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LE VOYD TATE

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AUTOMOBILE FABRIC TOP STRUCTURES

Filed Jan. 27, 1964

2 Sheets-Sheet 1

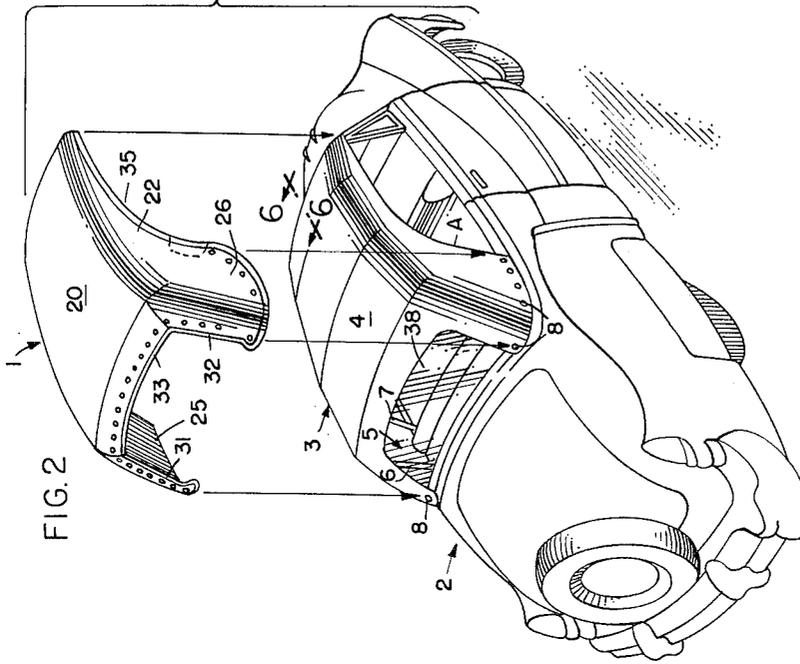


FIG. 2

