Dec. 27, 1932. B. F. WALKER 1,892,558

SUNSHADE FOR AUTOMOBILES

Filed Nov. 10, 1930 2 Sheets-Sheet 1

Fig. 1

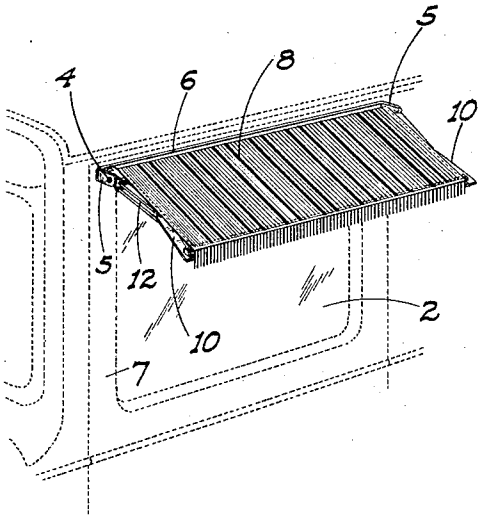


Fig. 2

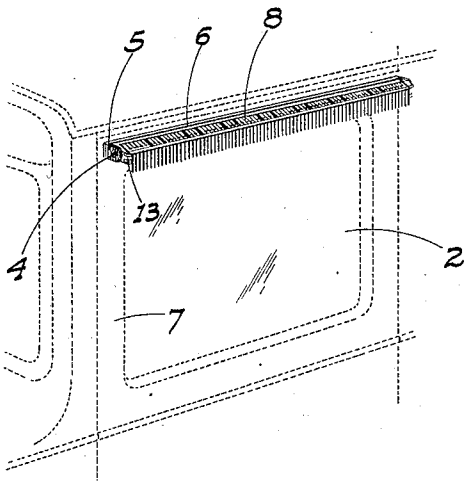


Fig. 6

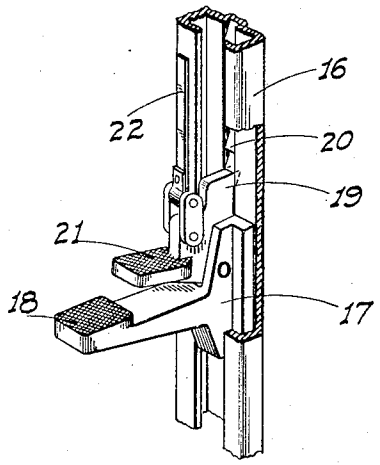
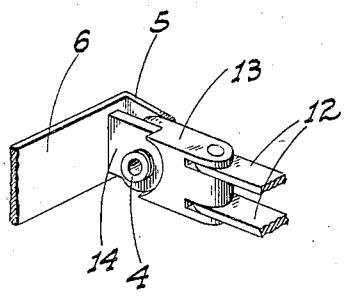


