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VENTILATING WINDOW CONSTRUCTION

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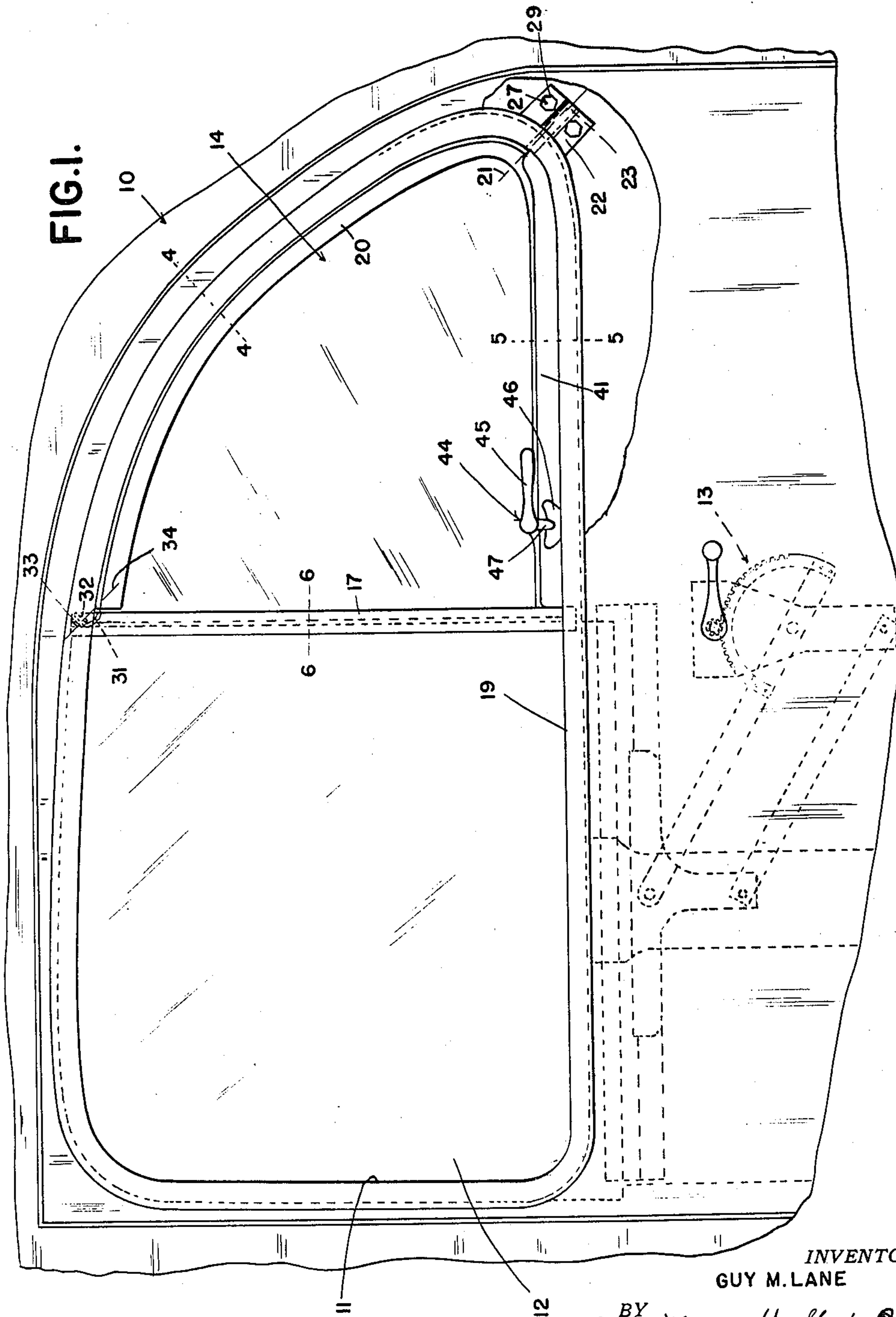


FIG. 1.

