March 26, 1935. C. J. HESSE 1,995,983

SUPPORTING BRACKET FOR BLINDS AND THE LIKE

Filed April 3, 1933 2 Sheets-Sheet 1

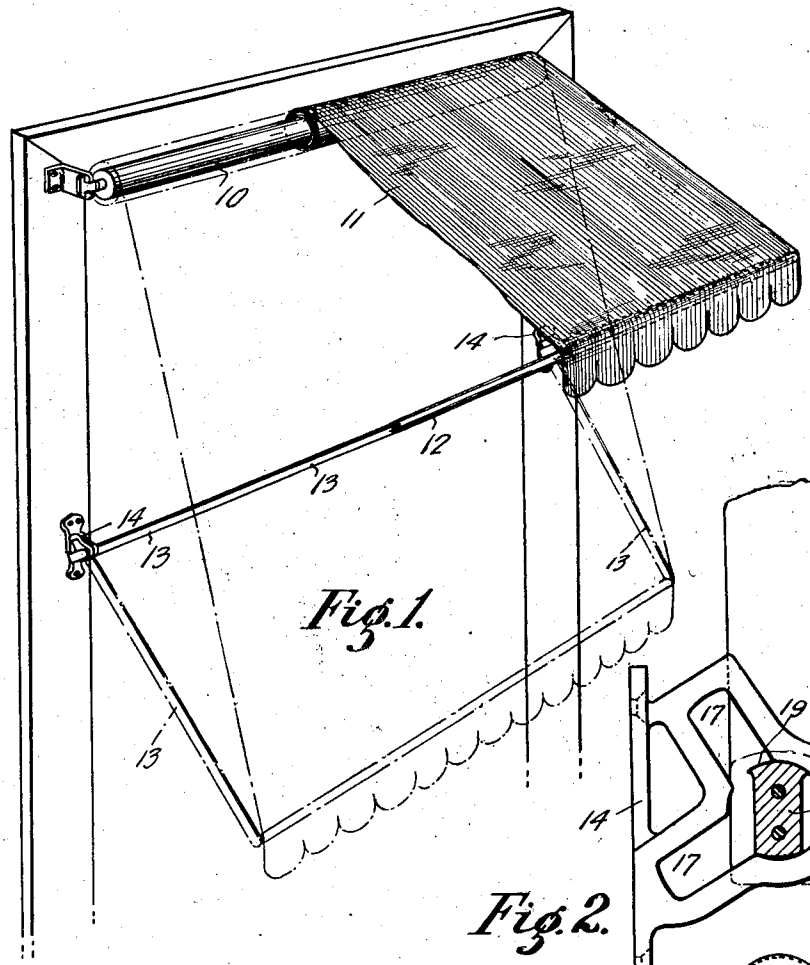


Fig. 1.

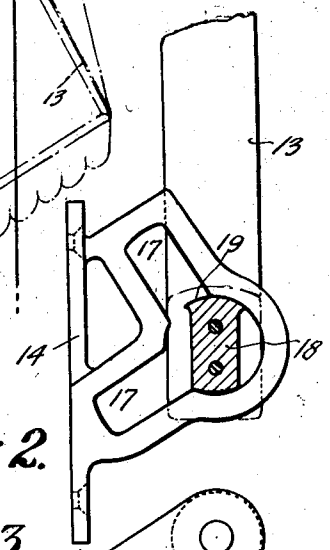


Fig. 2.

Fig. 3.

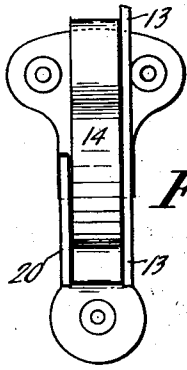
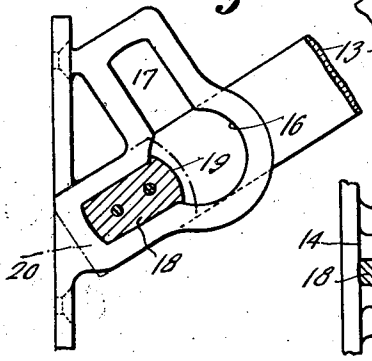


Fig. 4.



