vertical, or stop position, shown in Figs. 3, 6 and 7. The upper and lower edges of the stop plate 46, shown in Fig. 7, are of circular segmental, or other arcuate contour, in the same manner as that shown in Fig. 2.

Where space limitations prevent increasing the length of the lower section of the stop plate, to provide the necessary counterweighting, the thickness of the lower section of the stop plate may be increased relative to the upper section thereof, or the extreme lower end of the pivoted stop plate 46 may be folded over to increase the weight of the lower section 49, relative to the upper section 48 of the pivoted stop plate, from the center of the opening for the rivet to the upper edge of the pivoted stop plate.

In lieu of this, the lower section of the stop plate may be weighted, by attaching a section of heavier metal, such as lead, to the lower portion of the stop plate, the counterweighting effect being substantially the same.

Where a folded area, or otherwise counterweighted stop plate section is utilized, in place of the substantially flat construction, shown in Figs. 3, 6 and 7, the distance between the forward flange 37 of the ledge of the support bracket, and the forward face of the vertical section 17 of the support bracket, would be increased to provide greater clearance for the heavier lower section 49 of the stop plate 46.

The rivet shown in Figs. 1 and 2, may be a hollow-ended rivet with an upset head, as shown in Figs. 3, 6 and 7, or a solid rivet having a formed flat head may be substituted therefor. In either case, the thickness of the upset head, or the flat head of the rivet, would be equal to, or less than the depth of the countersink 41 in the rear face of the vertical section of the support bracket, thus providing a flat rear face of the support bracket, or a rivet having a head depressed below the rear surface of the vertical section of the support bracket.

It will be apparent to those skilled in the art, that my present invention is not limited to the specific details described above and shown in the drawings, and that various modifications are possible in carrying out the features of the invention and the operation, and the method of support, mounting and utilization thereof, without departing from the spirit and scope of the appended claims.

What I claim is:

1. In combination with an article of furniture having a sliding drawer fitted thereto, said sliding drawer having a rear wall attached thereto, substantially parallel to the forward face of the article of furniture, the article of furniture having a panel attached thereto, extending above the upper edge of the sliding drawer, the panel being substantially parallel to the rear wall of the sliding drawer and longitudinally spacedly located relative thereto, a retractable stop mechanism including a bracket fixedly attached to the rear wall of the sliding drawer, said bracket having a pivot member supported thereby and projecting beyond one face thereof, a retractable stop plate supported by the pivot member, located adjacent one face of the bracket, a portion of the retractable stop plate, located above the pivot member, being adapted to project beyond the upper edge of the rear wall of the sliding drawer, to engage the panel of the article of furniture, thereby to arrest the opening movement of the sliding drawer, the retractable stop plate having tubular means attached thereto, adapted to fit the cylindrical portion of the pivot member, to enable the retractable stop plate to be freely rotatable about the pivot member, the support bracket having a relatively shallow substantially circular depression therein, surrounding the pivot, with a mating circular projection integral with the face of the support bracket, opposite the depression, said circular projection being adapted to engage one face of the retractable stop plate to enable the face of the stop plate to clear the face of the support bracket, the pivot having a head integral with one end thereof, the end of the pivot, opposite the head, having a shallow circular headed portion integral therewith, the circular headed portion being adapted to fit into the depressed portion of the support bracket, the portion of the retractable stop plate located diametrically opposite the stop portion thereof, relative to the pivot member, being adapted to overbalance the stop portion of the retractable stop plate, to normally retain the stop portion thereof in a position with a portion thereof projecting beyond the upper edge of the rear wall of the sliding drawer, said retractable stop plate being adapted to be manually rotated about the pivot member to clear the panel of the article of furniture, thereby to permit removal of the sliding drawer from the article of furniture, a portion of the vertical section of the support bracket, located adjacent the lower edge of the retractable stop plate, being cut out to form a relatively narrow ledge located adjacent the bottom of the retractable stop plate, the ledge being substantially perpendicular to the vertical section of the support bracket, said ledge having a forward flange integral therewith and substantially perpendicular thereto, the forward flange being located near the surface of the lower edge of the retractable stop plate, to clear the stop plate, said lower flange being adapted to shield the retractable stop plate, to limit the angular movement thereof, in a plane perpendicular to the plane of the vertical section of the support bracket.

