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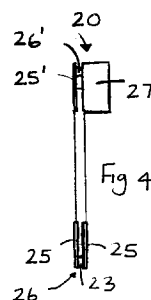
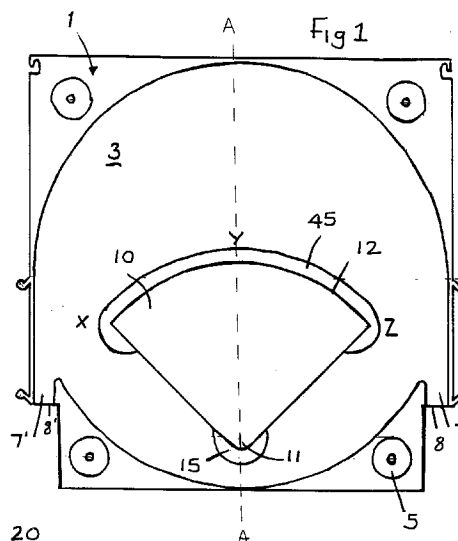
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(54) **Mounting for a roller assembly.**

(57) A mounting is provided for securing a roller shutter at an appropriate opening, such as in a cabinet. The mounting comprises a pair of brackets for securing on respective walls of the cabinet interior near the top of the opening. The roller shutter is mounted to each bracket 1 by way of an arm 20 which has an aperture 28 for engaging a spindle of a roller core. Each arm 20 is pivotally mounted in an aperture 10 in a bracket. The arm 20 is capable of tilting under the influence of the weight of shutter drawn from the roller so as to displace the core of the roller towards the opening (8 or 8'). In this way, the shutter assembly may be used effectively without the need for a separate guide roller for guiding passage of shutter from a storage roller to the opening.



This invention relates to mountings and brackets for a roller assembly of the kind commonly found in shuttered cabinets and similar structures.

Roller assemblies for cabinets in which a slatted shutter or the like is arranged for covering an opening in the cabinet, are well known. The shutter is wound onto a core of a storage roller and arranged such that it is capable of being drawn therefrom over the cabinet opening into a closed position, and of being wound back onto the core of the storage roller into an open position.

For such applications, the shutter is typically wound on a storage roller which incorporates a cross sectionally square ended spindle. The spindle is spring biased rotationally so that it will contribute to winding up of the shutter.

In such a cabinet the edges of the shutter covering the opening of the cabinet are generally accommodated in guide tracks, running alongside this opening. The storage roller core, which is quite bulky, will generally be fixedly mounted in the top of the cabinet and offset from the opening. A separate guide roller is usually disposed at the top of the cabinet and adjacent the opening. The guide roller assists engagement of the shutter in the guide tracks alongside the cabinet opening as the shutter is wound from and onto the storage roller core.

Thus, when constructing such cabinets, it is often necessary to install both a storage roller and a guide roller in order to ensure smooth running of the shutter in its guide tracks alongside the opening. However, the need for both a guide roller and a storage roller may make installation time consuming and complicated. It also adds to the bulkiness of the shutter assembly. In many applications it would be desirable to reduce the bulk of the shutter assembly, so as to leave more useful space available inside the cabinet.

The present invention seeks to alleviate such problems by providing a mounting for a roller assembly which may be relatively compact and easy to install. The invention also seeks to provide a mounting which may assist in guiding the path of the shutter released from the storage roller.

Accordingly, in one aspect the present invention provides a mounting for securing a roller shutter at an opening, the mounting comprising first and second brackets to be secured near the opening and means for mounting a core of a roller shutter between the brackets, characterised in that the mounting means are arranged to effect displacement of the roller core with respect to the brackets and towards or away from the opening as the shutter is respectively drawn from and onto the roller core.

Typically a mounting means is arranged to engage a spindle of the core of a storage roller.

Suitably, in use, the first and second brackets will be arranged spaced apart along a common axis and

at the top of an opening.

