Sept. 18, 1923. 1,468,203

H. M. HORNE ET AL.

AUTOMOBILE TOP CONSTRUCTION AND CURTAINS THEREFOR

Filed Oct. 13, 1921 3 Sheets-Sheet 1

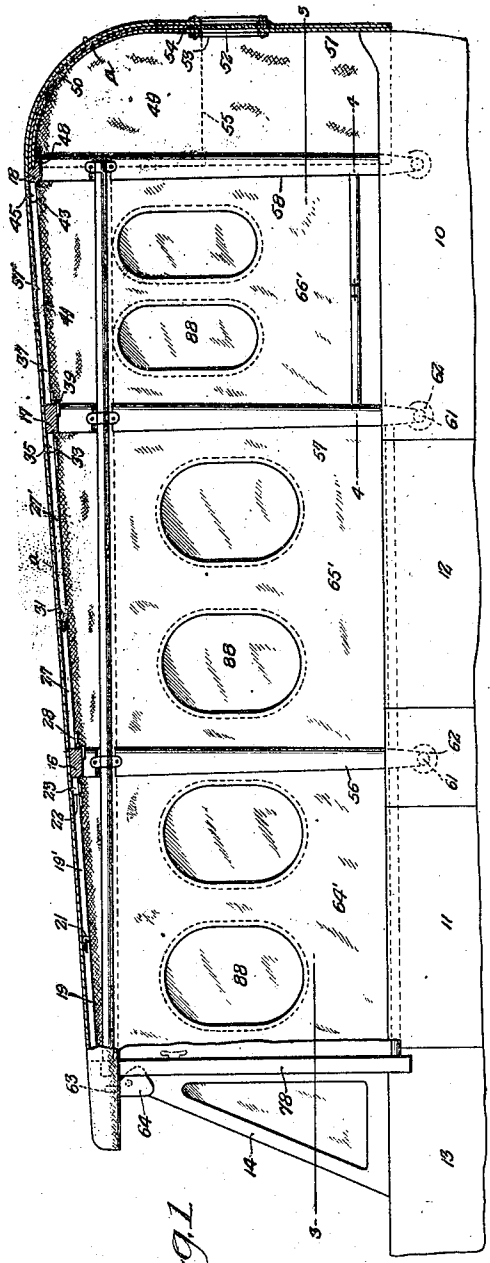


Fig. 1

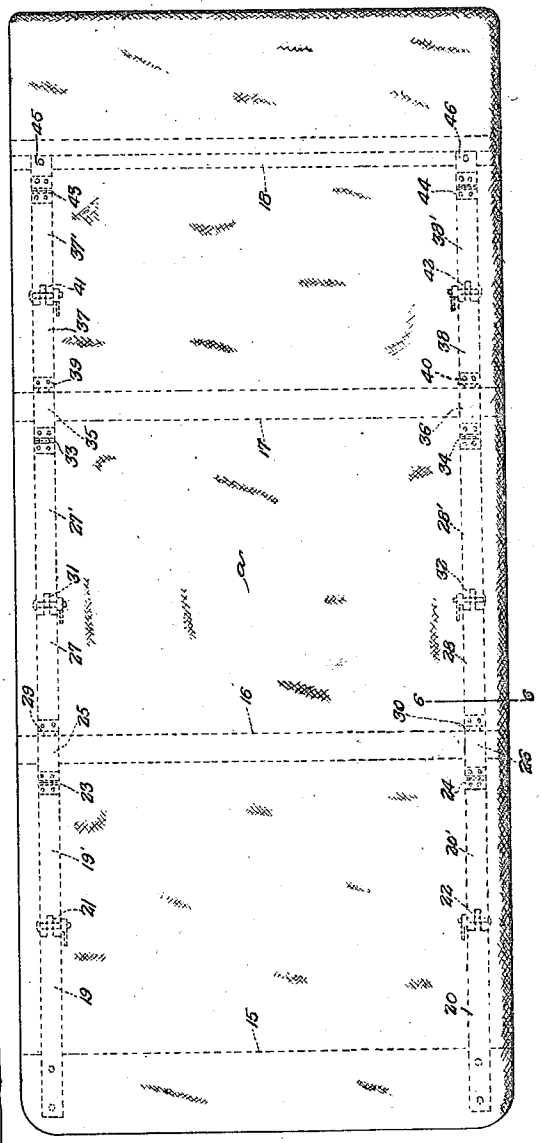


Fig. 2.