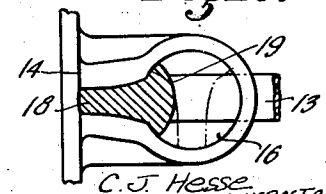


Fig. 10.

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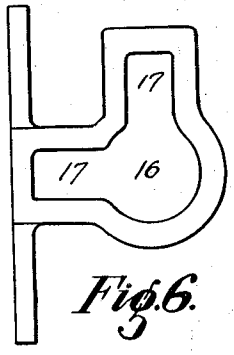

Fig. 6.

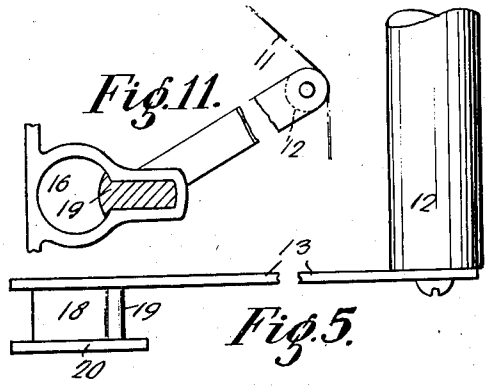

Fig. 11.

Fig. 5.

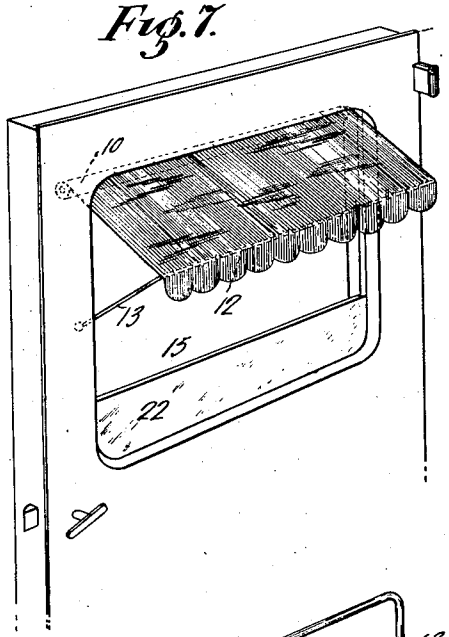

Fig. 7.

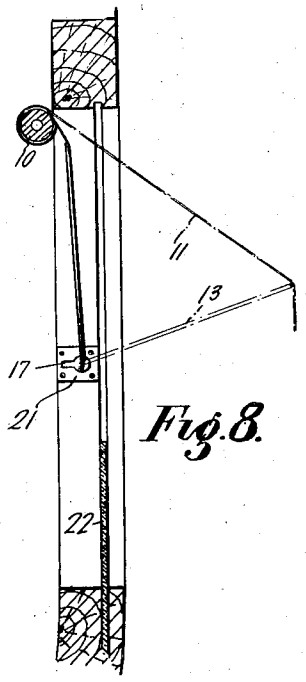

Fig. 8.

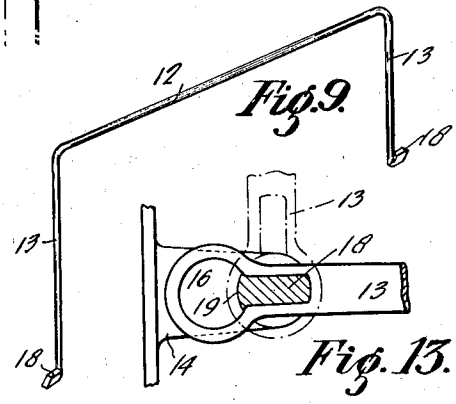

Fig. 9.

Fig. 13.

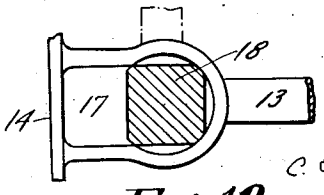

Fig. 12.

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UNITED STATES PATENT OFFICE

1,995,983

SUPPORTING BRACKET FOR BLINDS AND THE LIKE

Charles Joseph Hesse, Footscray, Victoria, Australia

Application April 3, 1933, Serial No. 664,280
In Australia April 14, 1932

12 Claims. (Cl. 156—44)

This invention relates to improvements in and connected with supporting brackets for blinds and the like and has been devised particularly for outwardly and downwardly inclined sun blinds such as those used in small sizes for the windows of sedan automobiles and in larger sizes above windows, porches and the like, of buildings.

