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J. R. THORP

2,000,107

DEFLECTING DEVICE

Filed June 18, 1931

Fig. 1.

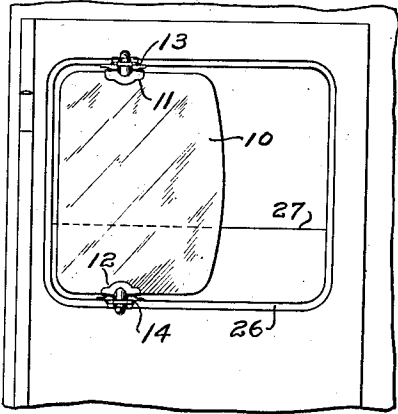


Fig. 5.

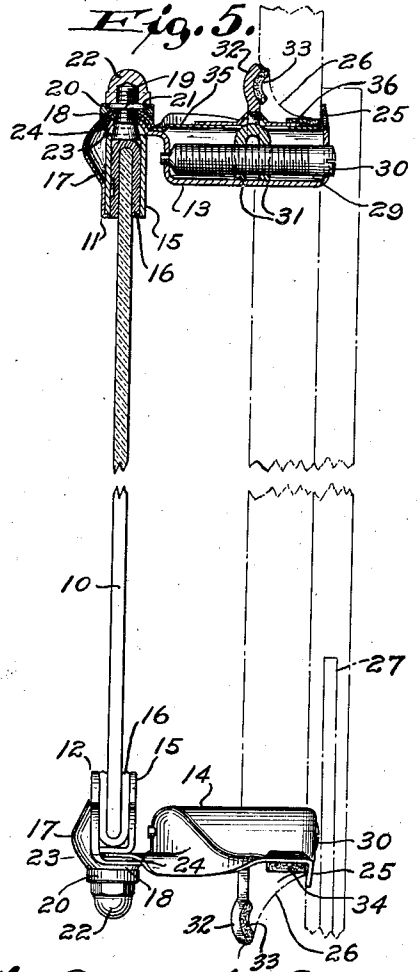


Fig. 2.

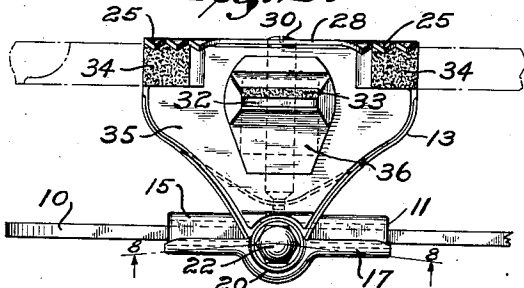


Fig. 3.

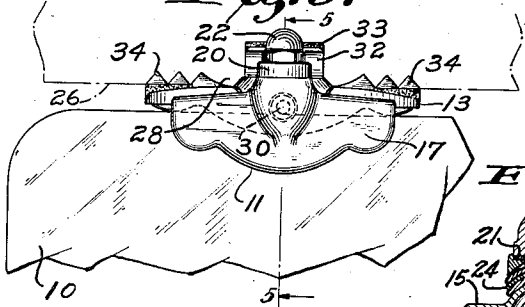


Fig. 8.

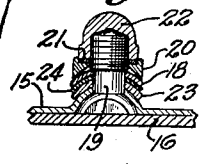


Fig. 6.

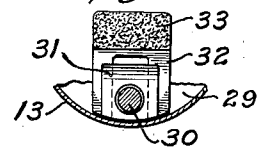


Fig. 4.

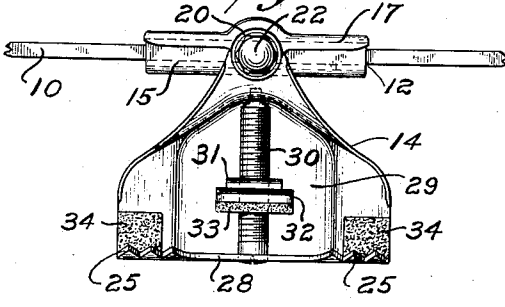
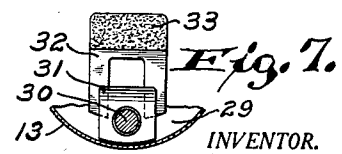


Fig. 7.



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UNITED STATES PATENT OFFICE

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DEFLECTING DEVICE

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Application June 18, 1931, Serial No. 545,235

19 Claims. (Cl. 296—84)

The present invention relates in general to im-
provements in the mode of constructing and oper-
ating deflecting devices commonly called "win-
dow wings", for protecting the occupants of a
moving vehicle against objectionable air currents
and precipitation or particles floating in the air.