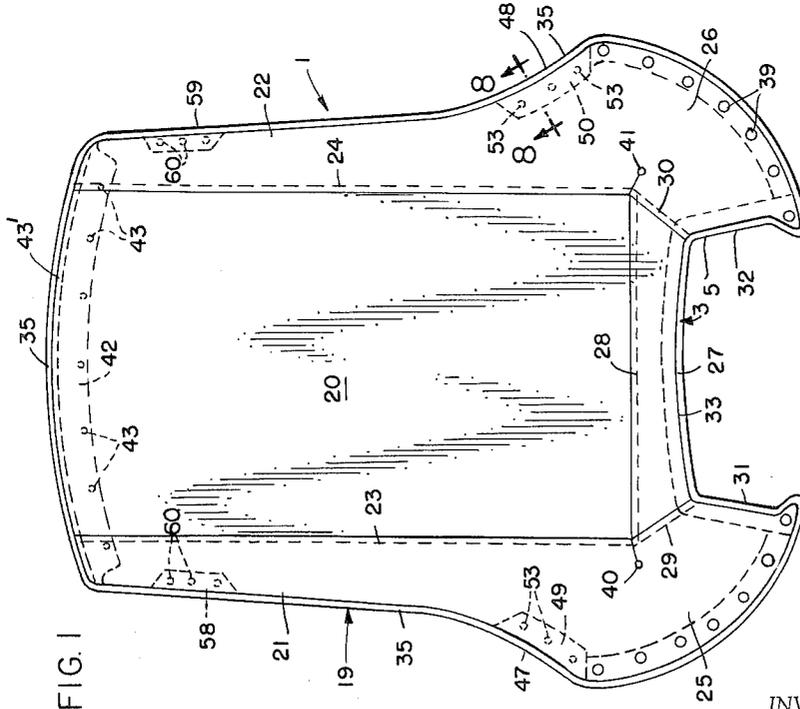


FIG. 1

INVENTOR:
LEVOYD TATE

BY

Marshall, Johnston, Cook & Root
ATT'YS

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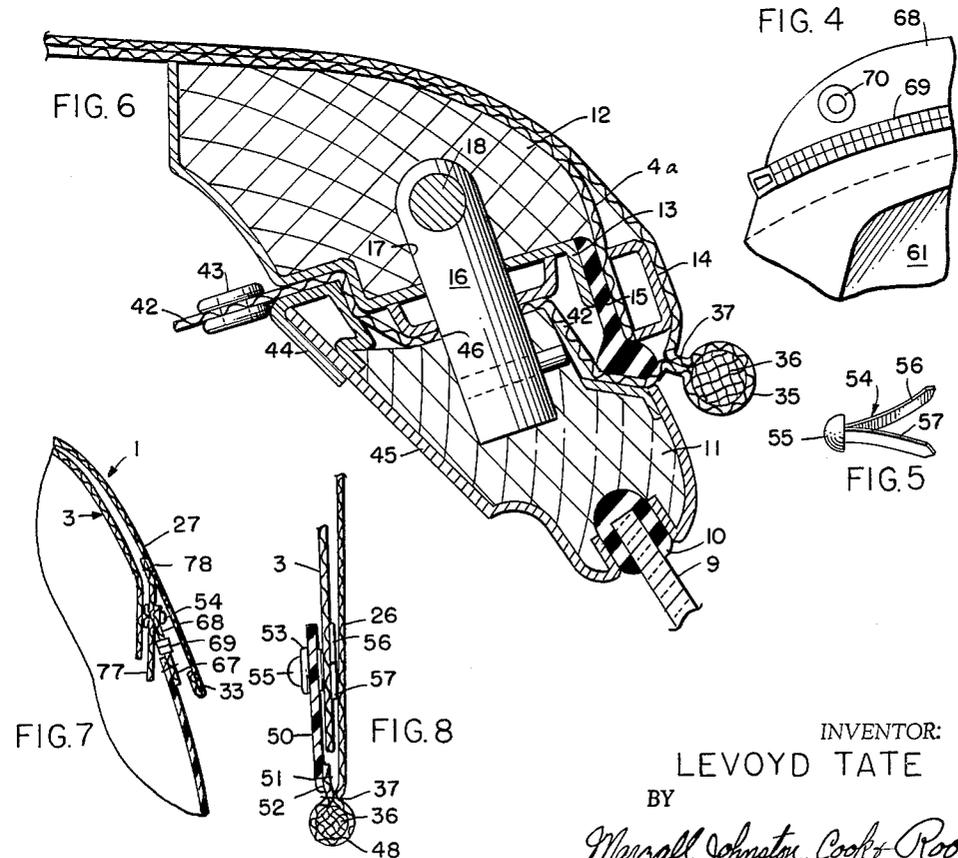
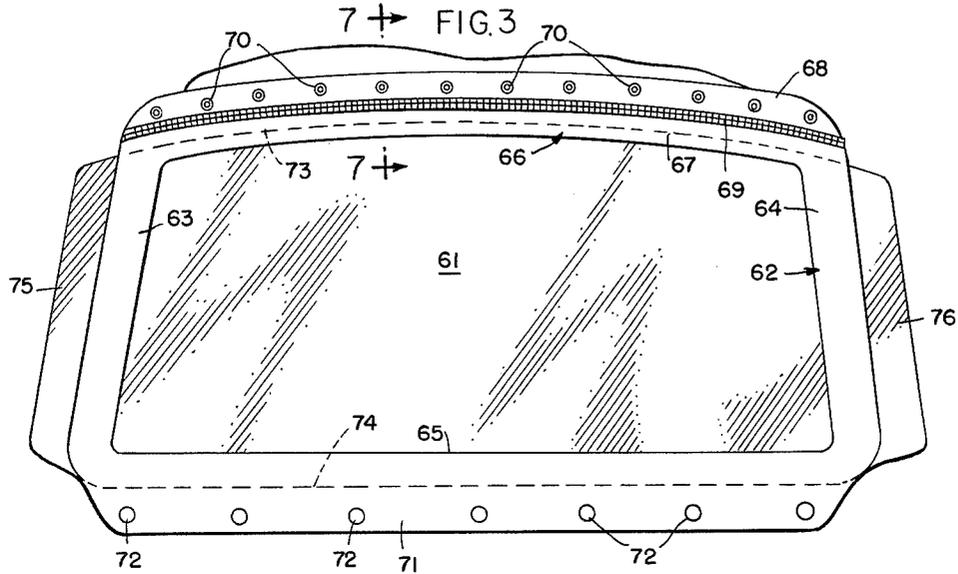
LE VOYD TATE