H M Horne & T T Dickenson, INVENTOR.

BY

Geo. P. Kimmel ATTORNEY.

Sept. 18, 1923. 1,468,203

H. M. HORNE ET AL.

AUTOMOBILE TOP CONSTRUCTION AND CURTAINS THEREFOR

Filed Oct. 13, 1921 3 Sheets-Sheet 2

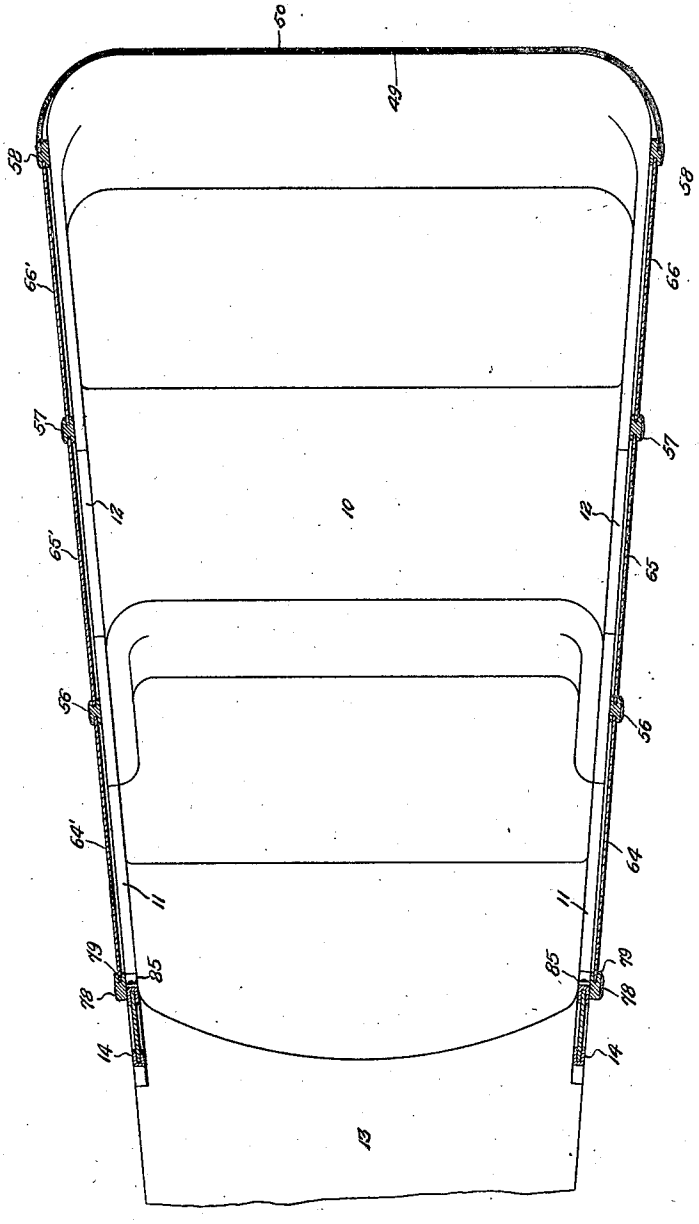


Fig. 3.

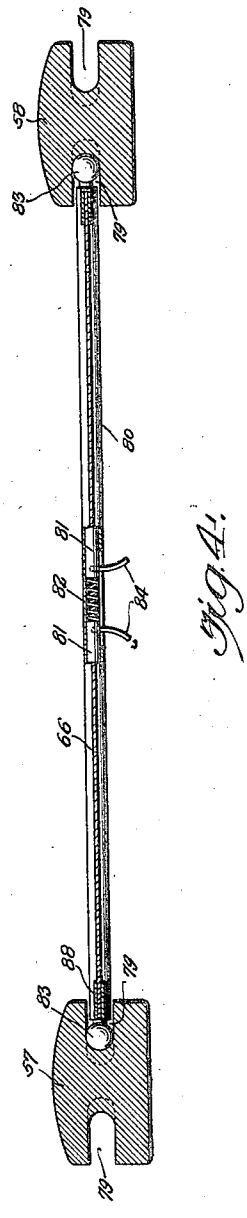


Fig. 4.