In preferred embodiments the means for mounting the core of the roller are arranged to be pivotally movable about an axis offset from the axis of the core. Preferably, means are also provided for limiting the extent of displacement of the roller core suitably by limiting the extent of pivotal movement of the mounting means.

Thus, in particularly preferred embodiments the present invention provides a mounting for a roller shutter, the mounting comprising first and second brackets and respective means for mounting a spindle of a storage roller for the shutter on each said bracket, said mounting means being pivotally movable about an axis offset from the spindle and arranged so as to effect displacement of the spindle with respect to said brackets as the shutter is wound from and/or onto the storage roller.

Thus, in embodiments of the invention winding the shutter from or onto the storage roller is effective to actuate displacement of the core/spindle of the roller. The mounting means are suitably capable of rocking or tilting under the influence of the relative weight of shutter wound from the core of the storage roller and the weight of the shutter carried on the core, so as to effect generally angular displacement of the core/spindle of the roller.

In preferred embodiments the mounting means is in the form of an arm having a proximal end which is pivotally mountable to a bracket and a distal end which may carry the core of the roller. The arm is conveniently arranged to be pivotable about an axis generally parallel to the core of the roller, in use. In this way the core of the roller may be displaced through an arc which is concentric with the proximal end of the mounting means.

Suitably, in use the mounting will be located in a cabinet or the like so that, as shutter is drawn from the storage roller, the core of the roller may be urged towards the cabinet opening as the mounting means tilt under the influence of the weight of shutter drawn therefrom. By displacing the core of the roller towards the cabinet opening, this allows the storage roller to also perform the functions of the guide roller as discussed above.

In this way, in embodiments of this invention a separate guide roller may be dispensed with, thus resulting in a more compact mounting for the roller shutter. Avoiding the need for a separate guide roller can also result in a mounting which is comparatively easy to install.

Suitably, the means for mounting the spindle on a bracket are adapted to engage a spindle which is spring biased in the rotary sense so that it will contribute to winding up of the shutter. Typically, the mounting means are adapted to engage a square ended such spindle. In this respect, the mounting means are suitably arranged so as to tilt away from

the cabinet opening as shutter is wound onto the storage roller.

In cases where a roller having such a self-winding mechanism is employed, suitably locking means are provided to secure the shutter in the desired unwound position. Such locking means need not form part of the mounting.

In preferred embodiments the means for mounting the core of a roller between the brackets are releasably securable to a, suitably each, bracket. In particularly preferred embodiments the means for mounting the core/spindle of the roller on a bracket are releasably accommodated in a well in the bracket. This well may take the form of an aperture or recess in the bracket, for example.

Conveniently, such a well is in the form of an aperture between two opposing faces of a bracket. In this regard, preferably the mounting means have flanges to overlie one or both of said faces of the bracket at the aperture so as to resist inadvertent release of the mounting means from the bracket, or any undesirable axial displacement of the mounting means. Rebating of the bracket adjacent the aperture may also be useful to assist engagement of the mounting means in the bracket. In preferred embodiments mounting means are accommodated in a sectorial well, the walls of such well limiting the extent of pivotal movement of the mounting means.

In some preferred embodiments a face of a bracket is provided with a recess of a shape essentially matching that of the outer periphery of the shutter when wound on the core of the roller. In this way, the recess in the bracket may accommodate an edge of the wound roller shutter. The walls of such a recess may also act as a guide to assist smooth winding of the shutter onto and from the roller.

Preferably a bracket of such a mounting includes a guide track which defines a path for the shutter released from the storage roller, and the mounting means are arranged so as to allow displacement of the roller core towards the guide track as shutter is wound from the roller. It is particularly preferred for each bracket to include two guide tracks which are spaced apart and for the mounting means to be adapted so as to be pivotally movable to displace the core towards either selected guide track. In this way, the brackets may be effectively reversible, for mounting on either a left hand or right hand wall of a cabinet, for example.

In particularly preferred embodiments the brackets are moulded from plastics materials and preferably also provided with integral guide tracks as described above. In some preferred embodiments a bracket is moulded with a recess to accommodate an end of a roller shutter and the recess is arranged to communicate with two guide tracks as described above.