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2 Sheets-Sheet 2



INVENTOR:
LEVOYD TATE
BY
Marshall Johnston, Cook & Root.
ATT'YS

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AUTOMOBILE FABRIC TOP STRUCTURES
 Le Voyd Tate, 1340 W. Thorndale, Chicago, Ill.
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This invention relates to cover members and, more particularly, to cover members which are particularly well adapted for use in covering flexible tops or roofs such as, for example, the folding tops used on automobiles of the type commonly referred to as "convertibles."

It is a primary object of my invention to enable a novel cover member to be afforded for use on flexible tops of "convertible" automobiles, and the like.

It is another important object of the present invention to enable the outward appearance of the folding tops of "convertible" automobiles, and the like, to be changed in a novel and expeditious manner.

An ancillary object is to enable such a change in appearance to be quickly and easily made.

Another object of the present invention is to afford an attractive and practical novel cover member for the tops of "convertible" automobiles, and the like.

Another object is to afford a novel cover member of the aforementioned type which may be quickly and easily mounted on, or removed from, such a top by one person in a matter of a few minutes.

A further object of the present invention is to afford a novel cover member of the aforementioned type which, when it is mounted in operative position on the top of a "convertible" automobile, is securely held thereon so that it will remain in place under all normal driving conditions.

Yet another object of the present invention is to afford a novel cover member of the aforementioned type which sheds water and is otherwise water-resistant.

Another object is to afford a novel cover member for the tops of "convertible" automobiles, and the like, which is so constructed that it may be readily pulled snug during installation thereof on such a top.

Another object is to afford a novel cover member for use on the folding tops of automobiles, and the like, which may be secured in a novel and expeditious manner to the presently existing fastener members embodied in such an automobile.

A further object is to afford a novel cover member of the aforementioned type which is attractive in appearance and practical and efficient in operation, and which may be readily and economically produced commercially.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show the preferred embodiment of the present invention and the principles thereof, and what I now consider to be the best mode in which I have contemplated applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

FIG. 1 is a top plan view of a cover member embodying the principles of my invention;

FIG. 2 is an exploded view showing the cover member shown in FIG. 1 disposed in raised position over a "convertible" automobile of the type on which it is adapted to be mounted;

FIG. 3 is a plan view of the transparent rear window structure for said cover member;

FIG. 4 is an enlarged, fragmentary, detail view of a segment of the structure of FIG. 3;

FIG. 5 is a perspective view of a fastener pin used in the illustrated embodiment;

FIG. 6 is a detail, sectional view of the joint between the cover member and the upper edge of the windshield of a convertible automobile and is taken on plane 6—6 of FIG. 2;

FIG. 7 is a fragmentary, detail, sectional view taken on plane 7—7 of FIG. 3; and

FIG. 8 is a fragmentary, detail, sectional view taken on plane 8—8 of FIG. 1.

Referring to the drawings, the cover member 1, embodying the principles of the invention, is shown in the drawings to illustrate the preferred embodiment of the present invention.

The cover member 1 is of the type adapted to be mounted on an automobile of the type commonly referred to as a "convertible" such as, for example, the automobile 2 shown in FIG. 2. The automobile 2, as is common in automobiles of this type, embodies a folding top 3, including a cover member 4 made of suitable flexible material such as, for example, suitably processed canvas, or the like, and a suitable supporting frame 5 which includes suitable braces or supports such as those indicated at 6 and 7 in FIG. 2. Frame structures of this character are well known in the art.