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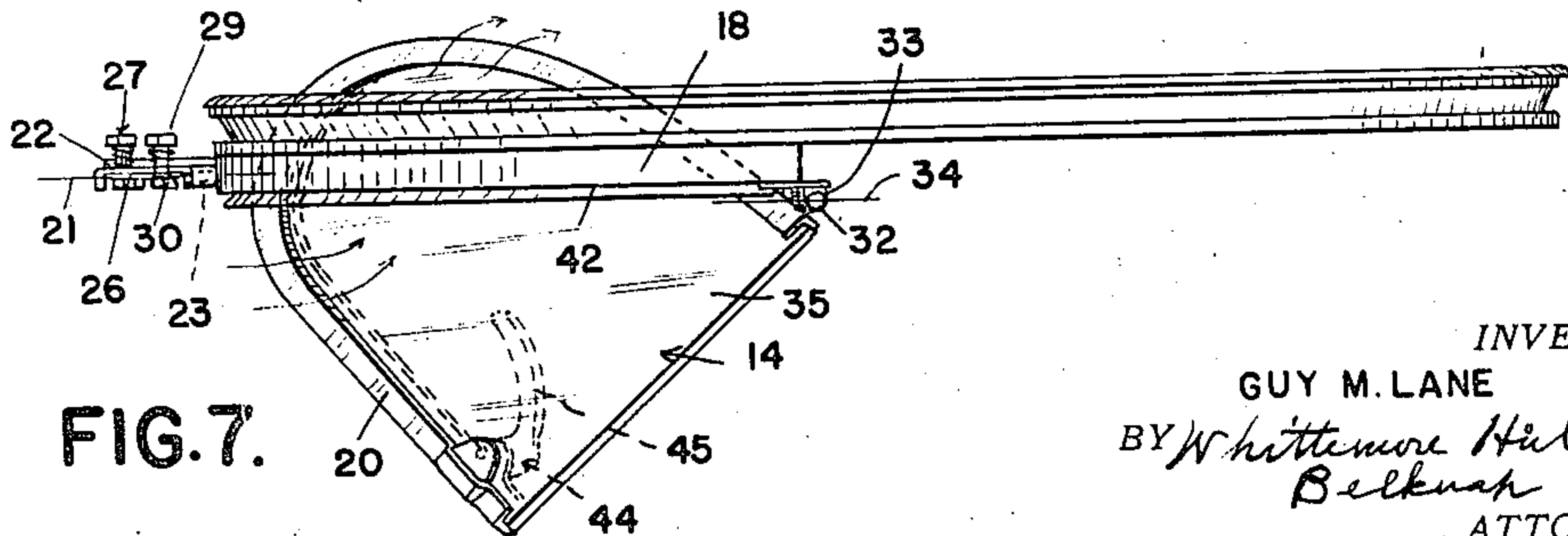