In further aspects the present invention provides

brackets and mounting means for use in a mounting as aforesaid. The invention also provides a roller shutter assembly comprising a mounting as aforesaid having a roller shutter mounted therein.

Embodiments of the present invention will now be described in more detail, by way of example, with reference to the accompanying drawings in which:

Fig. 1 is a side elevational view of a bracket according to one embodiment;

Fig. 2 is a section along A-A in Fig. 1;

Fig. 3 is a front elevational view of a mounting means for use with the illustrated bracket; and

Fig. 4 is a side elevational view of the Fig. 3 mounting means.

In more detail, Fig. 1 shows a bracket 1 which has one face rebated at 3 to provide a generally circular recess for accommodating a storage roller of a shutter (not illustrated). The recess 3 is selected to be of a shape generally matching that of the outer periphery of the shutter when wound on the roller core.

In use, an assembled mounting would contain two such brackets, spaced apart about a common axis to face one another, and preferably secured together by rods or similar at apertures 5 which would extend along the length of the mounting. The brackets would be arranged with recesses 3 facing one another and with the shutter storage roller accommodated between them. It is envisaged that the mounting would be pre-assembled in this way, before being secured to a cabinet or the like.

Typically runners will be provided on cabinet walls to engage surface formations of these brackets. In this way the mounting may be slid into position near the cabinet opening. However, various other methods may be employed for securing the bracket in position.

Each bracket 1 also includes guide tracks 7 and 7' having openings 8 and 8' respectively for shutter released from the storage roller. In use, the guide tracks 7 and 7' would match up with/communicate with similar tracks alongside the cabinet opening.

The illustrated bracket 1 includes a well in the form of a substantially sectorial aperture 10 between opposing faces of the bracket. The sectional aperture 10 has a rounded base 11 and arcuate sweeping edge 12. The bracket 1 is also rebated at 15 adjacent the base 11 and at 45 adjacent edge 12 of aperture 10. This is shown more clearly in Fig. 2.

Turning now to Fig. 4 this shows a mounting means in the form of an arm 20. The arm 20 has at its proximal end an arcuate base 23 located between spaced arcuate flanges 25. The arm 20 also has, at its distal end, a head 27 provided with a square aperture 28 to engage a square spindle of a core of a storage roller. The roller is of the type which is spring biased rotationally to assist winding up of the shutter. Spaced from head 27 is a flange 25'.

The arcuate flanges 25 at the base 23 of arms 20 are spaced apart to define a channel 26 for accom-

modating the rounded base 11 of the sectorial aperture 10 in the bracket 1. Also, the head 27 and a flange 25' of the arm 20 provide a second channel 26' for engaging the bracket 1 at arcuate edge 12. In use, when the arm 20 is mounted in aperture 10, the various flanges 25, 25' serve to resist inadvertent axial displacement of the arm 20.

It will be appreciated that, in the absence of a storage roller, when the arm 20 is located in the sectorial aperture 10 in the bracket 1, with base 23 of the arm 20 resting on base 11 of the aperture 10 in the bracket, the mounting means 20 is tiltable between positions X and Z as shown on Fig. 1. Thus, the arm 20 can freely pivot or tilt through an angle of about 90° in the illustrated embodiment. The extent to which the arm 20 can pivot with respect to the bracket is determined by the shape of the aperture 10.

In use, arm 20 is engaged in sectorial aperture 10 of a bracket 1, as described above. A square ended spindle of a storage roller for a shutter is inserted in aperture 28 of the arm 20. At this stage, the arm 20 will be arranged generally upright, with its head 27 near to but slightly offset from position Y in Fig. 1, so that it is biased towards the desired X or Y position. The storage roller of the shutter will substantially fill the rebated area 3.

The end of the shutter will then be threaded through opening 8 or 8' of a guide track 7, 7' of the bracket 1, as appropriate depending on the location of the opening in the cabinet. This mounting procedure will be effected for both ends of the spindle of the storage roller i.e. each end of the spindle will be attached to a mounting means 20 which will be accommodated in a bracket 1.

