

F. W. SHUPERT & W. J. LEIGHTY.
STORM WINDOW ATTACHMENT.
APPLICATION FILED FEB. 11, 1910

1.063,610.

Patented June 3, 1913.

2 SHEETS—SHEET 1.

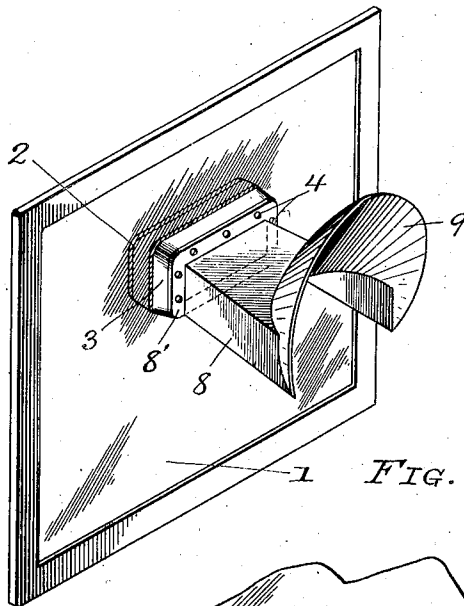


FIG. I.

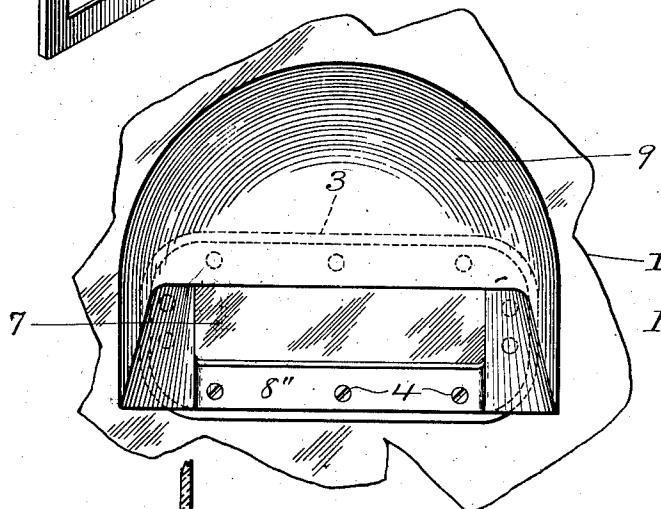


FIG. II.

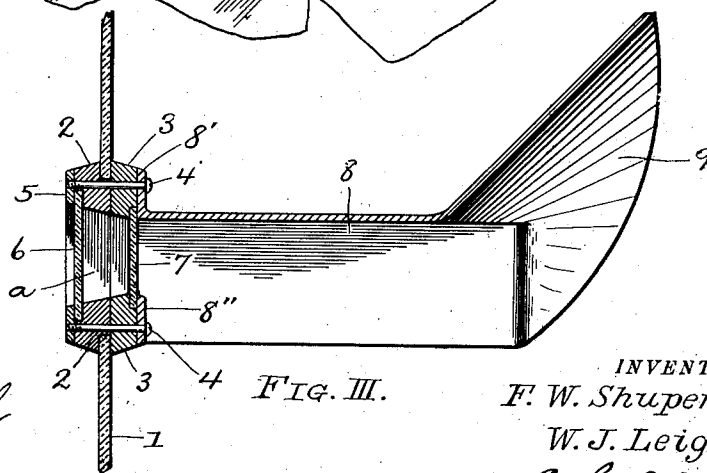


FIG. III.

WITNESSES:

