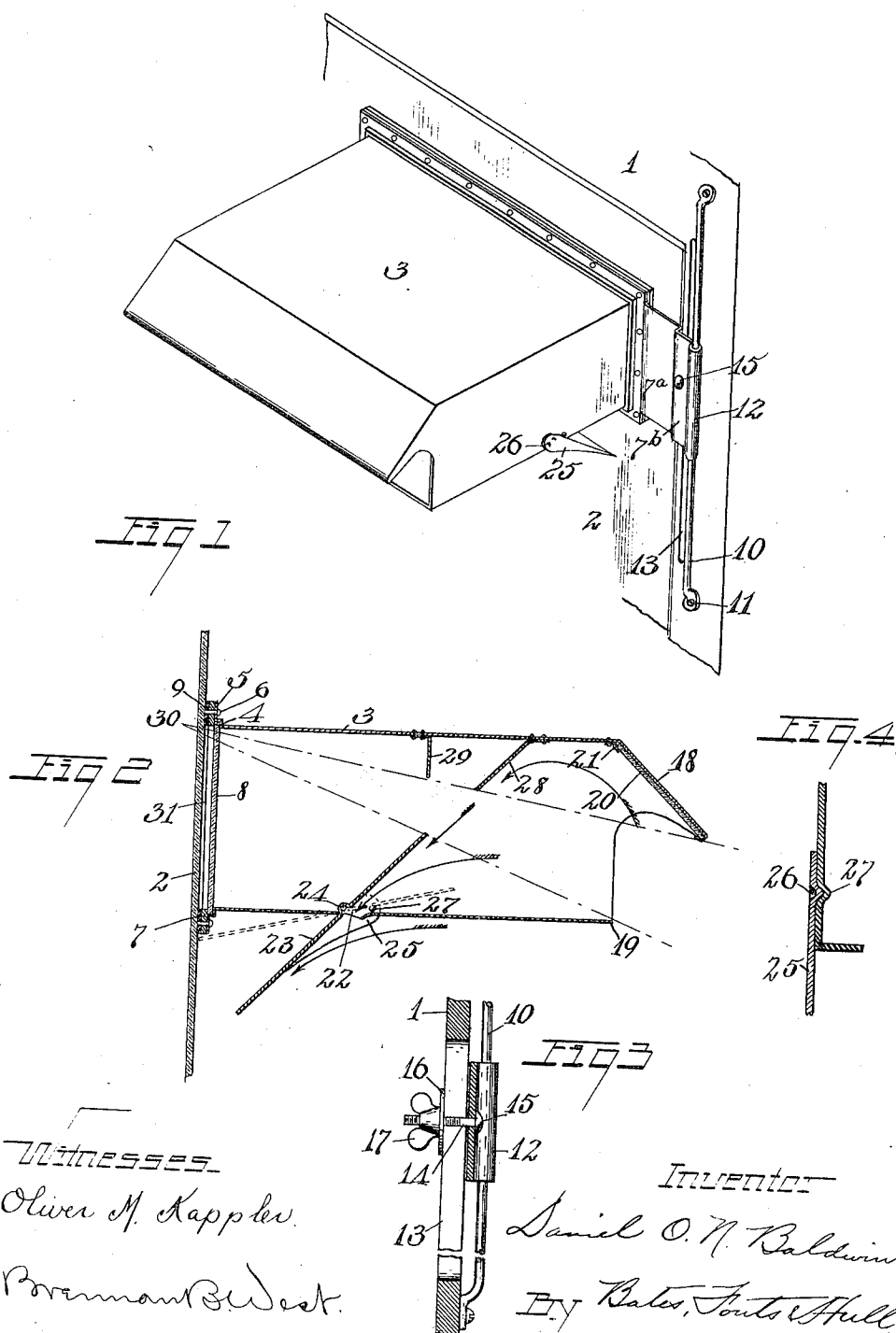


D. O. N. BALDWIN.
WINDOW SHIELD.
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Patented Nov. 18, 1913



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UNITED STATES PATENT OFFICE.

DANIEL O. N. BALDWIN, OF CLEVELAND, OHIO.

WINDOW-SHIELD.

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To all whom it may concern:

Be it known that I, DANIEL O. N. BALDWIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Window-Shields, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 This invention relates to devices for shielding the windows of street cars, locomotives, or other like vehicles, or the so-called "wind shields" of automobiles. In fact, a device of the character set forth herein is applicable to any window or sight opening which it is desired to protect from sleet, snow or other material which might accumulate thereon and obstruct the vision there-through.