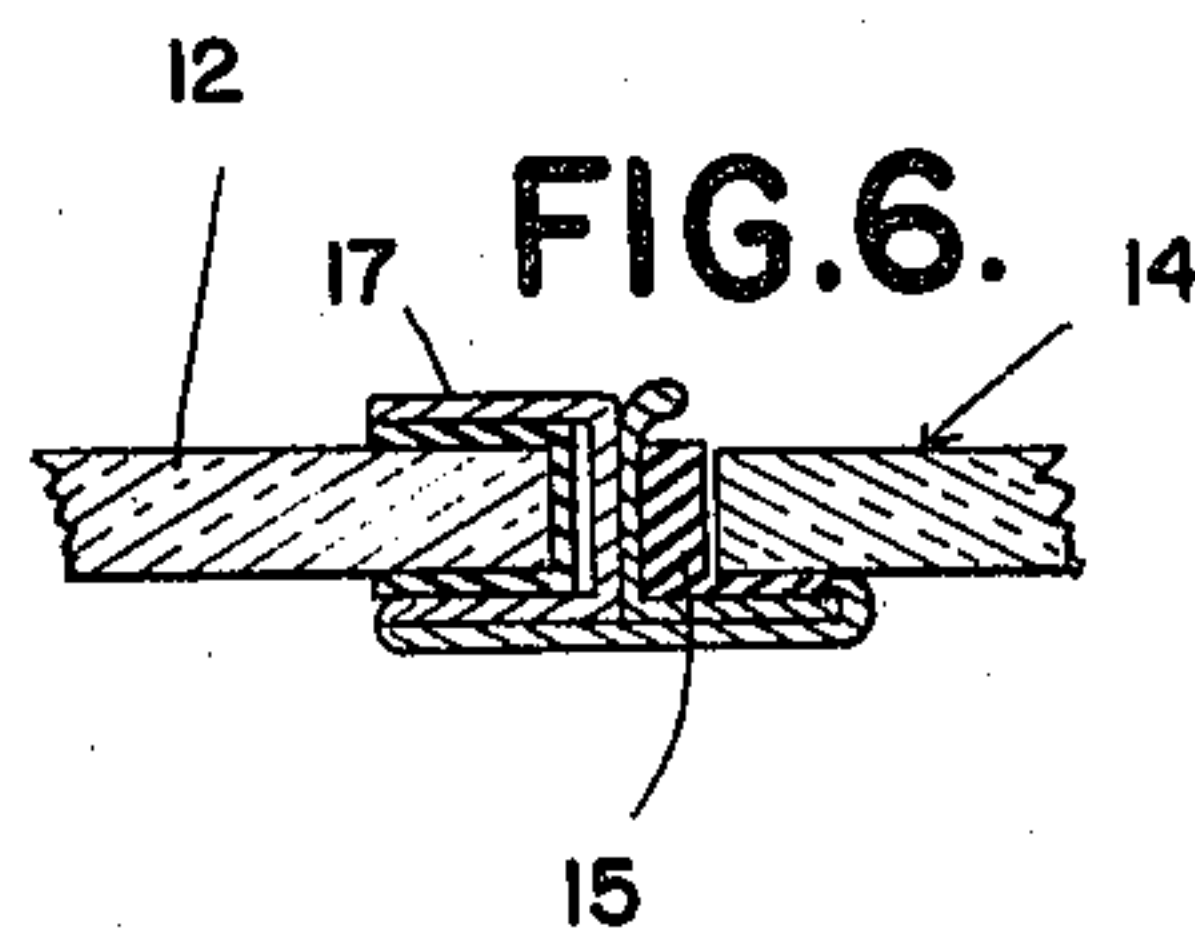
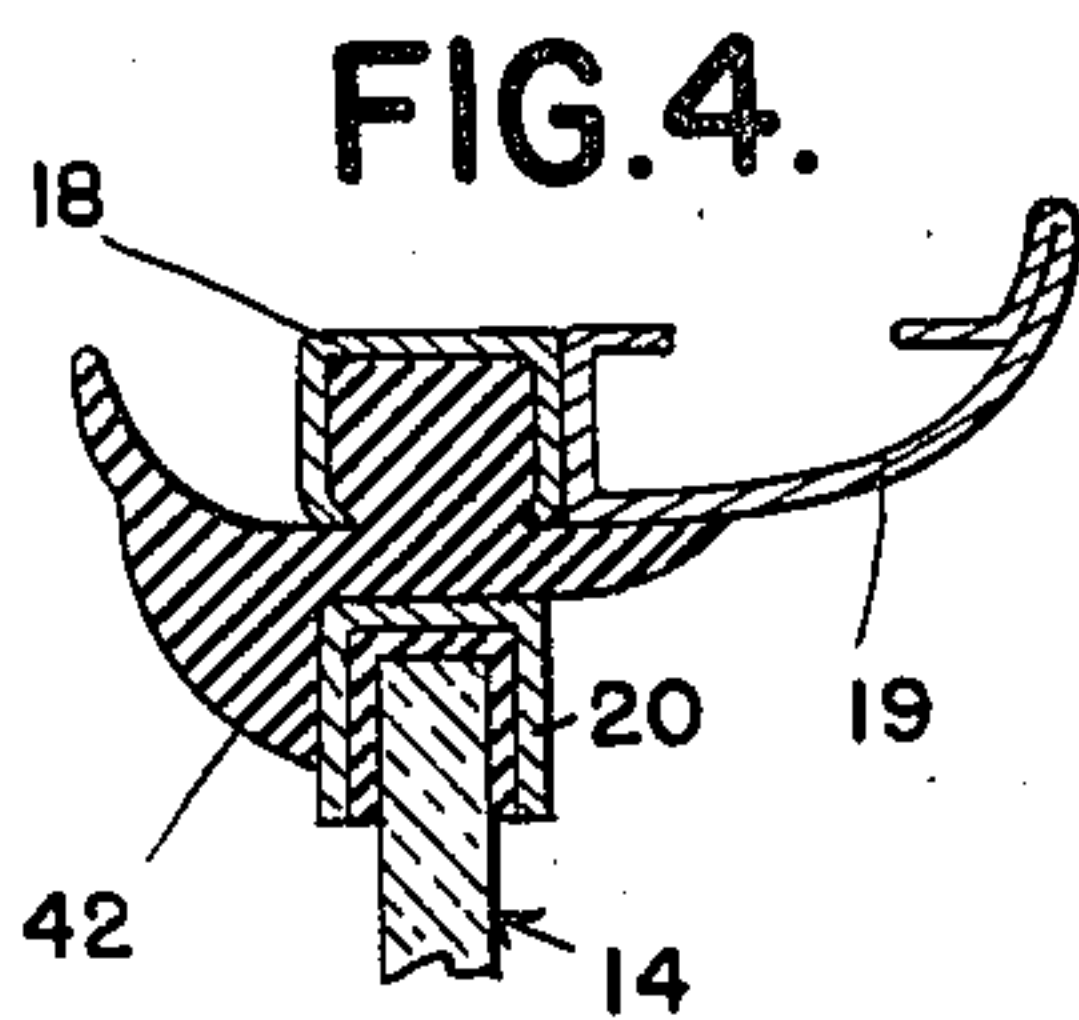