Tops for convertible automobiles, such as the top 3, commonly embody holes along the rear edge for the purpose of fastening these portions to the frame of the automobile by means of fastener members, e.g., screws 8, extending through the holes into the frame with male snap fastener heads.

The transparent, front windshield 9 has a rubber seal strip 10 along its upper edge sealing the joint between the upper edge of the windshield glass and the windshield cross brace 11.

As will be appreciated by those skilled in the art, frames for the tops of "convertible" automobiles such as, for example, the frame 5, also commonly embody a front cross brace such as the cross brace 12 shown in FIG. 6, this latter cross brace 12 extending transversely across the width of the front end portion of the top 3. The front edge portion 4a of the cover member 4 is clampingly secured against a flange 13 on the cross brace 12 by a suitable mounting strip 14 suitably secured to the front face of the cross brace 12, a suitable gasket 15 being disposed between the front edge portion 4a and the flange 13 to afford a weather-resistant resilient seal therebetween.

Pins, such as the pin 16 shown in the FIG. 6, are commonly mounted on the cross brace 11 of such "convertibles," and the pins 16 are adapted to be received in sockets such as the sockets 17 in the cross brace 12 when the top of the convertible is mounted in normal erected position thereon. Locking pins such as the pin 18, FIG. 6, commonly extend transversely through the pins 16 when the top 3 is disposed in normal closed position on the upper edge of the windshield 10. Handles, not shown, are commonly afforded in automobiles such as the automobile 2 for actuating the pins 18 and causing the latter to be inserted into, and removed from, the pins 16 and sockets 17 to thereby lock, and release, respectively, the front end portion of the top 3 relative to the windshield 10.

The cover member 1 shown in the drawings to illustrate my novel invention, is of the type adapted to be mounted on the top 3 of a convertible of the type shown in FIG. 2 of the drawings. As will be appreciated by those skilled in the art, and as will be discussed in greater detail presently, my invention is not limited to a cover member which may be used on a convertible of the particular type shown in the drawings and changes may be

made in the cover member 1, or in the automobile, or the like, on which it is to be mounted without departing from the purview of my invention.

The cover member 1 shown in the drawings embodies a body portion 19, which may be made of any suitable flexible sheet material such as, for example, canvas or a suitable synthetic resinous material such as, for example, suitable polyvinyl chloride sheeting. The body portion includes a substantially rectangularly-shaped central panel 20 having side panels 21 and 22 extending along opposite front end portions thereof and secured thereto by suitable means such as stitching 23 and 24, respectively. The side panels 21 and 22 embody panel segments 25 and 26, respectively, forming segments of the top cover at the rear corners of the top cover between the rearward edge of the side windows of the automobile and the rear window of the top cover.

The rear panel 27 completes the panels of the top cover 1. It is a substantially trapezoidal cover stitched by stitching 28 to the rear edge of panel 20 and by stitching 29 and 30 to the inner sides of the side panel segments 25 and 26. The edges 31 and 32 of side panel segments 25 and 26 and edge 33 of rear panel 27 define an opening for a transparent rear window.

Beading 35 extends completely around the outer peripheral edge of the body member 19 of the cover member 1, FIG. 1, and embodies a suitable core such as cording 36, FIG. 6, to thereby afford a strongly reinforced edge portion for the body member 19 which is resistant to tearing and also tends to retain its desired shape. The beading 35 is secured to the outer free edge portions of the panels 20, 21, 22, 25, 26, and 27 by stitching 37.

The body member 19 of the cover member 1 is of such size and configuration that it will fit over the cover member 4 of the top 3 in covering relation thereto with an exactly tailored fit when it is mounted thereon and pulled snug in the manner which will be discussed in greater detail presently. For this purpose, the front end of the body member 19 is shaped to conform to the front end of the top 3, and the opposite sides of the body member 19 extend substantially straight back from the front end thereof to a point where they flare outwardly away from each other, when the body member 19 is disposed in flat position, to conform to the shape of the cover member 4 of the top 3. The opening formed in the rear end portion of the body member 19 is also shaped to conform to the shape of the window 38 formed in the rear end of the top 3 of the automobile 2.