20 Among the objects of the invention are the provision of a device of this character which is capable of convenient application to and removal from the window or sight opening with which it is to be employed; also the provision of a device of this character which is capable of convenient adjustment for height to accommodate different observers.

25 A further object of the invention is to provide a device of this kind which shall be extremely efficient in operation, while being relatively simple and inexpensive of production.

30 In the embodiment of my invention disclosed in the drawing forming part hereof,—
35 Figure 1 represents a perspective view of a portion of a window having my device applied thereto; Fig. 2, a vertical sectional view taken through the window and device shown in Fig. 1; Fig. 3, an enlarged sectional detail of the means by which my device may be adjustably secured to a window or sight opening; and Fig. 4, a detail of the connection between one of the shield plates and the casing.

45 Describing the various parts in the drawing by reference characters, 1 denotes the frame of a window or similar observation device, and 2 the glass or other transparent medium carried by the frame. Secured in operative relation to the window is the rear or base of the casing 3 of my device. This casing is preferably of sheet metal and is conveniently made rectangular in section. The rear end of the casing is flanged out-

wardly and inwardly to form a recess, as 55 shown at 4, and is provided with an additional lateral flange 5 by means of which the casing may be attached, as by rivets 6, to a frame 7 of heavier material. This frame has a central opening corresponding ap- 60 proximately in size to the internal area of the casing 3 and the frame projects inwardly substantially as far as the interior of the inner wall of the casing 3, forming a groove with the recess 4 for the reception of a pane 65 or plate 8 of glass or other transparent material. The inner face of the frame 7 has applied thereto a packing ring or gasket 9, of rubber or other suitable material, being secured to the frame and to the flange 5 by 70 means of the rivets 6.

For the purpose of securing the device to the window with which it is to be used, the frame 7 will be conveniently provided with a lateral extension 7^a. As a means for providing a vertical adjustment between the extension 7^a and the window frame, the construction shown in the drawing may be employed. In this construction, the window frame is shown as provided with a vertically-extending rod 10 having its ends projecting inwardly and secured to the frame, as shown at 11. The end of the extension 7^a is provided with a sleeve 12 mounted on said rod. Between the rod 10 and the inner edge 85 of the window frame, the latter is provided with a vertical slot 13. The outer end of the extension 7^a is projected outwardly, as shown at 7^b, a sufficient distance to clear the outer surface of the window frame, with its 90 inner surface in close proximity to such outer surface of the frame. A bolt 14 extends through 7^b and through the slot 13, the bolt having a head 15 bearing against the outer surface of the extension 7^b and 95 having on the inner side of the frame a washer 16 adapted to bear against said frame on opposite sides of the slot 13, the inner end of the bolt being provided with a wing nut 17 by means of which the washer may be 100 tightened against the inner side of the frame. The construction described provides an extremely efficient and convenient means whereby the device may be adjusted at will and secured in adjusted position. 105

For the purpose of shielding the window to which my device is applied, I provide the casing 3 with the following structural fea-

tures:—At its outer end the casing is provided with a plate projecting downwardly and forwardly from the upper wall thereof at an angle of about 45°, or other suitable angle, said plate being shown as an apron 18. The casing 3 may be conveniently formed from a single sheet of metal with the outer edge 19 of the bottom directly below the upper edge of the apron 18, whereby the apron overhangs the bottom. The apron 18 extends downwardly approximately half the distance between the top and bottom of the casing 3, and is provided on its inner surface with a mirror 20, which may be secured in place in any convenient manner, as by bending the lower end of the apron around the lower end of the mirror, securing the upper end in place by means of the metallic clamp 21.

The bottom wall of the casing is provided with a transverse slot 22 through the rear of which projects a plate 23, said plate being pivotally supported by the casing. A convenient manner of so pivoting the plate is illustrated in the drawings and comprises a transverse rod 24 fitting in a corresponding recess in the plate. This plate is provided with a pair of side flanges 25, located each at an edge of the plate and extending above the bottom of the casing and the slot formed therein. The flanges 25 cooperate with the opposite ends of the plate 23 and the opposite ends of the slot 22 to form a discharge chute for the air admitted to the front of the casing.