E. Cahill.

K. M. Imboden.

INVENTORS,

F. W. Shupert,

W. J. Leighty,

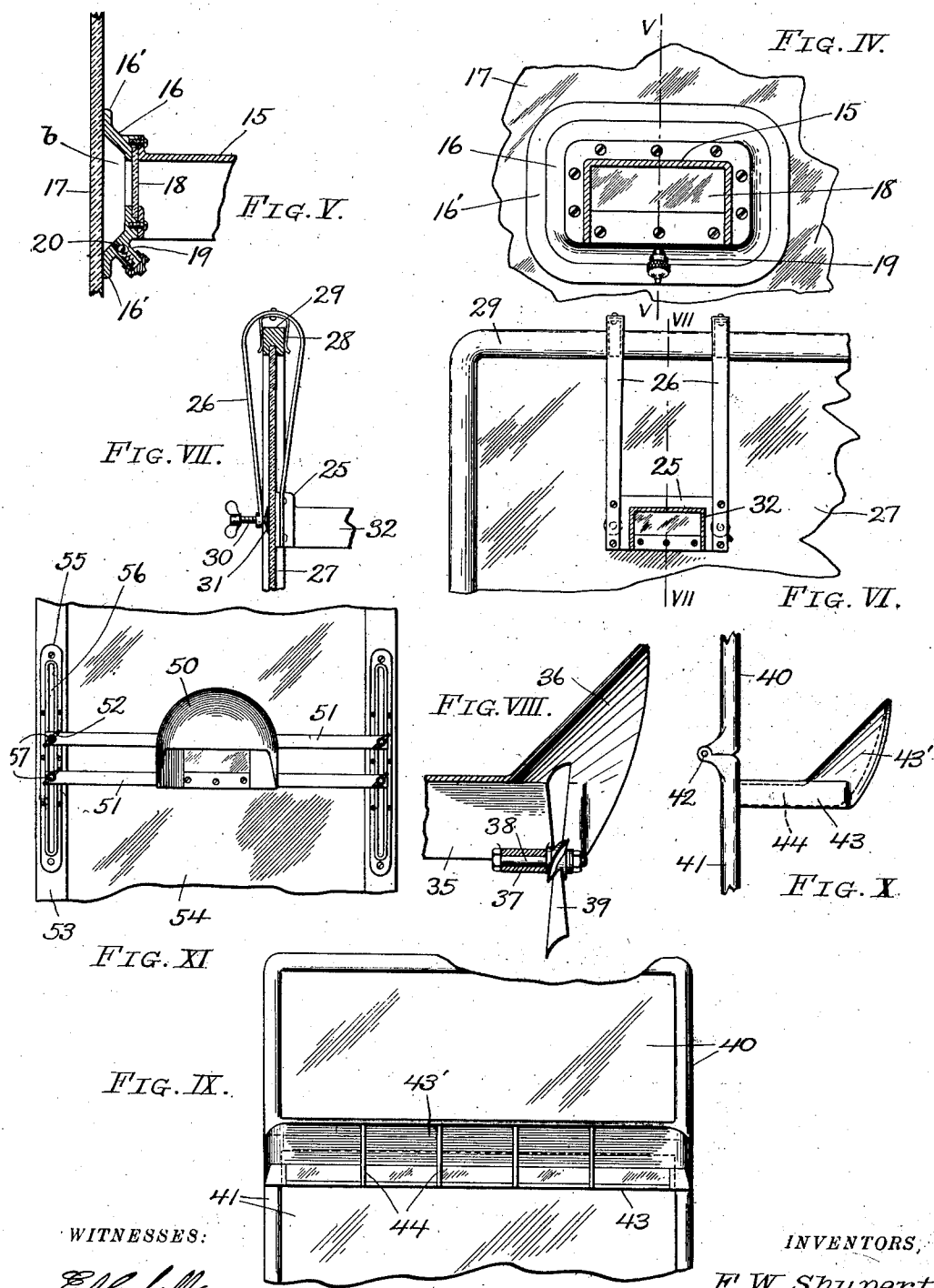
by Arthur L. Brown.
ATTORNEY.

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2 SHEETS—SHEET 2.



WITNESSES:

E. A. Cahill

N. M. Imboden

INVENTORS,

F. W. Shupert,

W. J. Leighty,

by Arthur C. Brown
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANK W. SHUPERT AND WILLIAM J. LEIGHTY, OF TOPEKA, KANSAS, ASSIGNORS TO
STORM SHIELD MFG. CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STORM-WINDOW ATTACHMENT.

1,063,610.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed February 11, 1910. Serial No. 543,242.

To all whom it may concern:

Be it known that we, FRANK W. SHUPERT and WILLIAM J. LEIGHTY, citizens of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful improvements in Storm-Window Attachments; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to storm windows, and more particularly to a device of this character adapted for use on the window of a locomotive cab, the vestibule window of a street car, the wind shield of an automobile, or on other vehicles or structures to which it may be applicable, the principal object of the invention being to provide means for protecting the body window from rain, snow, etc., while the vehicle or structure is either stationary or in motion.