H.M. Horne & T.T. Dickenson, INVENTOR.

BY

Geo. P. Kimmel. ATTORNEY.

Sept. 18, 1923. 1,468,203

H. M. HORNE ET AL

AUTOMOBILE TOP CONSTRUCTION AND CURTAINS THEREFOR

Filed Oct. 13, 1921 3 Sheets-Sheet 3

Fig. 7.

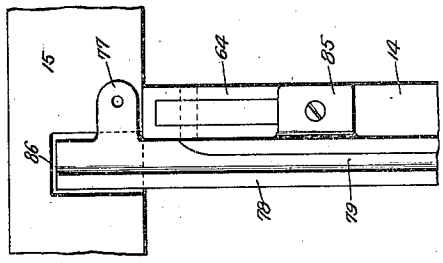


Fig. 8.

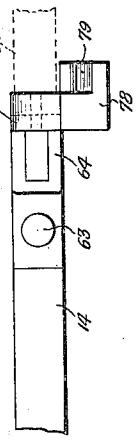


Fig. 5.

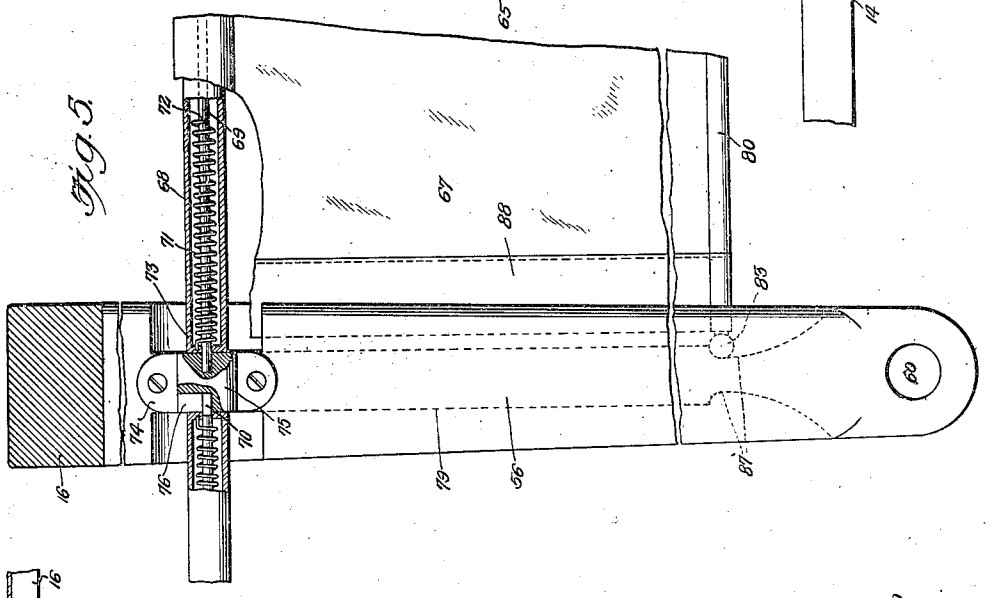


Fig. 6.

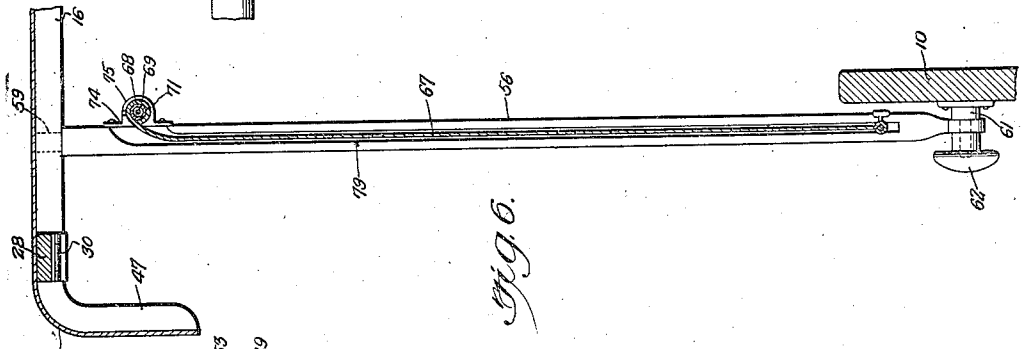
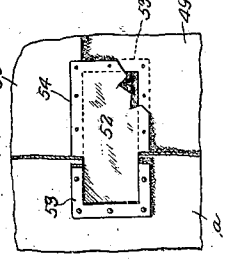


Fig. 9.