For the purpose of adjusting the angle which this plate makes with the bottom of the casing, the side flanges may each be provided with a suitable projection 26, conveniently pressed therefrom and adapted to enter recesses 27 in the casing wall. In stormy weather, the plate will generally be secured in the position shown in full lines in Fig. 2, namely, extending over the slot 22 at an angle of about 45° with the bottom of the casing. The plate will be of such extent that, when in this position, its upper edge will be about midway of the height of the casing, or on a line drawn from the lower edge of the apron 18 to a point half way between the top and bottom of the glass 8. The slot 22 will preferably be located nearer the rear end of the casing 3 than the front end of the same.

28 denotes a downwardly-inclined plate secured to the upper wall of the casing and projecting downwardly and rearwardly at an angle of about 45° and preferably in the plane of the plate 23 when the latter is in the position shown in full lines in Fig. 2. Between the plate 28 and the rear of the casing there is located a plate 29 which is secured to the upper wall of the casing and projects downwardly, preferably in vertical alinement with the upper edge of the plate

23 when the latter is in the position shown in full lines in Fig. 2.

In operation, the device will be adjusted so that the eye of the observer will be at about the point 30. It will be observed that lines drawn from this point to the lower edge of the apron 18 and to the outer edge of the bottom of the casing will respectively cut the lower ends of the plates 28 and 29 and the upper end of the plate 23. It thus follows that, with the eye at the point 30, the plates 24, 28 and 29 will not interfere with the field of vision. The apron 18 protects the upper portion of the casing against the entrance of snow, sleet, or other matter which might interfere with the vision. The plate 23 protects the lower part of the casing, adjacent to the glass 8, against the admission of such material. The apron and plate prevent any material entering the casing and moving in a straight line from getting into the chamber at the rear of said plate. The plates 23 and 29 form in effect a dead air space or cushion at the rear of the casing, which will prevent snow, sleet, etc., from entering the space behind the plates through the eddying action of the air currents. Should any material be carried beyond the lower end of the plate 28, it will probably be dropped into the space in front of the plate 23 before reaching the opening formed between this plate and the plate 29 thereabove. Furthermore, the provision of the slot 22, with the inclined plate 23, tends to carry out any material that may enter the front of the casing. More or less eddying of the air will occur at the front of the window to which my device is attached. This eddying around the vicinity of the outlet slot 22 and the downward inclination of the plate 23 below such slot will facilitate the flow of air through said slot from the front of the casing, as indicated by the arrows. This action also serves to oppose the entry of snow or other material into the chamber behind the plate 23. In fair weather, the plate 23 may be swung into the position shown in dotted lines in Fig. 2 and be retained in such position by the frictional engagement of the projections 27 with the recesses of the flanges 22.

As the field of vision will be limited in the manner indicated by the lines from the point 30, the mirror 20 is provided for the purpose of enabling the observer to see objects that may be dangerously near the vehicle to which my device may be applied. This is important in the operation of rapidly-moving vehicles, as it will enable the operator to avoid striking pedestrians or obstructions which may be out of vision defined by the lines extending from the point 30.

It will be noted that the construction of the inner end of the device provides an air

chamber 31 between the pane 8 and the window or other transparent member to which my device is applied. The provision of this space prevents the difference in temperature between the apartment or space at the rear of the window and the temperature which exists in front of the pane 8 from producing condensation on and frosting of these surfaces. Furthermore, the construction of the frame at the rear end of the casing, including the gasket 9, prevents snow, rain or other moisture on the surface 2 from entering the space bounded by the frame, keeping the "sight" clear.

Having thus described my invention, what I claim is:

1. In a device of the character specified, the combination of an adjustable casing having at its front end a downwardly deflected apron and having at its rear end a frame adapted to bear against and partially cover the surface to which the device is to be applied, and a pane of transparent material at the rear of said casing and at the front of said frame, whereby an air space will be provided between said frame and the surface to which said device is applied.

2. The combination, with a transparent member, of a protecting device therefor, said device comprising a casing having at its rear end a frame adapted to be applied to said member, and a pane of transparent material carried by the rear portion of said casing and separated from said member by an air space inclosed by said frame, and means for mounting said casing so as to be adjustable to different positions over said transparent member.

3. In a device of the character specified, the combination of a casing having at its rear end a frame, a gasket of yielding material applied to the rear surface of said frame, and means coöperating with said frame for securing the device in operative relation to the surface with which it is to be used.