Fig. 7



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SUNSHADE FOR AUTOMOBILES

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Fig. 3

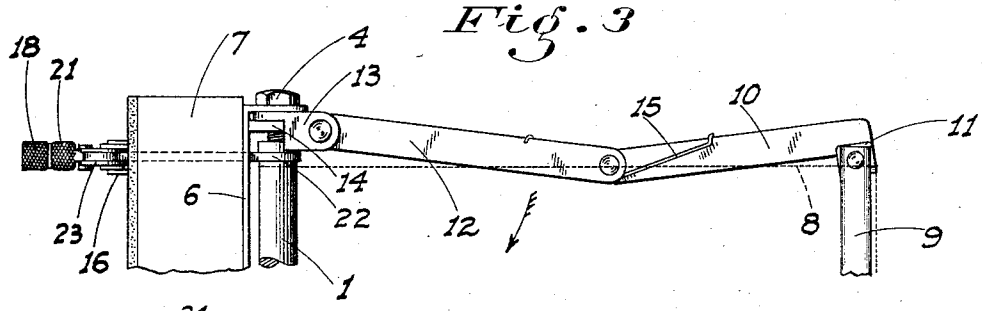


Fig. 4

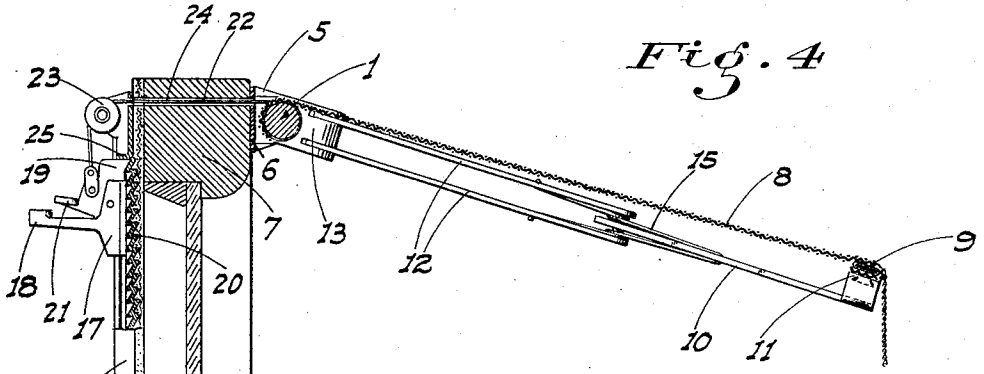
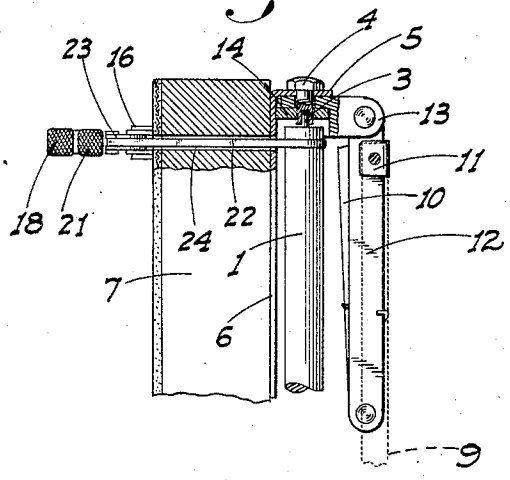


Fig. 5



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Patented Dec. 27, 1932

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UNITED STATES PATENT OFFICE

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SUNSHADE FOR AUTOMOBILES

Application filed November 10, 1930. Serial No. 494,480.

This invention relates to sunshades or awnings for the windows of automobiles and which are used to keep the rays of the sun from directly striking the occupants of the car without necessitating the pulling down of the interior window shades or curtains if any.

The principal objects of my invention are to provide a sunshade structure of this general character which may be easily applied to any door or body window of a car; one which may be adjusted as to its projecting extent from the interior of the car without opening the window; one which may be readily adjusted to be set at different angles to a horizontal plane without interfering with the first named adjustments; and one which when not in use may be folded up in a compact form so as to project but slightly from the car and which whether folded or unfolded will present a neat and attractive appearance.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a fragmentary perspective view of an automobile showing my improved shade as applied thereto and in its fully extended position.

Fig. 2 is a similar view showing the shade folded or rolled up.

Fig. 3 is a top plan view of one end of the shade supporting means extended with the shade itself removed.

Fig. 4 is a transverse section of the extended shade and the control means for the shade roller.

Fig. 5 is a view similar to Fig. 3 showing the shade supporting means folded or collapsed.

Fig. 6 is a fragmentary perspective view of a slide rack and finger pawl unit.

Fig. 7 is a fragmentary perspective view showing the mounting means for the shade-roller and the shade supporting arms.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the shade roller which extends substantially the full length of the window 2 to which it is to be applied. The roller is provided with end spindles 3 which engage sockets provided in the adjacent ends of screws 4 which are adjustably mounted in bracket ears 5 for a purpose which will be seen later. When the structure is built into cars at the factory these ears could be integral with or permanently mounted on the body or door sheathing, but when applied to cars already out said ears are rigidly connected together by a plate 6 which is screwed or otherwise fastened onto the door 7 or onto the body above the corresponding window.

One edge of a flexible shade element 8 is secured to the roller so that it may be wrapped about the same, while its opposite end is secured to a rigid bar 9. The shade is supported when extended at a desired angle relative to a horizontal plane transversely of the car by folding arm units extending between the brackets ears and the bar 9 at the ends of the latter. The arm units each comprise an arm member 10 having a vertical offset flange 11 above the same at its outer end and pivoted on the adjacent end of the bar 9. At its opposite end the member 10 is pivoted on and extends between the adjacent ends of a pair of vertically spaced parallel arm members 10. At their inner ends the members 12 are pivoted on a block 13. The various pivotal connections of the arm members are disposed parallel to each other

and in a substantially vertical plane so that the said members can fold in a horizontal plane. The opposite end of the block abuts against the inner face of the bracket ear 5. A rigid washer member 14 abuts against the opposite face of the block in alinement with the ear and is recessed into the block as shown in Fig. 7.