In use, the shutter will be drawn through opening 8' or 8 in guide tracks 7' or 7 respectively. As the shutter is pulled down through this opening 8', 8 the weight of shutter released from the storage roller increases and the relative weight of shutter remaining on the storage roller likewise decreases. As this happens, under the influence of the weight of the released shutter, the arm 20 of the mounting means will tilt from position Y towards the opening 8' or 8 from which the shutter is drawn. In this way, displacement of the mounting means 20 serves to urge the shutter towards the appropriate guide track 7', 7.

Once the maximum amount of the shutter has been released from the storage roller the arm 20 will come to rest at position X or Z, as appropriate. Thus, as the shutter is unwound from the storage roller, the mounting means urges the shutter towards the appropriate opening 8', 8. This in turn helps to maintain the unwound shutter in engagement with the matching guide tracks alongside the cabinet opening. Locking means are provided in the cabinet to secure the shutter in its unwound position against the bias of the self-winding mechanism in the roller.

To wind the shutter back on to the storage roller,

the locking means are released and the spring bias means for the spindle of the storage roller are actuated so that the roller will rotate and draw the shutter onto it. As this happens, the effective diameter of the roller core and shutter carried on it increases. The relative weight of the shutter mounted on the storage roller also begins to increase and the relative weight of shutter released from the storage roller decreases. This actuates movement of the mounting means 20 from the extreme positions X or Z of the sectorial aperture 10 towards its central or rest position Y.

Thus, the present invention provides a particularly compact mounting for a roller assembly for a cabinet or the like, by avoiding the need for a separate guide roller. This mounting can be expected to be relatively simple to construct and to install into a cabinet.

It will be appreciated that many modifications of the illustrated embodiment are possible. For example, whilst the embodiment relates to a roller covering for a cabinet, clearly the invention is applicable to other items of furniture and indeed to other forms of opening. Also, the invention is applicable to roller assemblies other than the slatted shutter type.

It will also be appreciated that the precise shape of the brackets and mounting means may differ from those illustrated. Also, if desired, the mounting means may be secured to the bracket by a pivotal connection, rather than being releasably accommodated in the bracket as illustrated.

Claims

1. A mounting for securing a roller shutter at an opening, the mounting comprising first and second brackets and means for mounting a core of a roller shutter between the brackets, characterised in that the mounting means are arranged to permit displacement of the roller core with respect to the brackets and towards the opening under the influence of the weight of shutter drawn from the roller.
2. A mounting according to Claim 1 wherein the mounting means for the roller core are adapted to engage a spindle of a roller which is spring biased in the rotary sense to contribute to winding up of the shutter.
3. A mounting according to Claim 1 or 2 wherein the mounting means for the roller core are arranged to be pivotally movable about an axis offset from the core so as to effect angular displacement of the roller core as shutter is drawn therefrom.
4. A mounting according to Claim 3 having means for limiting the extent of angular displacement of the roller core.

5. A mounting according to Claim 4 wherein a bracket has a sectorial well and a mounting means for the roller core comprises an arm accommodated in the well and arranged to be pivotally movable between radii of the well so as to effect angular displacement of the roller core. 5
6. A mounting according to Claim 5 wherein the arm has one or more flanges arranged to overlie the bracket at the well so as to resist release of the arm from the bracket. 10
7. A mounting according to any preceding claim wherein the mounting means for the roller core are releasably securable to a bracket. 15
8. A mounting according to any preceding claim wherein a bracket is recessed to accommodate an edge of a roller core and shutter wound thereon. 20
9. A mounting according to any preceding claim wherein a bracket includes a guide track which defines a path for the shutter released from the roller core and the mounting means are arranged to allow displacement of the core of the roller towards the guide track as shutter is unwound therefrom. 25
10. A mounting according to Claim 9 wherein a bracket includes two spaced guide tracks and the mounting means for the roller core are adapted to permit displacement towards either selected guide track. 30

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