An object of the invention is to provide an im-
proved deflecting device which is simple and com-
pact in construction, and which is moreover high-
ly efficient in operation.

Another object of the invention is to provide va-
rious improvements in the construction of def-
lector shields of the type forming the subject of
copending application Serial Number 404,260,
filed November 2nd, 1929.

A further object of the invention is to provide
an improved window wing of neat and attractive
appearance, which may be conveniently and firm-
ly applied to the reveals of the side windows of
practically all of the various types of automobiles
at present on the market.

Still another object of the invention is to pro-
vide an improved transparent shield which may
be applied to or removed from a window frame or
the like, without marring or defacing the surface
of the frame, and wherein the shield is relieved
from objectionable stresses.

Another object of the invention is to provide a
pivoted auxiliary window which will not inter-
fere with the normal operation and cleaning of a
main window with which the former may be as-
sociated.

A still further object of the present invention
is to provide a window wing support which may
be manufactured and sold at minimum cost, and
which may be placed in use by a novice.

These and other objects and advantages will
be apparent from the following detailed descrip-
tion.

A clear conception of an embodiment of the
invention, may be had by referring to the draw-
ing accompanying and forming a part of this
specification in which like reference characters
designate the same or similar parts in the several
views:

Fig. 1 is a side elevation of the upper part of a
front side door of an automobile or the like, show-
ing one of the improved deflecting devices applied
thereto;

Fig. 2 is an enlarged top view of the upper sup-
port of one of the improved deflecting devices,
showing a fragment of the transparent shield
thereof;

Fig. 3 is a side elevation of the support and
shield fragment of Fig. 2, viewed from the outside

of the main window with which the device is as-
sociated;

Fig. 4 is a bottom view of the lower support of
one of the improved deflecting devices, likewise
showing a fragment of the transparent shield
thereof;

Fig. 5 is a part sectional fragmentary end view
of one of the improved deflecting devices fully
assembled and applied to a window, the section
being taken on the line 5—5 of Fig. 3;

Fig. 6 is a fragmentary transverse section
through one of the supports;

Fig. 7 is a similar section through the support,
showing the clamping member thereof in a dif-
ferent position of adjustment than that of Fig. 6;
and

Fig. 8 is an enlarged section through one of the
pivot elements, taken on the line 8—8 of Fig. 2.

Referring to the drawing, the improved deflect-
ing device or window-wing comprises in general,
a plate glass shield 10; pivot elements 11, 12 per-
manently attached to the medial portions of the
upper and lower edges of the shield 10; and upper
and lower supporting brackets 13, 14 pivotally
associated with the elements 11, 12 respectively.

The two pivot elements 11, 12 are preferably of
identical construction, each of these elements
comprising a U-shaped part 15 which is secured to
the adjacent edge of the shield 10 by means of
a resilient insert 16, an outer part 17 rigidly at-
tached to the outer wall of the U-shaped part 15
and having an inwardly projecting spherical por-
tion 18 spaced from the bottom of the corre-
sponding U-shaped part 15, and a pivot pin 19
having a spherical head coacting with a spheri-
cal seat in the U-shaped part 15 and also having
a threaded shank extending through and beyond
an opening in the spherical portion 18 of the
adjacent outer part 17. The pivot pins 19 of the
two elements 11, 12 are normally in axial align-
ment with each other, and the threaded ends of
these pins, which project beyond the spherical
portions 18, are embraced by collars 20 which
coact with the portions 18, by lock washers 21
coacting with the collars 20, and by clamping nuts
22 coacting with the washers 21 and with the
screw threads of the pins 19.

The supporting brackets 13, 14 are likewise
preferably of identical construction, each of
these brackets having a spherical outer end 23
formed to embrace the adjacent pivot pin 19 be-
tween the parts 15, 17 and cooperable with the
spherical portion 18 of the part 17 through a
dished fibre washer 24. The cooperation and as-
semblage of these elements is such that when the

clamping nuts 22 are tightened as desired, the pivot elements 11, 12 may be rotated or swung universally to a limited extent, about the bracket ends 23, and are held in the desired position by friction, without undesirably stressing the shield 10. The inner ends of the brackets 13, 14 are provided with hooks 25 adapted to engage the inner edges of the reveals 26 of a main window 27, these hooks 25 being formed at the extreme ends of the brackets and separated by a space 28. Each bracket 13, 14 is also provided with a recess 29 within which is located a screw 30 with the threads of which a carrier 31 coacts. A clamping member 32 is adjustably associated with each of the carriers 31 as shown in Figs. 6 and 7, and cooperates with the hooks 25 to lock the corresponding brackets 13, 14 to a reveal 26 as shown in Fig. 5. Felt pads 33, 34 may be provided on the member 32 and brackets respectively, in order to avoid marring of the reveals 26 during attachment or removal of the device.