The washer extends to the plate 6 and abuts flatly thereagainst so that it cannot turn. The screw 4 passes through the ear, block, and washer, and is threaded in the ear and washer. By this means not only do the opposed screws form the bearings for the roller spindles but also provide means for clamping the blocks 13 firmly in place, while allowing them to be turned up or down somewhat about said screws as an axis. Since the arm members are rigid with the block in a vertical plane such movement of the blocks turns the arms up or down also and of course alters the angular setting of the shade roll to a horizontal plane. The shade extends to the bar from over the roller, as shown in Fig. 4, so that said arms may fold under the shade.

Springs 15 are applied to the arm members and act to normally hold the same extended, so that the shade will likewise be held extended. To rotate the roller so that the shade will be wound thereon, and the arm units moved to a folded position against the resistance of the springs, and to also hold said springs constantly under tension so that the shade will always be taut, I provide the following means:

Mounted on the inside of the door in transverse alinement with one end or the other of the roller, as may be most convenient according to the particular design of car, is a vertical guide bar 16. Slidably mounted in this bar for movement lengthwise of the same is a slide block 17 having an outwardly projecting finger piece 18 rigid therewith. Pivoted in connection with the block above the finger piece is a pawl 19 which is adapted to engage a row of ratchet teeth 20 or the like provided in the bottom of the guide. The ratchets and pawl are arranged so as to hold the slide block against upward movement in the guide and the pawl may be released at will from the ratchet teeth by means of a finger pad 21 which is provided with the pawl and which extends outwardly therefrom in overhanging relation to the finger piece 18, as shown in Fig. 6.

Fastened at one end to the pawl above its pivot is a flexible element 22 which is preferably in the form of a thin flat metal band, so that it has little or no tendency to stretch. This band extends to the top of the guide over a pulley 23 and turns through a hole 24 cut transversely through the door and the bracket plate 6 on a level with the top of the roller. Outwardly of the door said element 22 is wrapped about and secured to the adjacent end of the roller beyond the shade. The band passes about the roller from the top so that with a pull on the band the latter becomes unwound from the roller as the latter rotates, while the shade is rolled thereon. When the slide block is at the top of the guide the shade is in its fully extended position; and when said block is at the bottom of the guide the shade is fully rolled up, as shown in Fig. 2. When in the former position the pawl of the slide block abuts against a stop 25 projecting upwardly from the bottom of the guide so that the block can go no further. This is necessary to prevent such extension of the shade as would cause the members of the arm units to move to a full dead-center position relative to each other, which would of course prevent or seriously interfere with the desired folding movement of the same. In other words said arm members even when the shade is fully extended are disposed so that they assume an angle of less than 180 degrees with each other, and so that the included angle faces toward the adjacent end of the shade. This of course enables and causes said arm units when folding up to project under the shade instead of folding in the opposite direction or beyond the ends of the shade. Since the springs 15 are constantly tending to straighten the arm units they also exert a constant effect on the shade, the roller, and the band 22, so that the shade and said band are always under tension. It is therefore unnecessary to apply a spring directly to the pawl to hold the same engaged with the guide bar ratchets, since the natural and constant pull of the bands on said pawl automatically holds it in engagement with the ratchet.

From the foregoing description it will be readily seen that I have produced such a device as will substantially fulfill the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. In a sunshade including spaced bracket ears, a roller extending between the ears and having end spindles, and arm units, a shade element secured along one edge to the roller and arm units extending between the ears and the opposite edge of the roller; blocks on the arm units abutted against the inner adjacent faces of the ears, washer elements abutting against the opposite faces of the blocks, and combination clamping and pivot screws passing through the contacting ears, blocks and washers; the adjacent inner ends of the screws

being bored to a certain depth to form bearings for the roller-spindles.

2. In a sunshade including spaced bracket ears, a roller extending between the ears and having end spindles, and arm units, a shade element secured along one edge to the roller and arm units extending between the ears and the opposite edge of the roller; blocks on the arm units abutted against the inner adjacent faces of the ears, and a common means for yieldably and pivotally clamping the blocks against the ears and for supporting the roller-spindles.

In testimony whereof I affix my signature.

BENJAMIN F. WALKER.