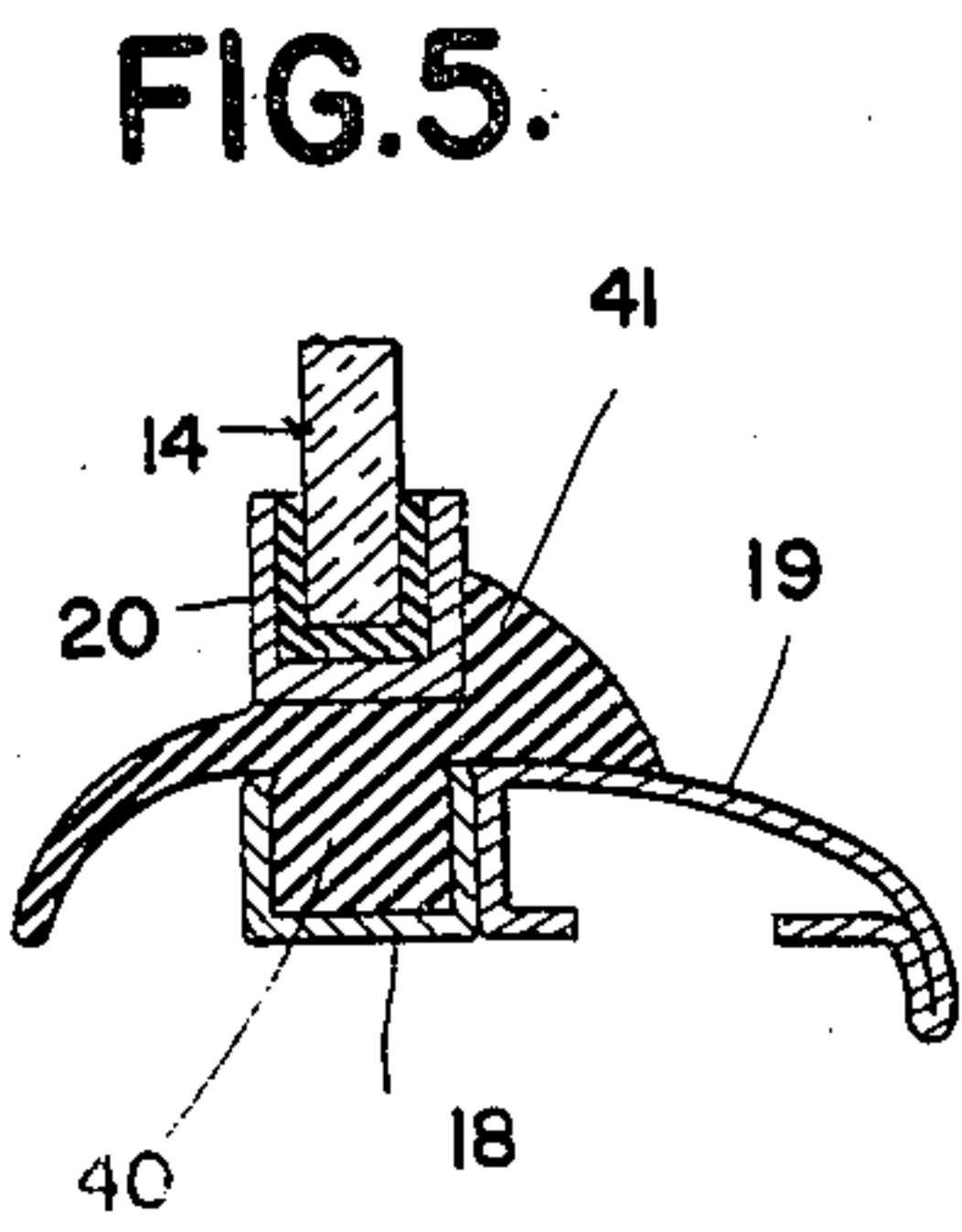
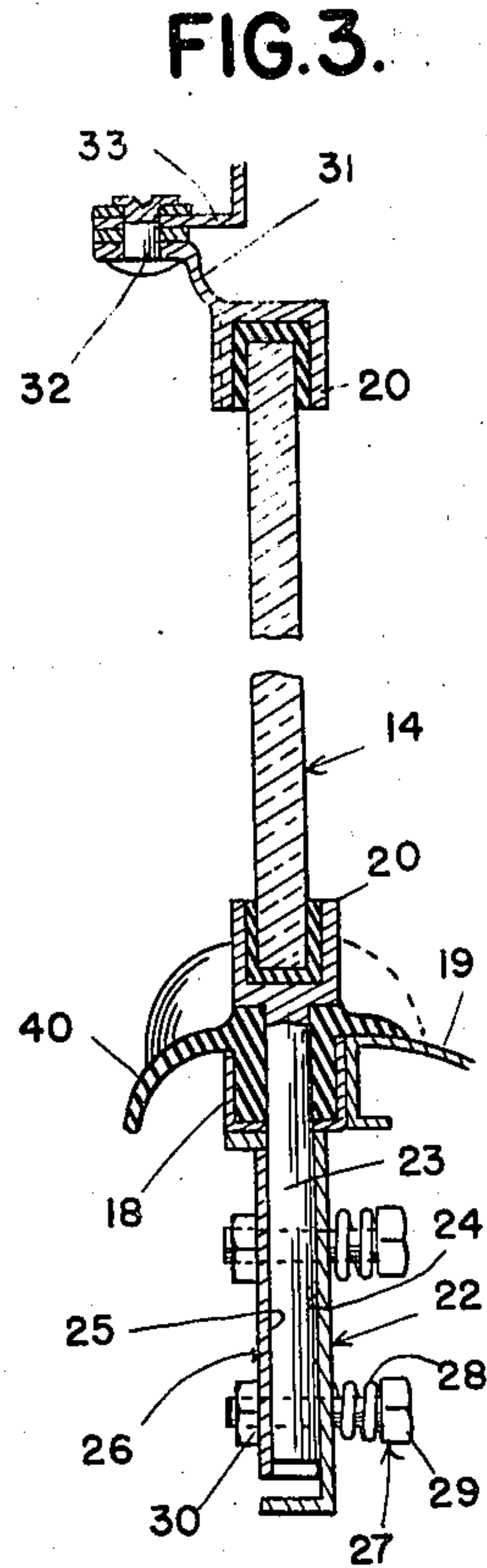
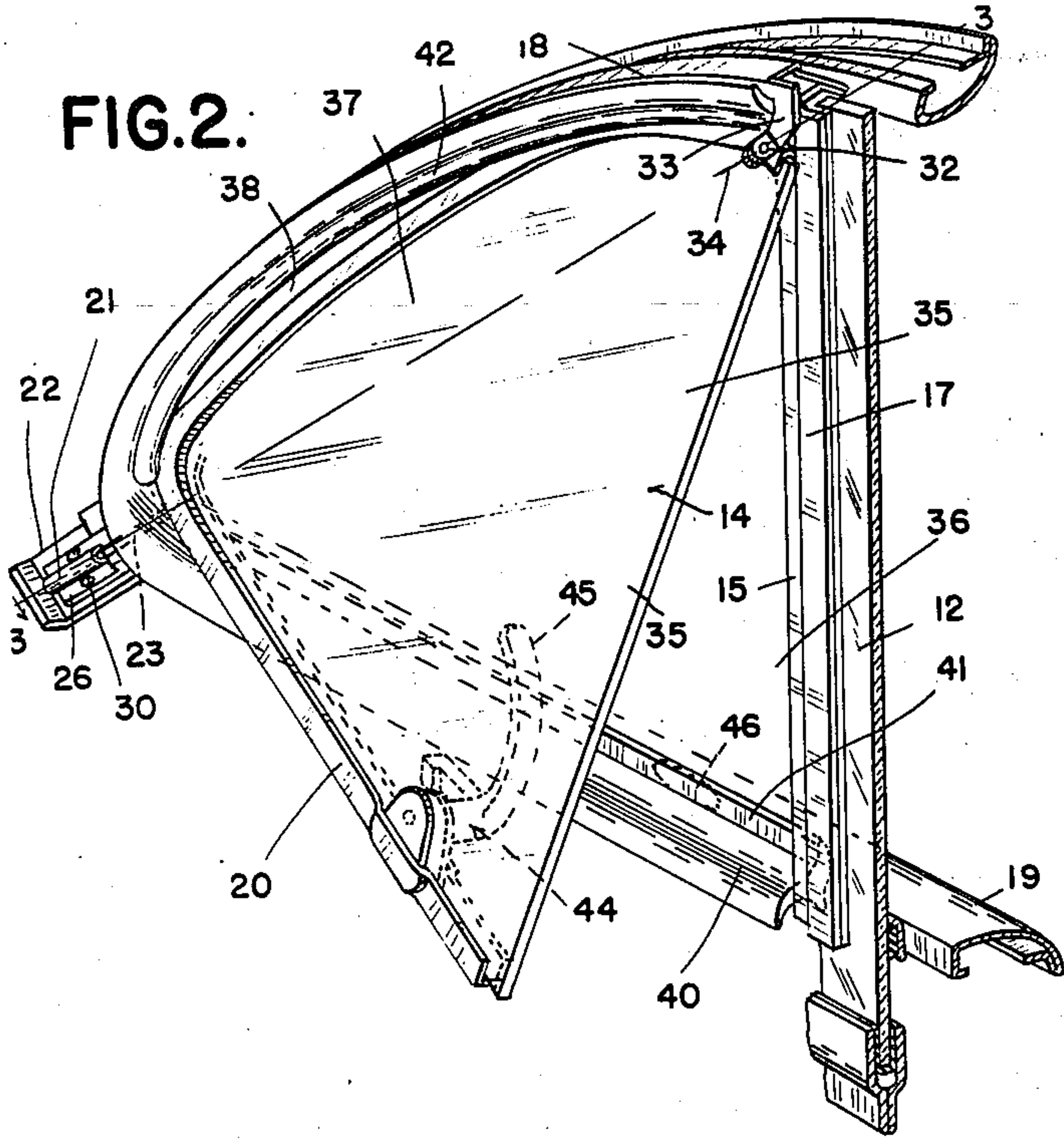
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VENTILATING WINDOW CONSTRUCTION