The invention broadly consists in attaching a portion of a blind or the like to a pivoted member and in providing the pivotal support for the member with non-circular interlocking members which may be engaged at one or more predetermined positions to prevent relatitve movement therebetween, and retain the said pivoted member in adjusted positions corresponding thereto.

In one form of the invention, the pivoted member for the blind is provided with a pivot pin having a relatively narrow tongue which is mounted in a bearing having one or more substantially radial slots adapted to accommodate the said tongue of the pivot pin at the said predetermined locking positions whereby the blind will be firmly supported in such operative positions.

The engagement between the interlocking members is thus effected by causing a lateral displacement of the pivotal axis of the said pivoted member.

Ordinarily the blind is mounted on a spring roller whereby, after being unwound therefrom, it is automatically rewound thereon when the retaining means is released and the lower end of the blind is connected to a transverse rod fitted to the free ends of a pair of spaced and aligned arms having interlocking members constituting their pivotal supports and being so arranged that the tension exerted on the blind by the roller tends to automatically lock the arms in their operative positions.

It will be understood that the interlocking members may be so arranged that the supporting arms may be securely retained in one or more alternative positions.

In the drawings which illustrate preferred forms of the invention by way of example:—

Figure 1 is a view in perspective showing a blind support constructed in accordance with the present invention and fitted to the window of a building.

Figure 2 is a detail view to a larger scale showing one of the pivoted arms and a bearing bracket therefor.

Figure 3 is a view similar to Figure 2 showing the pivoted arm locked in an operative position.

Figure 4 is a view in end elevation of the bearing bracket shown in Figure 3.

Figure 5 is a view in plan of the supporting arm.

Figure 6 is a view in side elevation showing a bearing bracket of somewhat modified form.

Figure 7 is a view in perspective showing the device fitted to the window opening of an automobile.

Figure 8 is a view in sectional side elevation of the arrangement shown in Figure 7.

Figure 9 is a view in perspective of the pivoted supporting frame shown in Figures 7 and 8.

Figures 10 to 13 are detail views showing modifications of the invention and hereinafter are fully described.

Referring to Figures 1 to 5 of the drawings, the reference numeral 10 designates a blind roller of any suitable construction provided internally with a torsion spring or with other means (not shown) for normally maintaining a blind 11 in a wound condition thereon.

The free end of the blind 11 is fitted with a rod 12 formed of any material and rigidly or rotatively connected at its ends to the free ends of a pair of pivoted arms 13 mounted in bearing brackets 14 secured in horizontal alignment on opposite sides of a window opening 15.

The bearing brackets 14 are each provided with a circular bearing opening 16 having a pair of angularly disposed radial slots 17 communicating therewith.

Pivot blocks 18 are rigidly connected to the inner ends of the arms 13 and these blocks are of substantially rectangular shape in cross section as clearly shown in Figure 3 of the drawings where it will be noted that the width of the blocks 18 is such as to enable them to pass neatly into the slots 17 of the bearing brackets.

The shorter faces of the pivot blocks are preferably rounded to conform to the curvature of the bearings 16 and the faces 19 remote from the inner ends of the arms may be somewhat wider than the slots 17 in order to increase the bearing surface and to prevent those ends from entering the said slots.

Keeper plates 20 are fitted to the outer faces of the pivot blocks 18 to retain the arms securely in position on the bearing brackets.

It will be clearly understood from an inspection of Figures 1 and 2 that, when the blind 11 is not in use, the arms 13 project vertically upwards from the bearing brackets and that the transverse rod 12 at the lower end of the blind

11 is disposed substantially in contact with the portion of the blind wound on the roller 10.

When it is desired to use the blind the latter is pulled downwards and outwards so that it is unwound from the roller 10 against the action of the spring therein.

During this movement the arms 13 swing outwards until they reach the position indicated in full lines in Figures 1 and 3 at which positions the pivot blocks 18 align with the lower slots 17 in the bearing brackets.