H M Horne & T T Dickenson, INVENTOR.

BY

Geo. P. Kimmel ATTORNEY.

Patented Sept. 18, 1923. 1,468,203

UNITED STATES PATENT OFFICE.

HUGH M. HORNE AND THADDEAUS T. DICKENSON, OF JACKSONVILLE, FLORIDA.

AUTOMOBILE TOP CONSTRUCTION AND CURTAINS THEREFOR.

Application filed October 13, 1921. Serial No. 507,431.

To all whom it may concern:

Be it known that we, HUGH M. HORNE and THADDEAUS T. DICKENSON, citizens of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented certain new and useful Improvements in Automobile Top Constructions and Curtains Therefor, of which the following is a specification.

This invention appertains to certain improvements in vehicle top constructions and curtains therefor generally, and more particularly to types thereof adapted for use on automobiles.

The principal object of the invention is to provide for a top construction of the class mentioned, and one of a construction and arrangement affording greater strength and durability thereto than now obtains in present known types thereof, the framing and posts of the same being preferably formed of aluminum to lend lightness to the structure without detracting from such increased strength and durability, aforesaid.

Another and equally important object of the invention is to provide for a top construction as characterized, and one embodying a novel form of curtain construction and arrangement whereby the same are maintained in position for instant use on the top structure of an automobile when the latter is in its raised operative position, the said curtain being supported on the top in a manner as to not interfere in any way with the ready access to and exit from the interior of the vehicle or automobile.

With the foregoing and other objects in view, the invention resides in the certain novel and useful construction, arrangement and operation of parts as will be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a fragmentary side elevation of the upper portion of the body of an automobile, showing a preferred embodiment of the top and curtain structure as applied thereto.

Figure 2 is a top plan view of the top per se.

Figure 3 is a horizontal section taken on the line 3—3 of Figure 1.

Figure 4 is an enlarged horizontal section taken on the line 4—4 of Figure 1.

Figure 5 is an enlarged fragmentary elevation, partly in section, of one of the intermediate top supporting and curtain guide posts, and showing the manner of journaling the adjacent ends of the curtain rollers thereto.

Figure 6 is an enlarged sectional detail taken on the line 6—6 of Figure 2.

Figure 7 is an enlarged fragmentary detail of one of the front curtain guides and supporting bracket and showing its manner of attachment to the wind shield of an automobile.

Figure 8 is a fragmentary top plan view of the parts as shown in Figure 7, and

Figure 9 is an enlarged fragmentary detail of the back curtain construction and showing the manner of mounting a curtain light therein.

Referring to the drawings, wherein similar characters of reference designate corresponding parts throughout the several views thereof, the numeral 10 indicates the body portion of an automobile, 11 and 12 the front and rear doors thereof; 13 the hood portion at the forward end of the same; and 14 the wind shield rising from the inner end portion of the hood portion 13; all of a conventional construction and arrangement.

The preferred embodiment of the top construction and arrangement, as contemplated for the present invention and as illustrated in the drawings, comprises an inverted yoke-shaped frame work over which an inverted U-shaped top *a* is positioned and which may be formed of any suitable material, such as any of the usual fabrics, or the same may be in the form of a sheet metal, preferably sheet aluminum, is stretched and secured, and which consists of a front transverse bar 15; a front intermediate transverse member or rib 16; a rear intermediate transverse member or rib 17; and a rear transverse member or rib 18; the member or rib 16 being connected to and normally spaced from the bar 15 by means of oppositely disposed brace members or bars each formed to provide a pair of sections 19, 19′ and 20, 20′, respectively, the sections 19 and 20 being secured to the bar 15 at their forward ends and hingedly connected as at 21 and 22 in end to end relation to the sections 19′ and 20′; which latter sections 19′ and 20′ have their inner ends, opposite to the hinged connections 21 and 22, hingedly connected as at 23 and 24 respectively to complementally and rigidly secured short members or