The upper bracket 13 may be provided with a closure consisting of a cover plate 35 and a sealing plate 36. The cover plate 35 encloses the major portion of the recess 29 of the bracket 13, and has a central opening through which the member 32 projects and along which said member is adjustable. The sealing plate 36 snugly embraces the member 32 and closes the central opening in the plate 35, thereby entirely enclosing the recess 29 irrespective of the position of adjustment of the clamping member 32 either along the screw 30 or laterally thereof. The plates 35, 36 as well as the brackets 13, 14, carriers 31, members 32, parts 15, 17 and collars 20, may be formed of sheet metal with the aid of punches and dies, and are preferably plated to present a neat and finished appearance.

The improved deflecting device is shown fully assembled in Fig. 5, and when thus assembled, the glass shield 10 may be swung about the pivot pins 19 to position the shield at any desired angle relative to the main sliding window 27. While the brackets 13, 14 are being attached to the window reveals 26, the clamping nuts 22 should be released so as to permit the bracket ends 23 to adjust themselves without undesirably stressing the parts of the pivot elements 11, 12 and the shield 10. The hooks 25 of the brackets 13, 14 should be pushed well into position over the inner edges of the reveals 26 before the screws 30 are rotated so as to bring the pads 33 of the members 32 into clamping engagement with the outer reveal surfaces. The clamping members 32 may be moved toward or away from the screws 30 as shown in Figs. 6 and 7 in order to insure proper coaction thereof with reveals 26 of different shapes, and after proper clamping of the brackets 13, 14 to the upper and lower reveals 26, has been effected, the nuts 22 may be tightened sufficiently to cause the fibre washers 24 to function properly and hold the shields 10 firmly in position.

From the foregoing description it will be apparent that the improved window wing may be readily applied to reveals 26 of various shapes, with the aid of simple tools such as a screw driver and wrench. The deflecting device may be applied by a novice without marring the window reveals, and when applied does not interfere with the raising and lowering or cleaning of the main window 27. The plates 35, 36 effectively protect the upper screw 30 against the weather without interfering with adjustment of the clamping member 32, and the entire device pre-

sents a neat and highly finished appearance. The ball and socket joints between the brackets 13, 14 and the pivot elements 11, 12 furthermore protect the shield 10 against excessive strain without necessitating the use of view obstructing braces spanning the window 27.

It should be understood that it is not desired to limit the invention to the exact details of construction herein shown and described, for various modifications within the scope of the claims may occur to persons skilled in the art.

It is claimed and desired to secure by Letters Patent:—

1. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield, each of said elements comprising a part having a spherical surface spaced from said shield, brackets having spherical ends located between said surfaces and said shield, and pivot pins extending through said spherical ends and surfaces.

2. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield, each of said elements comprising a part having a spherical surface spaced from said shield, brackets having spherical ends located between said surfaces and said shield, pivot pins extending through said spherical ends and surfaces, and clamping means coacting with the ends of said pins remote from said shield.

3. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield and having spherical bearing surfaces, a pivot pin secured to each of said elements, a bracket swingably associated with each of said pivots and with said bearing surfaces and having laterally spaced hooks at the ends thereof remote from said pivot, and a clamping member movably supported by each of said brackets in the space between the hooks thereof.

4. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield and having spherical bearing surfaces, a pivot pin secured to each of said elements, a bracket swingably associated with each of said pivots and with said bearing surfaces and having laterally spaced hooks at the end thereof remote from said pivot, a clamping member movably supported by each of said brackets between the hooks thereof, and means in the space between said hooks for moving said member toward and away from said hooks.

5. In combination, a deflector shield, pivots secured to the opposite edges of said shield, a bracket swingably associated with each of said pivots, each of said brackets having a recess extending away from said pivot and being provided with integral hooks on opposite sides of the recess, a screw journaled in said bracket and disposed within said recess, and a clamping member carried by said screw and cooperable with said hooks to fasten the bracket in place.