A further object of our invention is to provide a storm window which is simple and economical in construction and which may be easily and quickly applied to the body window of the vehicle or structure upon which it is to be used.

In accomplishing these objects we have provided details of construction comprising, in part, a frame or hood adapted for covering a part of the body window and shielding same from the elements when the vehicle or structure is stationary; such frame having a deflector which, particularly when the vehicle or structure is in motion, is adapted to deflect a portion of the air in the path thereof and thereby divert rain, snow, sleet or other matter from the attachment and prevent it from coming into contact with the glass.

A still further object is to provide a combination of air deflecting means and relatively movable means adjacent thereto, for breaking up the current of deflected air.

The invention consists in the matters set forth in the appended claims, and preferred embodiments thereof are shown in the accompanying drawings, in which:—

Figure 1 is a perspective view of one form of the device in position upon a pane

of glass. Fig. II is an enlarged front elevation of the device. Fig. III is an enlarged central vertical section of the device. Fig. IV is a sectional front elevation of a modified form. Fig. V is a vertical section on the line V—V of Fig. IV. Fig. VI is a sectional front elevation of a device especially adapted for attachment to automobile wind-shields. Fig. VII is a section on the line VII—VII of Fig. VI. Fig. VIII is a central vertical sectional view of another modification. Fig. IX is a front elevation of one of the devices extending fully across a wind-shield. Fig. X is an enlarged side elevation of Fig. IX. Fig. XI is a front elevation of a device of the style shown in Fig. I, mounted for vertical adjustment upon a wind-shield.

Referring more in detail to the parts;— in Figs. I, II and III, 1 designates a transparent medium such as a window pane or a wind shield. At the point which is desired to be kept in transparent condition, an opening is cut therein, as shown in Fig. III. In this opening is fitted a frame, comprising an inner frame 2 and an outer frame 3; said frames being secured together by screws 4 passing into a metal framing plate 5. Fitted in the inner frame 2 is a transparent medium 6, and fitted in the outer frame 3 is a transparent medium 7.

8 designates a hood which is open at the bottom and is provided with an upwardly and outwardly inclined mouth 9. The inner end of this hood is provided with flanges 8', 8'', through which pass the screws 4 which thus support the hood upon the frame 3. The outer ends of the sides of the hood are diverged outwardly as shown in Fig. II.

When the structure carrying the window or shield 1 is stationary, rain, snow, sleet, etc., may beat down upon the hood 8 without coming into contact with the transparent medium 7. Between the media 6 and 7, there is a dead air space *a*, which serves to prevent the condensation of water vapor upon said media 6 and 7.

When the vehicle or structure is moving rapidly in the direction of the hood 8, the inclined extension 9 will deflect the air in the path thereof so as to drive it downwardly along a line passing below the bottom of medium 7, and these downwardly directed currents of air will obviously

carry the rain, snow, etc., therewith and prevent the same from impinging on the medium 7. This deflection of watery elements serves to keep the medium 7 clear of any aqueous deposits so that a person stationed therebehind and looking through the device may have as clear a view as the snow-fall or rainfall permits. The frames 2, 3 prevent the creeping of frost from the glass 1 onto the media 6 and 7.

The means for attaching the hood to a glass pane may be varied, according to circumstances.

The cutting of a hole in the pane may be obviated in various ways. For example, as shown in Figs. IV and V, the hood 15 may be mounted on a cup 16, provided with a peripheral flange 16' which seats upon the pane, 17. Connected between the cup and the hood 15 is a small transparent medium 18, which serves the same purpose as part 7 in Fig. I. The cup 16 is provided with a tubular stem 19, in which is a check valve 20, so arranged as to close inwardly. In applying this device, the cup is pressed upon the glass 17 while a portion of the contained air is extracted through the stem 19, the valve 20 preventing the return of such air. The cup and hood are thus held in position by atmospheric pressure. The operation will be substantially the same as that above described with respect to the means shown in Fig. I. The space *b* between members 17 and 18 corresponds to that in Fig. I.