bars 25 and 26 projecting forwardly of the member or bar 16. Similarly, the member or bar 17 is connected to and normally spaced from the member or bar 16 by means of oppositely disposed brace members or bars arranged in alignment with the brace members or bar sections 19, 19′ and 20, 20′, and each of the same consists of a pair of sections 27, 27′ and 28, 28′, respectively, the forward sections 27, 28, being hingedly connected as at 29 and 30 to the member or bar 16 at their front ends and to the members or bars 27′, 28′ as at 31 and 32 which, in turn, are connected at their inner ends by hinges 33 and 34 to the free ends of a pair of complementally and rigidly secured short members or bars 35 and 36 projecting forwardly of the frame member or bar 17, which, in turn, is connected to the rear frame member or bar 18 by means of a pair of oppositely disposed brace members or bars each formed to provide pairs of sections 37, 37′ and 38, 38′, the sections 37, 38, being hingedly connected as at 39 and 40 to the frame member 17 at their forward ends and similarly connected as at 41 and 42 at their rear ends to the forward ends of the sections 37′, 38′, which, in turn, are connected at their rear ends by hinges 43 and 44 to the free ends of a pair of complementally disposed and rigidly secured short members or bars 45 and 46 projecting from the frame member or bar 18. Each of the transverse frame members or bars 16, 17 and 18 are of a metal bar stock preferably aluminum to lend extreme lightness to the top structure without detracting from the strength and durability thereof, and have their opposite ends angularly bent to provide depending portions 47 (see Fig. 6) to retain the opposite depending side edge portions of the top covering material or fabric *a* in its smoothly stretched condition. The outer upper edge of the rear frame member or bar 18 is channelled as at 48 to seat therein the upper edge of an inner binding section 49 of a suitable leather or fabric lining material and a section of sheet metal 50, preferably sheet aluminum, overlying the lining section 49, and over which is extended the top covering fabric or material *a*. The metal section 50 curves rearwardly and downwardly from its channel 48 to provide a smooth supporting surface for the top covering fabric or material *a* which is trained over the same and extends downwardly from the lower edge thereof to provide a rear closure wall portion 51 and has its lower edge fastened, by suitable fastenings such as the usual snap buttons or the like, to the outer side of the edge portion of the rear wall of the body 10. Similarly the inner lining section 49 is extended downwardly over the inner surface of the metal section 50 and is connected at its lower edge to the top fabric and the fastenings of the same. These depending sections or portions of the lining 49 and the top fabric or material form a rear curtain permanently connected to the top, and may be provided with the usual light aperture, or apertures, preferably closed by a glass 52 secured in position by the usual metal clamping elements or frames 53. The upper side edge of the glass 52 is preferably seated within a recess 54 of a corresponding length formed by the cutting away of a central portion of the lower edge of the metal plate 50 substantially as is shown in Figure 9, while the covering *a* and the lining 49 is preferably secured together in any suitable or desired manner, as at 54 on a line immediately below the lower edge of the said metal plate 50.

Each of the transverse bars 16, 17 and 18 are provided with depending pairs of oppositely disposed bows, posts or standards 56, 57 and 58, respectively, each of which are preferably and fixedly secured in position as at 59 (see Fig. 6) to and inwardly from the outer bent end portions 47 thereof, and have their lower ends formed to provide eyes 60 for engagement on studs 61 projecting at properly spaced intervals outwardly of the opposite sides of the body 10 of the automobile, the free ends of the studs 61 being threaded for the reception therein of cap nuts 62, when the top is in use, while the front transverse bar 15 is supported directly on and secured to the upper edge of the wind shield 14, suitable recesses being formed inwardly of the opposite ends of the outer face of the bar 15 and engaged over the studs 63 of a pair of bracket members 64 secured at the opposite sides of the upper edge of the wind shield 14 for the purpose. When the top is in use, and is thus supported and secured in position, the hinged brace members extending between the transverse members or bars 15, 16, 17 and 18 are straightened out and smoothly support the covering *a* in the plane of the upper faces of the said transverse bars, the top as a whole sloping in the forward direction to effect a proper shedding of moisture therefrom. When it is desired to fold the top to the rear of the body 10, the lower ends of the posts or standards 56 and 57 are detached from their supporting studs 61, the front transverse bar 15 lifted from the brackets 64, and the brace members or bars extending between the transverse members or bars 16, 17 and 18 are broken in a downward direction at the center hinges 21, 31 and 41, so that the transverse member or bar 17 and its posts or standards 57 will be moved rearwardly into abutting relation with respect to the member or bar 18 and its posts or standards 58, the transverse bar 16 and its posts or standards 56 in a similar direction and into abutting relation with respect to

