

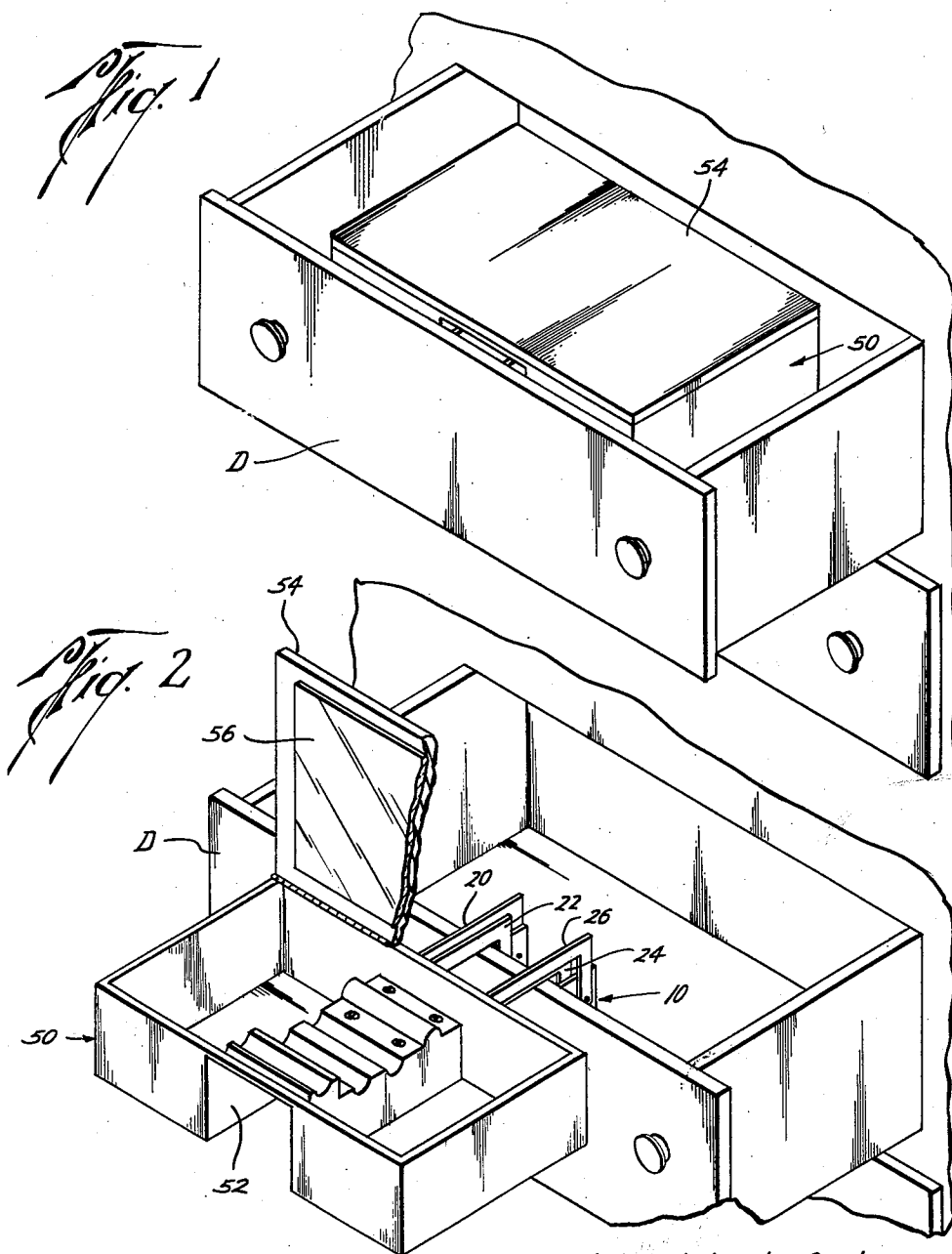
Dec. 25, 1962

H. J. COHN
SUPPORT MECHANISM FOR EXTENSIBLE AND RETRACTABLE
SHELVES AND THE LIKE

3,070,338

Filed June 9, 1960

2 Sheets-Sheet 1



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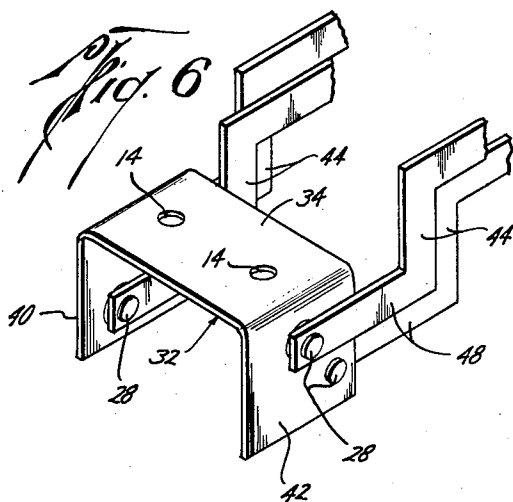
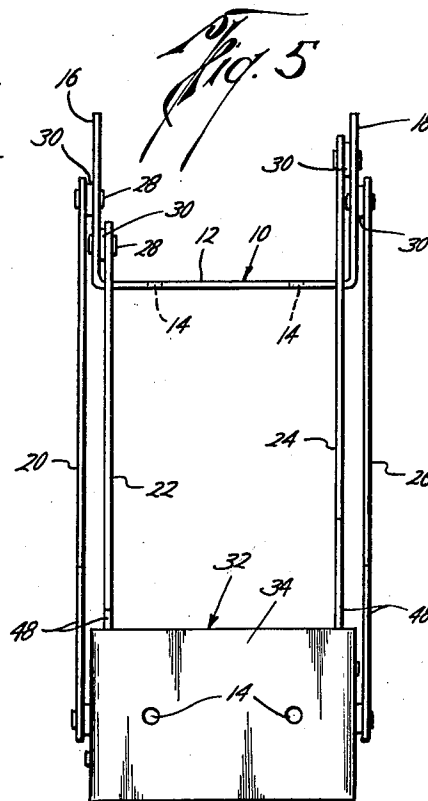
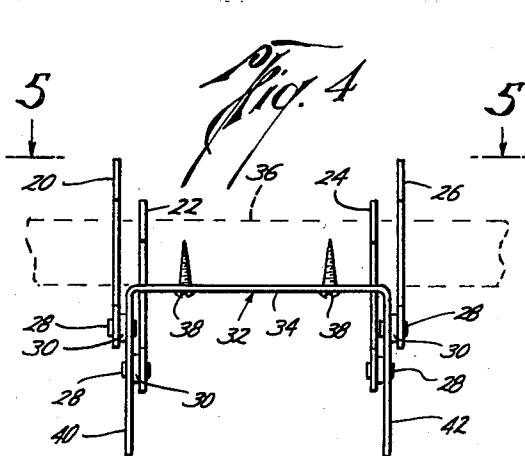
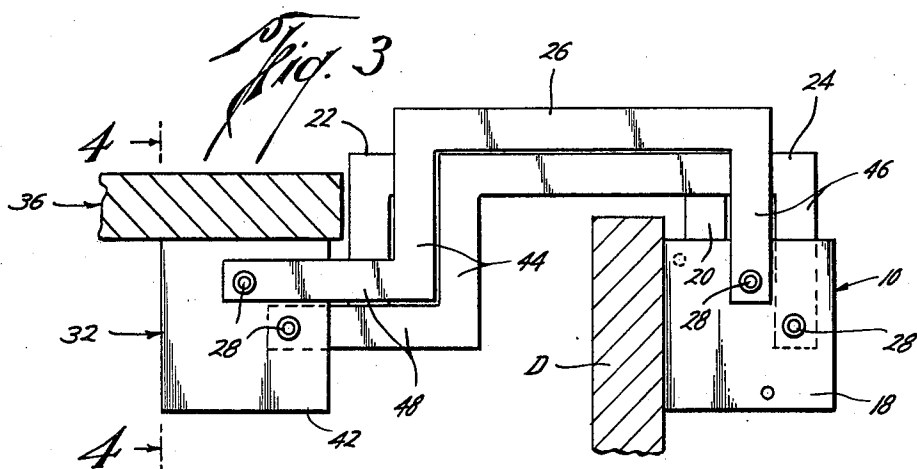
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SUPPORT MECHANISM FOR EXTENSIBLE AND RETRACTABLE SHELVES AND THE LIKE

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3 Claims. (Cl. 248-205)

This invention relates to furniture, and more particularly to support mechanism for use with a shelf, tray, or the like, which is to be attached to an article of furniture or other structure and by which the shelf or tray may be movably supported for movement to a retracted, out-of-the-way location, or to an extended position to hold any desired articles at a convenient location to be easily accessible to the user.