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2 Sheets-Sheet 2



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VENTILATING WINDOW CONSTRUCTION

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4 Claims. (Cl. 296—44)

This invention relates generally to ventilating window constructions and refers more particularly to windows of this character employed in vehicle bodies to effect a transfer of air between the interior and exterior of the body.

It has been the practice in the past to support a pivoted panel in the window opening for swinging movement about a substantially vertical axis located between the front and rear edges of the panel. The arrangement is such as to permit the front edge of the panel to swing inwardly with respect to the plane of the window opening and to permit the rear edge of the panel to swing outwardly with respect to this plane. Thus, as the vehicle travels forwardly, air is withdrawn from the body through the slot provided at the rear edge of the panel and air is admitted to the body through the slot at the front edge of the panel.

Although with constructions of the above type, the relative areas of the two slots may be varied to control the degree of ventilation by changing the location of the axis of pivotal movement of the swinging panel with respect to the front and rear edges of the panel, nevertheless, in all cases, the ventilator is mounted in such a manner that a substantial space exists between the portion of the top edge of the panel extending rearwardly from the axis of swinging movement and the adjacent side of the body. The area of this space, of course, depends upon the degree the ventilating panel is opened and in any case is objectionable because it affords a direct entrance into the body for water and, as a consequence, materially restricts or prevents ventilation during a rain storm. It has been proposed to overcome this objection by securing closure members to the body above the swinging panel and, while this construction overcomes the above objection to a certain extent, nevertheless, it is not satisfactory because it not only increases the expense of manufacture but, in addition, detracts from the appearance of the vehicle.

It is one of the principal objects of the present invention to provide a ventilating window having the same general principles of operation as the one previously described, but so constructed as to permit complete ventilation without providing the objectionable opening at the upper edge of the ventilator. In accordance with the present invention, the upper edge of the swinging panel swings inwardly with the front edge of the panel when the latter is moved to any one of its several open positions. This is accomplished in the specific embodiment of the invention by pivotally supporting the top edge of the swinging panel at

a point adjacent the rear edge of this panel and by positioning the lower pivot adjacent the front edge of the panel.

Another advantageous feature of the present invention consists in the provision of a ventilating panel of the character set forth capable of being swung outwardly from its closed position through-out an angle greater than 90°, so as to permit the panel to be employed as a scoop for directing a large volume of air into the body.

The foregoing, as well as other objects, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings, wherein:

Figure 1 is a fragmentary interior elevational view of a portion of a vehicle body equipped with a ventilating window constructed in accordance with this invention;

Figure 2 is a fragmentary perspective view featuring the swinging panel of the ventilating window;

Figure 3 is a sectional view taken substantially on the plane indicated by the line 3—3 of Figure 2;

Figures 4 to 6, inclusive, are sectional views taken substantially on the planes indicated by the lines 4—4, 5—5, and 6—6, respectively, of Figure 1; and

Figure 7 is a plan view of the swinging panel showing the same in its scooped position.

In Figure 1 of the drawings, I have shown a portion of a vehicle body 10 having a window opening 11 in one side wall thereof and having a vertically slidable panel 12 in the rear portion of this opening. The panel 12 is supported in the usual manner for movement from a position in the window opening to a position in a well formed in the body below the window opening and is actuated by the regulator mechanism 13. The portion of the window opening in advance of the front edge of the sliding panel 12 is normally closed by a swinging panel 14. Upon reference to Figure 6, it will be noted that in the closed position of both panels, the inner side of the swinging panel 14 adjacent the rear edge thereof abuts a vertically extending weatherstrip 15 secured in the usual way to a channel 17 fastened to the front vertical edge of the sliding panel 12.