A plurality of snap members 39, FIGS. 1 and 2, corresponding in number and position to the fastening members 8 disposed along the top 3 of the convertible 2, are secured on the rear edge portions of the rear side panels 25 and 26 of the body member 19. The snap members 39 are female snap members adapted to clampingly receive the heads of respective ones of the fastening members 8. The snap members 39 are so positioned on the body member 19 that when they are all attached to respective ones of the screws 9, the portions of the body member 19 disposed between adjacent pairs of snaps 39 are pulled taut. Two other snap members 40 and 41, which are constructed in the same manner as the snap members 39, may be mounted on the side panels 25 and 26, FIG. 1, in position to clampingly receive the heads of the two pins fastened by any suitable means on the top 3, when the cover member 1 is mounted on the erected top 3.

An extension panel 42 is secured to the front end of the body member 19 by the stitching 43' occurring on that portion of the peripheral edge portion of the body member 19, FIGS. 1 and 6. The extension panel 42 is substantially rectangular in shape and extends longitudinally across the front end of the body member 19. The outer longitudinal edge of panel 42 has at spaced intervals therealong grommets 43 which lie substantially against the frame channel 44 which is mounted along the edge of the metal frame 45 on cross brace 11.

In the installation of my novel cover member 1 on an automobile top such as the top 3, the cover member 1 is first laid on the top 3 and the snaps 39 are engaged with the respective fastening members 8. The snaps 40 and 41 may then be engaged with the aforesaid pins and the extension panel 42 may then be manually doubled back under the brace 12 on the top 3. By pulling on the grommets 43, along the free edge portion of the extension panel 42, the panel 42 is pulled tautly between the braces 11 and 12 and thereby holds the cover member 1 in such tautly stretched relation, FIG. 6. Openings such as the openings 46 may be afforded in the extension panel 42 for receiving the locking members such as, for example, the locking pins 16, in the manufacture of the cover member 1. However, if such openings are not afforded in the extension panel 42 during the manufacture thereof, the person installing the cover member 1 on a top such as the top 3 may make a cross slit at the proper place in the extension panel 42 to permit any locking members, such as the locking members 16, to be inserted therethrough.

For securing edges 47 and 48 of the top cover 1 over the top 3, there are provided along said edges inwardly directed flaps 49 and 50 stitched by stitching 51 to lip 52, FIG. 8, of the panels 25 and 26. The flaps 49 and 50 preferably are rigid enough to be self-supporting and are tucked behind the edge of the top 3. If desired, the flaps 49 and 50 may be provided with grommets 53. These grommets receive the shanks of pin fasteners 54, FIG. 5.

Pin fasteners 54 comprise a head 55 and bendable shank members 56 and 57. The pin fasteners 54 are inserted through grommets 53 and the pointed ends are pushed through the fabric of top 3, after which the shanks 56 and 57 are bent outwardly to secure the flaps 49 and 50 against the top 3.

The top cover 1 may have additional flaps along the side edges, e.g., the flaps 58 and 59 which are similar to flaps 49 and 50. The flaps 58 and 59 may have grommets 60 for attaching said flap to the fabric of top 3 by fastener pins 54 in the same manner as previously described.

The rear window of the top 3 preferably, though not essentially, is removed when cover top 1 is installed. The rear window 61 for cover top 1 is a transparent panel of a synthetic resin polymer secured in a fabric frame 62, FIGS. 3, 4 and 7. The frame 62 comprises side strips 63 and 64, a bottom strip 65 and a top strip 66. The latter strip is composed of two strips, a strip 67 joined with the upper ends of side strips 63 and 64 and a strip 68 joined to the upper, longitudinal edge of strip 67 by a zipper 69. Strips 67 and 68 can be separated completely by unzipping the zipper 69.