The invention is capable of use for a wide variety of different purposes and finds particular utility in connection with articles of furniture having drawers, such as bureaus or dressers, for the attachment thereto of a tray or shelf in a manner to permit the same to be moved to an extended position in front of the drawer for use as a vanity or the like, to hold any desired articles at a location for convenient access or to a retracted position within the drawer to be closed therein when the drawer is closed.

The invention has for an important object the provision of support mechanism for trays, shelves, or the like, to permit the same to be removed from a retracted to an extended location and by which the tray or shelf is maintained at all times in a horizontal position.

Another object of the invention is to provide a movable support for shelves, trays, or the like, which is designed as an attachment to be applied to articles of furniture to increase the utility of the same by extending the purposes for which such articles are employed.

A further object of the invention is the provision of support mechanism of the character referred to which is constructed to permit the easy movement of the shelf or tray from one position to another and to securely hold the tray in a horizontal position against wobbling or rocking movement.

A further object of the invention is to provide a combined support mechanism and shelf or tray, of the kind mentioned, which is of simple design and rugged construction having few parts, which is of economical manufacture and easily applied to or removed from the structure with which the same is to be used.

The above and other important objects and advantages of the invention may best be understood from the following detailed description, constituting a specification of the same, when considered in conjunction with the annexed drawings, wherein—

FIGURE 1 is a perspective view, illustrating a preferred embodiment of the invention attached to a drawer of an article of furniture showing the shelf or tray in its stored position within the drawer;

FIGURE 2 is a view similar to that of FIGURE 1 showing the shelf or tray in its extended position in front of the drawer for use as a vanity or other accessory to the article of furniture;

FIGURE 3 is a fragmentary, central, longitudinal cross-sectional view on a somewhat enlarged scale, of the invention as illustrated in FIGURE 2, showing details of structure of the support mechanism and its manner of attachment;

FIGURE 4 is an end elevational view of the support mechanism, illustrated in FIGURE 3;

FIGURE 5 is a top plan view of the support mechanism, as illustrated in FIGURE 3; and

FIGURE 6 is a fragmentary, perspective view of the end portion of the support mechanism of the invention, as

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illustrated in FIGURE 5, showing the end of the structure to which the tray or shelf is attached.

Referring now to the drawings in greater detail, the invention is illustrated herein in connection with its use as a support for a shelf or tray which is to be movably attached to a drawer D of an article of furniture, such as a bureau, dresser or chest of drawers, to permit the shelf or tray to be moved to a position within the drawer to be enclosed in the drawer when the drawer is closed, or to a position extending in front of the drawer for use as an accessory to the article of furniture when the drawer is opened.

The support structure of the invention, in the present illustration, includes a U-shaped bracket 10, formed of suitable material, such as sheet metal, and whose bottom wall 12 is perforated as indicated at 14 for the reception of screws or other suitable fastening means by which the bracket may be attached to the structure with which the device is to be used, such as the inside of the front wall of the drawer D, as best illustrated in FIGURE 3, with the arms 16 and 18 of the bracket positioned vertically and extending inwardly of the drawer away from the front wall thereof. The arms 16 and 18 of the bracket 10 are each provided with suitably spaced perforations for the pivotal attachment thereto of support members 20, 22, 24 and 26, as by means of bolts or rivets 28, which also extend through perforations located at the ends of the support members. Suitable spacers, such as the washers 30, may be provided, located between the ends of the support members and the arms of the bracket to space the support members slightly away from the arms to prevent rubbing of the support members on the arms.

A similar U-shaped bracket 32 is similarly connected to the other ends of the support members with the bottom wall 34 thereof positioned horizontally and provided with similar perforations 14, whereby a shelf 36 may be attached to the bracket 32, as by means of screws 38, to hold the shelf or tray in a horizontal position in all positions of the mechanism. The bracket 32 has arms 40 and 42 which are perforated at suitably spaced locations to receive rivets or bolts 28 which also pass through openings in the outer ends of the support members to pivotally attach the brackets 32 to the support members.