6. In combination, a deflector shield, pivots secured to the opposite edges of said shield, a bracket swingably associated with each of said pivots, each of said brackets having a recess extending away from said pivot and being provided with integral hooks on opposite sides of said recess, a screw journaled in said bracket and disposed within said recess, a carrier movable along said recess by said screw, and a clamping member adjustably associated with said carrier and movable thereby toward and away from said hooks.

7. In combination, a deflector shield, a pivot secured to an edge of said shield, a bracket

swingably associated with said pivot and having a recess extending away from said pivot, a clamping member movable along said recess, and a closure plate for said recess having an opening within which said member is movable.

8. In combination, a deflector shield, a pivot secured to an edge of said shield, a bracket swingably associated with said pivot and having a recess extending away from said pivot, a clamping member movable along said recess, a closure plate for said recess having an opening within which said member is movable, and a sealing plate carried by said member for covering said opening.

9. In combination, a deflector shield, a pivot secured to an edge of said shield, a bracket swingably associated with said pivot and having a recess extending away from said pivot, a screw located within said recess, a clamping member movable along said recess by said screw, and a closure plate for said recess having an opening within which said member is movable.

10. In combination, a deflector shield, a pivot secured to an edge of said shield, a bracket swingably associated with said pivot and having a recess extending away from said pivot, a screw located within said recess, a clamping member movable along said recess by said screw, a closure plate for said recess having an opening within which said member is movable, and a sealing plate carried by and movable with said member to cover said opening.

11. In combination, a deflector shield, a pivot secured to said shield, a bracket having a spherical end coacting with said pivot and having a hooked opposite end and an elongated recess between said ends, a screw disposed longitudinally within said recess and rotatably supported in both of said bracket ends, and a clamping member movable along said recess by said screw.

12. In combination, a deflector shield, a pivot secured to said shield, a bracket having a spherical end coacting with said pivot and having a hooked opposite end and a recess between said ends, a screw disposed within said recess, a carrier movable along said recess by said screw, and a clamping member movable by said carrier, said member being adjustable laterally of said screw.

13. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield, each of said elements comprising a part having a spherical surface spaced from the adjacent end of said shield, and brackets having spherical ends interposed between said surfaces and said shield.

14. In combination, a deflector shield, pivot elements secured to the opposite edges of said shield, each of said elements comprising a part having a spherical surface spaced from the adjacent end of said shield, brackets having spherical ends interposed between said surfaces and said

shield, and means for clamping at least one of said brackets to the adjacent pivot element.

15. In combination, a deflector shield, pivots secured to the upper and lower ends of said shield, brackets having spherical end portions coacting with said pivots, each of said brackets having a hooked opposite end portion and an elongated recess between said portions, a screw extending away from said shield within each of said recesses and rotatably supported in the corresponding bracket adjacent the opposite ends of the recesses therein, and a clamp member movable along each recess by the screw disposed therein.

16. In combination, a deflector shield, a pivot rigidly associated with an extreme end of said shield, a bracket having a spherical socket at one end coacting with said pivot and having a hooked opposite end, said bracket having an elongated recess between said ends extending away from said shield, a screw journaled in said bracket at opposite ends of said recess, and a clamping member having a portion coacting with said screw within said recess and having a clamping portion movable toward and away from said hooked bracket end beyond the confines of the recess.

17. In combination, a deflector shield, a pivot rigidly attached to and extending away from an end of said shield, the axis of said pivot lying in the plane of said shield, a bracket having one end engaging said pivot and having its opposite end provided with a fixed clamping portion extending substantially parallel to said pivot, said bracket having an elongated recess extending from said fixed clamping portion toward said pivot, a threaded element disposed within said recess, said element having one end journaled in said clamping portion and having its opposite end journaled in said bracket near the opposite end of said recess, and a clamping member movable toward and away from said fixed clamping portion by said element.

18. In combination, a deflector shield, a pivot element secured to a substantially horizontal transverse edge of said shield, a bracket element coacting with said pivot element to support said shield from a window reveal, one of said elements having spaced spherical surfaces and the other element having a spherical ear articulatable between said surfaces, and a pivot connecting the coacting spherical portions of said elements.

19. In combination, a deflector shield, pivot elements secured to the opposite upper and lower edges of said shield, a bracket element coacting with each of said pivot elements to support said shield from a window reveal, one element of each set having spaced spherical surfaces and the other element of the same set having a spherical ear articulatable between said surfaces, and a pivot connecting the coacting spherical portions of the elements of each set.

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