In a manner to be presently set forth, the swinging panel 14 is supported within a weatherstrip retaining frame 18 extending around the top, front and bottom edges of the swinging panel. As shown in Figures 3 to 5, inclusive, the frame 18 is welded, or otherwise permanently secured, to the outer side of the usual finish molding 19

removably secured to the vehicle body in the inner side of the window opening. Upon reference to Figure 1, it will be noted that the molding 19 extends around the entire window opening and, since the pivoted panel is carried by the molding, it follows that the latter may be assembled as a unit with the molding.

Upon reference to Figure 2, it will be noted that the panel 14 is pivotally supported in the frame 18 and is provided with a channel 20 extending around the top, front, and bottom edges of the panel. It will also be observed from the above figure that the bottom edge of the panel 14 adjacent the forward edge of the latter is pivotally supported on the frame 19 for swinging movement on an axis 21 inclined upwardly and rearwardly to such an extent as to intersect the top edge of the panel adjacent the rear edge of the latter. This pivotal connection is more clearly shown in Figure 3 of the drawings and comprises a bracket 22 permanently secured to the frame 18, and a pivot pin 23 secured to the panel retaining channel 20. The pivot pin 23 extends downwardly from the channel 20 on the axis 21 and is adapted to seat in a semi-circular groove 24 formed in the outer surface of the bracket 22. The groove 24, of course, extends in the direction of the axis 21 and cooperates with a corresponding groove 25 in a clamping plate 26 to form a bearing for the pivot pin 23. The plate 26 is yieldably clamped to the bracket 22 on opposite sides of the registering grooves by means of fastener elements 27 having compression springs 28 associated therewith. In detail, the fastener elements 27 are in the form of bolts 29 having shank portions extending through aligned openings in the bracket and plate 26 for receiving suitable clamping nuts 30. The clamping nuts 30 normally maintain the plate into frictional engagement with the pivot 23 by means of the springs 28 surrounding the shank portions of the bolts between the heads of the latter and the adjacent surfaces of the bracket 22. The resistance to swinging movement of the panel 14, provided by the above connection, is sufficient to maintain the panel in any one of its several open positions, but is insufficient to prevent readily manually swinging the panel with respect to the window opening.

The top of the panel 14 is also pivotally connected to the frame 18 and the manner in which this is accomplished is also shown in Figure 3 of the drawings. In detail, the top rear edge of the channel 20 is provided with a laterally outwardly extending bracket 31 pivotally connected, as at 32, to a lug 33 extending laterally outwardly from the adjacent portion of the frame 18. It will be noted from the above figure that the axis 34 of the pivot pin 32 is offset laterally outwardly from the axis 21 of the pin 23 and, as shown in Figure 7, the two axes are not only parallel to one another, but are disposed in a common plane extending transversely of the space occupied by the panel from the lower front corner of this space to the upper rear corner of the latter.

With the above arrangement, it will be noted that when the swinging panel 14 is moved to its open position, the triangular portion 35 of the panel in rear of the axis will swing outwardly relative to the window opening providing a triangular shaped slot 36 at the rear edge of the panel and the portion 37 of the panel in advance of the axes swings inwardly to form a slot 38 in advance of the panel. As a consequence, when the vehicle is moving in a forward direction, air

is exhausted from the interior of the body through the triangular opening 36 and is taken into the body through the opening 38.

The above position of the pivoted panel 14 is shown in Figure 2 and as will be observed from this figure, the front and top edge portions of the panel 14 move inwardly as the panel is opened so that any direct openings for the passage of water into the body are eliminated. As a matter of fact, in all normal open positions of the panel 14, the latter will serve as a deflector and direct the water in a direction away from the ventilating openings.

In the event it is desired to direct the maximum amount of air into the interior of the body, the panel 14 may be swung to the position thereof shown in Figure 7. In this position the ventilator is passed through an arc greater than 90° and the relatively large area 35 of the panel acts as a deflector for directing air into the body. This position of the pivoted panel is normally termed the "scoop" position, since the panel actually serves to scoop air into the interior of the body.