The support member 20, 22, 24 and 26 are all of identical construction, each having a main portion which is of inverted U-shape, having downwardly projecting arms 44 and 46, and the arms 44 are each provided with an outward extension 48 at the lower end. By so constructing the support members, the ends of the members may be attached to the brackets 10 and 32 at offset locations, as best seen in FIGURES 3, 4 and 5, whereby tilting or wobbling of the shelf or tray will be prevented, and the tray will be held in a horizontal position in all positions of the tray. The inverted U-shaped main portions of the support members also enable the bracket 10 to be positioned inside of the drawer D and below the upper edge of the front wall of the drawer, so that the entire support mechanism and shelf or tray may be moved into the drawer to its retracted position to permit the drawer to be closed to completely enclose the support mechanism and tray or shelf in the drawer in its stored position and to allow the tray or shelf to be moved to its fully extended position in front of the drawer with the support members extending over the upper edge of the front wall of the drawer, as shown in FIGURES 2 and 3.

The shelf or tray may be of any desired type, such as the box-like tray 50 illustrated in FIGURES 1 and 2, which is provided with a downwardly opening central recess 52, forming compartments in the interior of the tray and in which recess the bracket 32 is positioned. The tray 50 may conveniently be provided with a lid 54, to whose under side a mirror 56 is attached, so that when

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the tray is in its extended position, as illustrated in FIGURE 2, the lid 54 may be elevated to enable the device to be used as a vanity or similar accessory to the article of furniture.

By offsetting the perforations in the arms of the brackets 10 and 32, through which the rivets 28 are extended, the shelf may be swung upwardly from its extended or its retracted position to any desired extent, while still maintaining the shelf in a horizontal position, so that the shelf is not at any time tilted.

The support members may also be attached in staggered or longitudinal offset relation to the brackets, as clearly seen in FIGURE 5 of the drawings, to further stabilize the structure against wobbling. By forming the support members of suitable material, such as steel metal, the same can be very economically manufactured since all of the support members will be of identical construction.

It will thus be seen that the invention, constructed and applied as described above, provides an extensible and retractable support mechanism which is of simple design and which is easily attached to movably connect devices such as shelves, trays, or the like, to supporting structures, whereby the same may be moved to different positions to greatly increase the utility thereof.

It will be appreciated that the invention may be used in connection with any desired articles of furniture or other supporting structures and that other devices than shelves and trays may be movably supported thereby for movement to different positions and for other purposes, and that the invention is not to be limited to the precise construction and arrangement of the parts or to the specific purposes mentioned above, but is capable of various modifications within the spirit of the invention and the scope of the appended claims.

Having thus clearly shown and described the invention, what is claimed as new and desired to secure by Letters Patent is:

1. Mechanism for movably supporting an object having a flat upper surface from a supporting structure having a vertically disposed wall for vertical swinging movement into and out of positions on opposite sides of the wall with said upper surface extending horizontally comprising elongated support elements having downwardly extending end portions positioned to extend downwardly on opposite sides of the wall, means for pivotally connecting the elements at one end to the structure on one side of the wall at horizontally and vertically spaced loca-

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tions for vertical swinging movement and means for pivotally connecting the elements at their other ends to the object at horizontally and vertically spaced locations with said upper surface located horizontally.

2. Mechanism for movably supporting an object having a flat upper surface from a supporting structure having a vertically disposed wall for movement into and out of one position on one side of the wall with said surface below the upper edge of the wall and another position on the other side of the wall with said surface below said edge comprising pairs of elongated support elements each having downwardly extending end portions positioned to extend downwardly at both sides of the wall when the object is in said other position, means for pivotally connecting the elements at one end to the supporting structure on said one side of the wall at longitudinally and vertically spaced locations and means for pivotally connecting the elements at their other ends to said object at longitudinally and vertically spaced locations.

3. Mechanism for movably supporting an object having a flat upper surface from a supporting structure having a vertically disposed wall for movement into and out of one position on one side of the wall and to another position on the other side of the wall, comprising pairs of elongated support elements each having end portions positioned to extend on each side of the wall when the object is in said other position, means for pivotally connecting the elements at one end to the supporting structure on said one side of the wall at longitudinally and vertically spaced locations and means for pivotally connecting the elements at their other ends to said object at longitudinally and vertically spaced locations, each of said elements having an upwardly offset portion mediate its ends positioned to extend over said edge to allow said surface to be positioned below said upper edge when said object is in said other position.

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