Owing to the fact that a component of tension exerted by the blind 11 is directed along the arms 13, the pivot block 18 tends to automatically enter this slot 17 as shown in Figure 3, thus preventing further angular movement of the said arms.

The tendency of the pivot block to enter the slot 17 is ordinarily increased by the pull exerted manually on the rod 12 in order to unwind said blind from the roller 10.

In order to restore the blind to its inoperative or raised position, it is merely necessary to exert an outward pressure on the transverse rod 12 thus moving the arms 13 outwards so that the pivot members are returned to the circular bearing openings 16 after which, upon releasing the said transverse rod the blind is automatically rewound on the roller 10.

The blind 11 may similarly be moved into and retained in the position shown in broken lines in Figure 1 and in this position the pivot blocks 18 are accommodated in the upper slots 17 in the bearing brackets 14. It will be clear that the tension of the blind 11 assists in retaining the pivot blocks in engagement with these upper slots and also that, in order to lower the arms 13 into the position corresponding thereto, it is necessary to exert an outward pressure on the said arms when they are disposed in positions at which they align with the lower slots 17 in the bearing brackets.

It may be remarked that, by causing the arms 13, when in their lowermost positions, to be disposed at an angle to the vertical, as shown in Figure 1, the lower end of the blind stands out somewhat from the window, thus facilitating ventilation.

Figure 6 shows a modified arrangement of bearing bracket which is provided with a horizontal and with a vertical slot 17 so that the arms 13 may be retained in corresponding positions—i. e. with the blind inclining downwards approximately at an angle of 45° or disposed approximately parallel with the window opening.

It will be understood, however, that the slots 17 in the bearing brackets may be arranged at various angles to suit different purposes and that more than two of such slots may be provided when it may be desired to retain the blind 11 in intermediate positions.

It will be noted in Figure 6 that the flange of the bracket is slotted in alignment with the horizontal slot 17 in order to receive and support the inner ends of the pivoted arm 13 and keeper plate 20 when the arm is locked in its horizontal position.

Figures 7 to 9 illustrate the invention as applied to a motor vehicle and it will be noted that, in this construction, the arms 13 are formed integrally with the transverse rod 12 thus providing a light metal frame of inverted U shape having integral outwardly turned trunnions 18 of rectangular shape at the ends thereof.

Bearing plates 21 provided with openings of keyhole shape are fitted to both sides of the window opening 15 to receive the trunnions 18 which are adapted to be sprung into position.

The slots 17 in the bearing plates are disposed horizontally, as shown in the drawings, whereby the arms 13 and blind 11 may be automatically retained in the position shown in Figure 7, although, if desired, further slots may be provided for retaining the blind in other positions.

In lieu of providing separate bearing plates 21, the bearing openings for the trunnions 18 may be formed in the adjacent portions of the window frames.

It will be apparent that, when the blind is not in use, the window 22 may be closed in the usual way and that, when in that position, the blind does not obstruct the vision of the occupants of the vehicle.

If desired, the arms 13 may be swung inwards into the vehicle as well as outwards, in order that the blind may be pulled right down to cover the window opening, suitable slots 17 being provided to lock the arms in such downwardly directed attitudes.

It will be clear that it is not essential for the sides of the slots 17 to be straight or parallel; for example, in the modification illustrated in Figure 10, the pivot block is formed with a tongue having sides of concave formation and the sides of the slots 17 are correspondingly shaped. Also, while it is preferred to so arrange the pivot block 18 and the slots 17, that the tension exerted by the blind 11 will tend to cause the pivot block to enter a slot 17 when same are in alignment, it is possible to arrange said slots in different positions, such for example as that shown in Figure 11.

In this construction, it is necessary to pull the blind or the arms 13 outwards in order to cause the pivot block to enter the slots 17, the frictional resistance of said pivot block being sufficient to retain it in that position.

Figure 12 shows a still further modified form of the invention wherein the pivot block is substantially square in cross section and formed with rounded edges to conform to the curvature of the bearing opening 15. By means of this arrangement, one slot 17 will serve to lock the arms 13 in two positions at right angles to each other, as clearly shown in Figure 12.