2. A retractable stop mechanism, as in claim 1, in

which the bracket has a flange integral with one end thereof, the flange of the bracket being adapted to engage one edge of the rear wall of the sliding drawer, and means integral with said flange adapted to be forced into the rear wall of the sliding drawer, to grip the rear wall thereof, and fixedly support the bracket relative to the rear wall of the sliding drawer.

3. A retractable stop mechanism as in claim 1, in which the portion of the pivot member projecting through the retractable stop plate, is substantially cylindrical, the pivot member being located below the top of the bracket, a distance substantially equal to one half the width of the retractable stop plate, said retractable stop plate being adapted to be manually rotated about the pivot member to clear the panel of the article of furniture, thereby to permit removal of the sliding drawer from the article of furniture.

4. In combination with an article of furniture having a sliding drawer fitted thereto, said article of furniture having a panel fixedly attached thereto, above the upper edge of the sliding drawer, the sliding drawer having a rear wall attached thereto, substantially parallel to the panel of the article of furniture, and longitudinally spacedly located relative thereto, a retractable stop mechanism supported by the rear wall of the sliding drawer, said retractable stop mechanism including a support bracket fixedly attached to the rear wall of the sliding drawer, said support bracket having a pivot attached thereto, and projecting beyond one face thereof, a retractable stop plate supported by the pivot, located adjacent one face of the support bracket, a portion of the retractable stop plate, normally located above the pivot, being adapted to project beyond the upper edge of the rear wall of the sliding drawer, to engage the panel of the article of furniture, thereby to arrest the opening movement of the sliding drawer, the retractable stop plate having tubular means fitted thereto, adapted to fit the cylindrical portion of the pivot member, to enable the retractable stop plate to be freely rotatable about the pivot member, the support bracket having a relatively shallow substantially circular depression therein, surrounding the pivot, with a mating circular projection integral with the face of the support bracket, opposite the depression, said circular projection being adapted to engage one face of the retractable stop plate to enable the face of the plate to clear the face of the support bracket, the pivot having a head integral with one end thereof, the end of the pivot, opposite the head, having a shallow substantially circular headed portion integral therewith, the shallow circular headed portion being adapted to fit into the depressed portion of the support bracket, the portion of the retractable stop plate located diametrically opposite the stop portion thereof, relative to the pivot, being heavier than the stop portion, to overbalance the stop portion of the retractable stop plate, to normally retain the stop portion of the retractable stop plate in a stop position, in which a portion thereof projects beyond the upper edge of the rear wall of the sliding drawer, said retractable stop plate being adapted to be manually rotated about the pivot to clear the panel of the article of furniture, thereby to permit removal of the sliding drawer from the article of furniture, said retractable stop plate being adapted to be manually rotated about the pivot member to clear the panel of the article of furniture, thereby to permit removal of the sliding drawer, from the article of furniture, a portion of the vertical section of the support bracket, located adjacent the lower edge of the retractable stop plate, being cut out to form a relatively narrow ledge located adjacent the bottom of the retractable stop plate, the narrow ledge being substantially perpendicular to the vertical section of the support bracket, said ledge having a forward flange integral therewith and substantially perpendicular thereto, the forward flange being located near the surface of the lower edge of the retractable stop plate, to clear the stop plate, said lower flange being adapted to shield the retractable stop plate, to limit the angular movement thereof, in a plane substantially perpendicular to the plane of the vertical section of the support bracket, the support bracket being formed of a strip of material, the upper edge of the support bracket having a flange integral therewith, and substantially perpendicular thereto, said flange having a pair of prongs integral therewith, and substantially perpendicular thereto, the prongs of the flange being adapted to be pressed into the rear wall of the sliding drawer, thereby to grip the rear wall of the sliding drawer and fixedly attach the support bracket, the support bracket having an opening therethrough located below the pivot attached thereto, and means fitted through the opening through the support bracket adapted to secure the support bracket to the rear wall of the sliding drawer, the retractable stop plate being a plate of substantially rectangular cross-section and substantially rectangular form, the portion of the stop plate located below the pivot, being longer than the stop portion thereof, to overbalance the stop portion, and normally retain the stop portion of the retractable stop plate in a position to engage the panel of the article of furniture to which the sliding drawer is fitted.

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