4. The combination, with a frame, of a member of transparent material supported thereby, said frame having a vertical slot and a rod extending parallel with said slot, a protecting device comprising a casing, a lateral projection at the inner end of said casing, said projection being provided with a sleeve for said rod, a bolt connected to said projection and extending through said slot, and an adjusting nut on said bolt on the inner side of said slot.

5. In a device of the character set forth, the combination of a casing having at its rear end a pane of transparent material and having its upper front end deflected downwardly to form an apron, and a plate projecting downwardly from the bottom wall of said casing intermediate between the front and rear of said wall.

6. In a device of the character set forth, the combination of a casing, having its upper front end deflected downwardly and forwardly to form an apron, and an angularly adjustable plate projecting upwardly from the bottom wall of said casing intermediate between the front and rear of said wall.

7. In a device of the character set forth, the combination of a casing having its upper wall deflected downwardly to form an apron, and a plate projecting upwardly and forwardly from the bottom wall of said casing to a point substantially as high as the bottom of said apron.

8. In a device of the character set forth, the combination of a casing having a plate projecting downwardly from the upper wall thereof, and a plate projecting upwardly from the bottom wall of said casing and staggered with respect to the former plate.

9. In a device of the character set forth, the combination of a casing having a bottom and a top wall, a plate projecting downwardly from the top wall, the bottom wall being provided with a transverse slot, and a plate adjacent to the rear edge of said slot and projecting upwardly therefrom.

10. In a device of the character set forth, the combination of a casing having a bottom and a top wall, a plate projecting downwardly and forwardly from the top wall, the bottom wall being provided with a transverse slot, and a plate adjacent to the rear edge of said slot and projecting upwardly and forwardly to substantially the height of the lower end of the former plate.

11. In a device of the character specified, the combination of a casing having a downwardly directed plate near the front end of the top wall and having in the bottom wall thereof a transverse slot, a plate pivoted adjacent to the rear edge of said slot and extending therethrough, and means for supporting said plate in adjusted position with respect to said slot.

12. In a device of the character set forth, the combination of a casing having a downwardly directed plate near the front end of the top wall and having in its bottom wall a transverse slot, a plate extending through said slot and pivoted adjacent to the rear edge of the same, said plate having at each end of the slot a downwardly-extending flange.

13. In a device of the character set forth, the combination of a casing having in its bottom wall a transverse slot, and a plate adjacent to the rear edge of the slot and projecting upwardly into the casing.

14. In a device of the character set forth, the combination of a casing having at its rear end a pane of transparent material, and plates projecting from the top and bottom of said casing and providing a field of vision

therebetween and arranged to form a dead air chamber at the rear of the casing in front of said pane.

15. In a device of the character set forth, the combination of a casing, a pane of transparent material, and plates projecting from the top and bottom of said casing one of said plates being adjustable and providing a field of vision therebetween and arranged to form a dead air chamber at the rear of the casing in front of said pane.

16. In a device of the character set forth, the combination of a casing having a downwardly directed apron extending from the front of the top wall and overhanging the bottom of the casing, an inclined plate extending downwardly and rearwardly from the top wall of the casing, a vertical plate extending downwardly from the top of said casing and located rearwardly of the former plate, and a plate projecting upwardly and forwardly from the bottom of the casing in the plane of the first-mentioned plate, having its upper edge spaced therefrom and substantially in vertical alinement with the second plate, the lower ends of the apron and the two plates first-mentioned being in substantially the same straight line and the upper end of the last-mentioned plate and the outer edge of the lower wall of the casing being in substantially the same straight line, said lines converging and meeting at a common point a short distance to the rear of said casing.

17. In a device of the character set forth, the combination of a casing having a downwardly and forwardly directed plate near the front of the top wall and overhanging the bottom of the casing, an inclined plate extending downwardly and rearwardly from the top wall of the casing at the rear of the first plate, and a plate projecting upwardly and forwardly from the bottom of the casing in the plane of the second plate and having its upper edge spaced therefrom.

18. In a device of the character specified, the combination of a casing, plates projecting from inside walls of the casing and limiting the field of vision therethrough in a forward direction, one of said plates being inclined, and a mirror on the inclined surface of said plate, to broaden the field of vision in a lateral direction.

19. The combination with a member of transparent material of a protecting hood or casing arranged to project therefrom and having a transverse pane of transparent material therein and of means for securing the hood at different positions opposite said member with its pane spaced from said member and the intervening space between said pane and member inclosed.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

DANIEL O. N. BALDWIN.

Witnesses:

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A. J. HUDSON.