The strip 68 has a plurality of grommets 70 spaced along its length. These grommets received fastener pins 54, FIG. 7, the shanks of which are pushed through the fabric flap 77 underlying the rearward end of rear panel 27 of top cover 1 and stitched thereto along its upper edge by stitching 78. The strip 68 is thus removably secured to flap 77 of top cover 1 by the fastener pins 54 and is severable while so attached from the upper edge of strip 67 by unzipping zipper 69.

The lower frame strip 65 of the black window has a flap portion 71. The latter has a plurality of snap members 72 spaced therealong and adapted to be snapped on snap counterparts on the frame of the convertible at the lower edge of the rear window. If such snaps are not provided on a particular model, the members 72 may be grommets for receiving fastener pins 54, by which the lower edge of the rear window frame is attached to the lower edge (if available for this purpose) of top 3 beneath its rear window or for receiving screws to attach said lower edge to the frame of the convertible.

As can be seen in FIG. 3, the upper edge 73 of the transparent window sheet 61 lies behind frame strip 67 slightly below zipper 69 while the lower edge 74 lies behind frame strip 65 at about the junction between strip

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65 and flap 71. The sides 75 and 76 of window sheet 61 project beyond the outer edges of the window frame side strips 63 and 64, respectively. This provides flaps which can be tucked between top 3 and cover top 1 to hold the side edges of the window in place. When the rear window is to be open, zipper 69 is unzipped, and the window can be folded down by withdrawing the tucked sides 75 and 76. The window can be removed, if desired, by unsnapping snaps 72 (or by removing the other fastener elements, if used in place of snaps 72).

Also, if more permanent attachment of the side edges of the window frame is desired, these edges may be attached to the top 3 by the grommet-fastener pin arrangement heretofore described, by snaps, or the like. The tucked flap arrangement, however, is the most desired and convenient one.

The invention thus provides a detachable, protective top cover for an automobile of the type having a windshield provided with a rail along the top edge thereof and a convertible top supported by frame members including a front frame piece resting on and detachably secured to the rail. The top cover comprises a flexible sheet fashioned to conform to the shape of the top to which it is applied. The invention embodies novel constructions such as flap structures and coacting fastener means for attaching removably the top cover and the rear window panel, novel rear window structures, and the like.

Thus, while I have illustrated and described the preferred embodiments of my invention, it is to be understood that these are capable of variation and modification, and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

The invention is hereby claimed as follows:

1. A detachable, protective top cover for an automobile of the type having a windshield provided with a rail along the top edge thereof and a convertible top supported by frame members including a front frame member resting on and detachably secured to said rail, said top cover comprising a flexible sheet fashioned to conform to the shape of the top to which it is to be applied, the rear

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portion of said top cover having an opening with a top edge and opposite side edges, a transparent window member with a flexible frame about said transparent window member in said opening, a flap on the underside of said top cover adjacent to said top edge, means detachably securing the top edge of said flexible frame to said flap, and the said edges of said transparent window member projecting farther than the side edges of said flexible frame and also farther than the side edges of said opening whereby said side edges of said transparent window member are adapted to be tucked between the edges of said top cover adjacent the side edges of said opening.

2. A top cover as claimed in claim 1 wherein said flexible frame includes a fabric strip extending across the upper side thereof, and removable fastener pins extending through and securing together said flap and said strip.

3. A cover top as claimed in claim 2 wherein said fabric strip comprises a pair of strips detachably held together by a zipper extending the length of said fabric strip.

4. A rear window panel for a convertible top of an automobile comprising a flexible frame with an opening therein, a transparent window member secured to said frame and covering said opening, the side edges of said transparent window member projecting beyond the respective side edges of said frame to provide tuck flaps adapted to be tucked behind an opening for said rear window panel in the rear portion of said convertible top.

5. A rear window panel as claimed in claim 4 wherein said flexible frame has a row of fastener pin-receiving holes therein near a longitudinal edge of said flexible frame.

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A. HARRY LEVY, *Primary Examiner.*