Figure 13 shows a further modification wherein the pivot block 18 is fixed to the window structure and the bearing slot is formed in the inner end of the arm 13.

Roller blind mechanism constructed as above set forth, when fitted to automobiles, does not chatter or vibrate unduly either in its operative or in its inoperative position, while in addition it presents an attractive appearance in both positions.

Whilst the supporting means of the present invention are primarily intended for use in conjunction with blind rollers fitted with torsion springs or other equivalent means, it will be clear that they may be used independently of such roller mechanism provided that a tension is applied to the blind by suitable means.

It will be clear that, in certain cases, it may be found advantageous to mount the blind roller 10 at an angle to the horizontal and that, if desired, the blind 11 may extend upwardly from the roller.

I claim:—

1. In supporting means for blinds and the like, a blind roller provided with resilient means for automatically winding a blind thereon, a pair

of spaced and aligned arms pivoted adjacent to the roller, a cross member connecting the said arms and having the free end of the blind attached thereto, substantially rectangular pivot pins on the arms and bearings for the pivot pins having one or more radial slots communicating with the bearing openings therein and of corresponding width to said pivot pins and said bearing corresponding in diameter to the width of the said substantially rectangular pivot pins.

2. In supporting means for blinds and the like according to claim 1, an enlarged edge on each of the pivot pins of greater width than the said slots in the bearings thus preventing said edge from entering the said slots.

3. In supporting means for blinds and the like, a pivoted arm having a blind connected to the free end thereof, a laterally extending pivot pin of substantially rectangular cross section at the opposite end of the pivot arm, said pivot pins being received in a bearing corresponding in diameter to the width of the rectangular pivot pin and being provided with one or more radially disposed slots corresponding in width to the thickness of said pivot pin, and a keeper plate fitted to the free end of the pivot pin whereby the said bearing is disposed between the keeper plate and the pivoted arm.

4. Supporting means for blinds and the like according to claim 12, wherein the pivoted arms and the connecting cross member are formed integrally.

5. Supporting means for blinds and the like according to claim 12 wherein the tension exerted by the blind tends to lock the supporting arms in their operative positions.

6. Supporting means for blinds and the like according to claim 1 wherein the bearings for the pivot pins are each provided with a pair of radial slots disposed approximately at right angles to each other.

7. Supporting means for blinds and the like according to claim 11 wherein the pivot pin is of substantially rectangular shape in cross section and is disposed longitudinally of the pivoted arm and each slot in the bearing also extends longitudinally of said arm, when the latter is disposed in its operative position with respect thereto.

8. Supporting means for blinds or the like according to claim 11 wherein the pivot pin is of substantially rectangular shape in cross section and is disposed obliquely with respect to the axis of the pivoted arm.

9. Supporting means for a blind or the like according to claim 11 wherein the pivot pin is substantially square in cross section.

10. In supporting means for blinds and the like, a blind roller provided with resilient means for automatically winding a blind thereon, an inverted U-shaped bracket pivotally mounted adjacent to the roller and having the free end of the blind fitted thereto, trunnions of approximately rectangular shape in cross section on the U-shaped bracket, and bearings for the trunnions corresponding in diameter to the greatest width of the trunnions and having rectangular slots communicating therewith and corresponding in width to the thickness of said trunnions.

11. In supporting means for blinds and the like, a pivoted arm connected to a blind, a support for the pivoted arm and a pivotal connection between the arm and support and comprising a non-circular pivot pin having an opposed pair of substantially straight and substantially parallel sides, said pivot pin being adapted to engage a bearing opening corresponding in diameter to the greatest width of the pivot pin and said bearing opening having one or more substantially radial slots communicating therewith, said slots being adapted to be engaged by the pivot pin in order to lock the pivoted arm in position corresponding thereto.

12. In supporting means for blinds and the like a pair of spaced and aligned arms, a cross member connecting outer portions of said arms, a blind connected to said cross member, non-circular pivot pins on the arms, fixed bearing members having circular bearing openings corresponding in diameter to the greatest width of the pivot pins and slots extending substantially radially from the bearing openings and communicating therewith, said pivot pins being adapted for lateral displacement whereby they will extend into said slots and lock the pivoted arms in position corresponding thereto.

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