In Figs. VI and VII is shown a structure which is especially adapted for use upon the wind-shields of automobiles. In this structure the hood base flange 25 is secured to the ends of a pair of elongated spring loops 26 which straddle the shield 27 as shown in Fig. VII. The bends of said loops are provided with clips 28 which engage the top 29 of the frame of the shield 27. The ends of said loops 26 which lie at the rearward side of the wind-shield are provided with tension screws 30 having enlarged ends 31 that bear upon the glass; and by adjusting said screws the pressure of the springs 26 may be adjusted. The hood 32 is held against the glass 27 by the inward tension of said springs. Obviously, the hood may by this device be held at either the right, the left or the center of the wind-shield, as may be desired.

For rendering the device still more efficient, movable means adjacent the hood, adapted to dissipate the current of deflected air, may be employed. Such means may consist of a rotatory fan, as shown in Fig. VIII, wherein 35 designates a hood; 36, the inclined extension thereof; 37, a bracket-bearing carried centrally and transversely within the hood; 38, a shaft rotatable in said bearing; and 39, a fan mounted upon said

shaft. The operation will be such that when the structure carrying the device is in forward motion, the pressure of the air upon the blades of the fan will cause the fan to rotate; and the air current deflected downwardly by the inclined part 36 will thus impinge upon the fan and be dissipated, thus accomplishing the object stated, viz., keeping the line of vision clear with greater certainty.

Either the device shown in Fig. I, or that shown in Fig. VIII, may be multiplied in a series extended horizontally so as to cover the full width of the transparent member. Figs. IX and X illustrate such an arrangement as applied to a hinged wind-shield, of which 40 is the upper section and 41 the lower section, the two being hinged together at 42. Just above the hinge, the hood 43 is attached, in any suitable manner, and is formed with the inclined outer part 43'. The hood is braced by a series of small triangular struts, 44, and its ends may be secured to the frame 41 of the lower shield section.

Fig. XI shows one means by which a hood of the style shown in Fig. I or Fig. VIII may be mounted with vertical adjustability upon a sash, wind-shield or the like. Here the hood 50 is affixed to a pair of horizontal, resilient strips 51, whose ends are provided with bolts having wing-nuts 52. Secured to the frame 53 of the glass 54 are a pair of vertical, slotted guides 55, having undercut slots 56 in which are retained the heads and shanks of the bolts 57. When the nuts 52 are tight the parts 51 are firmly supported, and the height of the device 50 may be varied at pleasure by loosening the nuts and sliding the bolts vertically in said grooves 56.

Various other changes may of course be made without departing from the spirit of the invention as defined in the claims.

Having thus described our invention, what we claim as new therein and desire to secure by Letters-Patent is:—

1. 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.

2. A storm window attachment comprising in combination with a window glass, a hood located in front of the glass and adapted for protecting a portion of same, said hood being closed at the side and top and a deflector carried by the hood and extending at an angle therefrom, whereby a current of air is deflected through the hood out of contact with the protected portion of the glass, for the purpose set forth.

3. A storm window comprising in com-

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ination with a window glass, a hood secured to said glass and extending forwardly therefrom, said hood being closed at the sides and top and open at the bottom and ends, a deflector on the forward end of said hood projecting at a forward angle from the sides and top, the angle of projection of said hood being such as to deflect a current of air through the hood and out of contact with the protected portion of the glass.

4. A storm window attachment comprising in combination with a window glass, a hood having air tight connection with the window glass and projecting forwardly therefrom, said hood being open at its forward end and at the bottom and provided with an upwardly and laterally directed deflector at its forward end, substantially as and for the purpose set forth.

5. A device of the class described, comprising in combination with a window, a hood located in front of said window, said hood being open at the bottom and at its forward end, an inclined air deflecting extension at the front of the hood, means for attaching the other end of the hood to the window, and revoluble means adjacent to the deflecting portion of the hood for re-

ceiving and dissipating a deflected air current.

6. An attachment of the class described including a window, a hood open at its forward end and at the bottom, means at the rear end of the hood for attaching same to the window, an inclined deflecting extension at the forward end of the hood, and a fan mounted for rotation within the hood and adjacent to said extension.

7. In an attachment of the class described, the combination of a window, a frame located in front of the window, a frame at the rear of said window, means for securing said frames together and to the window, a hood mounted on the forward frame, and a small window located in each of said frames and spaced apart, the mounting of the small windows in the frames being such as to provide a dead air space therebetween.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK W. SHUPERT,
WILLIAM J. LEIGHTY.

Witnesses:

GERALDINE SHEPHERD,
J. A. CUMINGS.