The panel is weatherproofed in the closed position thereof in accordance with conventional practice by means of a weatherstrip 40 secured in the channel of the frame 18 and having laterally spaced portions 41 and 42 extending into the window opening from the frame 18. The portions 41 are located at the inner edge of the weatherstrip 40 to abut the inner side of the panel 14 in the closed position thereof, while the portion 42 extends along the top and front edges of the weatherstrip 40 in a position to abut the outer side of the portion 37 of the panel 14. The pivoted panel 14 is maintained into intimate contact with the weatherstrip 40 and with the weatherstrip 15 at the rear edge of the panel 14 by means of a latch 44 secured to the glass channel 20 of the pivoted panel 14 at the inner side of the latter adjacent the rear edge of the same. As shown in Figure 1, the latch comprises a swinging handle 45 pivotally mounted on the glass channel 20 and a plate 46 secured to the frame 18 in a position to have a cam engagement with a projection 47 on the swinging handle 45.

Thus, from the foregoing, it will be observed that I have provided a pivoted ventilating panel capable of effecting a change of air within the vehicle body and constructed to prevent the escape of water into the vehicle body when the ventilator is in its open position. It will also be observed that my improved ventilating window may be inexpensively manufactured and is capable of being readily assembled in the window opening of the body.

What I claim as my invention is:

1. A composite ventilating window for vehicle bodies having a window opening, comprising an assembly adapted for insertion as a unit in the window opening from one side of the opening, said assembly having an enclosing border frame for said opening provided with a continuous garnish molding portion extending generally laterally from the plane of the window opening and having an integral channel-shaped portion, a closure panel pivotally mounted in the channel-shaped portion of the border frame on pivots carried by the channel-shaped portion and predeterminedly arranged to effect movement of the top and front edge of the panel in an inward direction from the plane of the channel-shaped portion of the border frame and to effect an outward movement of the rear and bottom edge

portions of the panel, said panel effective when swung to its closed position in the border frame to close the portion of the window opening defined by the channel-shaped portion of the frame, and a second panel mounted for vertical sliding movement in the plane of the first panel when the latter is in its closed position to close the remaining portion of the window opening.

2. A composite ventilating window for vehicle bodies having a window opening, comprising an assembly adapted for insertion as a unit in the window opening from one side of the opening, said assembly having an enclosing border frame for said opening provided with a continuous garnish molding portion extending generally laterally from the plane of the window opening and having an integral channel-shaped portion, a closure panel pivotally mounted in the channel-shaped portion of the border frame on pivots carried by the channel-shaped portion and predeterminedly arranged to effect movement of the top and front edge of the panel in an inward direction from the plane of the channel-shaped portion of the border frame and to effect an outward movement of the rear and bottom edge portions of the panel, said panel effective when swung to its closed position in the border frame to close the portion of the window opening defined by the channel-shaped portion of the frame, a second panel mounted for vertical sliding movement in the plane of the first panel when the latter is in its closed position to close the remaining portion of the window opening, and a bar effective to divide the channel-shaped portion of the border frame from the remaining portion of the latter and operable to form a seal between the adjacent edges of said panels.

3. A composite ventilating window for vehicle bodies having a window opening, comprising an assembly adapted for insertion as a unit in the window opening from one side of said opening, said assembly comprising an enclosing border frame for said opening having a continuous garnish molding portion extending generally laterally from the plane of the window opening and having an integral channel-shaped section extending around the front portion of the frame, a closure panel pivotally supported in the chan-

nel portion of the frame for swinging movement about an axis extending diagonally between the lower front and upper rear corners of the channel-shaped portion of the frame to permit the top and front portions of the panel to swing inwardly from the plane of the window opening and the bottom and rear portions of this panel to swing outwardly with respect to this plane, said panel effective when swung to its closed position in the border frame to close the portion of the window opening defined by the channel-shaped portion of the frame, and a second panel mounted for vertical sliding movement in the plane of the first panel when the latter is in its closed position to close the remaining portion of the window opening.

4. A composite ventilating window for vehicle bodies having a window opening, comprising an assembly adapted for insertion as a unit in the window opening from one side of said opening, said assembly comprising an enclosing border frame for said opening having a continuous garnish molding portion extending generally laterally from the plane of the window opening and having an integral channel-shaped section extending around the front portion of the frame, a closure panel pivotally supported in the channel portion of the frame for swinging movement about an axis extending diagonally between the lower front and upper rear corners of the channel-shaped portion of the frame to permit the top and front portions of the panel to swing inwardly from the plane of the window opening and the bottom and rear portions of this panel to swing outwardly with respect to this plane, said panel effective when swung to its closed position in the border frame to close the portion of the window opening defined by the channel-shaped portion of the frame, a second panel mounted for vertical sliding movement in the plane of the first panel when the latter is in its closed position to close the remaining portion of the window opening, and a division bar mounted on the front edge of the second panel for movement with the latter in a position across the border frame and effective to form a seal between the adjacent edges of the panels.

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