the member or bar 17 and its post or standards 57, and the front transverse bar 15 into abutting relation with respect to the transverse member or bar 16, when the folded top is to be swung rearwardly on the studs 61 of the posts or standards 58 and until the latter rest in the usual top supporting bracket (not shown) carried at the rear of the body. It is to be noted that the posts or standards 58 of the transverse member or bar 18 are secured at the opposite outer ends of the latter as distinguished from the points of connection of the posts and standards 56 and 57 being inwardly from the opposite ends of their respective transverse members or bars so that the several posts or standards are disposed in alignment in the planes of the opposite forward tapering sides of the body 10, whereby the top, which is substantially rectangular in plane, is supported in the usual manner to have its opposite side edge portions equally overhanging the latter.

The side storm curtains, to be used on the top construction as hereinbefore described, are arranged in pairs, one pair 64, 64′ to close the openings at the opposite side of the body 10 and the top and between the wind shield 14 and the front posts or standards 56, a second pair 65, 65′ to close the openings between the posts and standards 56 and 57, and a third pair 66, 66′ to close the openings between the posts and standards 57 and 58. Each of the several curtains comprise a sheet of water-proof fabric or material 67 which is secured at one edge to a roller 68 through which is extended a rod 69 which is circular in cross section throughout the major portion of its length and at one of its ends projecting from the opposite ends of the roller, and squared at its outer end as at 70 whereby the rod 69 is prevented from turning during the revolving movement of the roller 68 thereon, and whereby a coiled spring 71 enclosed within the latter is placed under tension, when the curtain is unwound from the roller, one end of the spring being connected to the rod 69 as at 72 and the other to the roller 68 as at 73 (see Fig. 5). Each of the several curtains 64—64′, 65—65′, and 66—66′, are removably supported in brackets secured on the upper end portions of the inner faces of the posts or standards 56, 57 and 58, the brackets 74 on the intermediate posts or standards 56 and 57 being of a double socket construction substantially as is shown in Fig. 5, wherein this form of bracket has a solid centrally enlarged portion 75 which is provided with a circular opening or socket on one side to receive the complementally formed end of the rod 69 of the curtain roller 68 adjacent thereto, and on the other side with a vertically extending slotted socket opening 76 for the reception of the squared end of the rod 69 of the curtain roller 68 complemental thereto, while the brackets 77 carried on the rear set of posts or standards 58 and a front pair of posts or standards 78 are of a single socket form substantially as is shown in Fig. 7. Each of the posts or standards 56, 57, 58 and 78 are grooved as at 79 on their opposed side vertical faces to receive with such grooves the opposite vertical side edges of the curtains 67 whereby to prevent the ingress of moisture around the confined edges thereof when the same are lowered to enclose the interior of the vehicle. For retaining the curtains in any desired open of closed position, each of the same have their lower edges formed to provide a tubular beading 80 in which are mounted a pair of rods 81 having their inner ends spaced apart to either side of the vertical center of the curtain by means of a coiled spring 82 which normally acts to force the same equally in opposite directions and cause their outer ends to frictionally engage against the inner wall of the said grooves 79, the outer ends of the rods 81 each being formed to provide a spherical end portion 83 to snugly conform to the formation of the said inner walls of the grooves 79. To facilitate the raising and lowering of the curtains, the inner adjacent ends of the rods 81 are provided with finger pieces 84 by means of which the latter may be drawn inward of the bead 80 and against the tension of the spring 82, so that the end portions 83 are disengaged from contact with the walls of the grooves 79, the springs 71 in the rollers 68 acting to automatically rewind the curtains onto the rollers 68 for the raising of the curtains, and upon the release of the finger pieces 84, the outer headed ends 83 of the rods 81 will again contact the grooves 79 under the action of the springs 82 and will hold the curtains in any desired opened or closed, or partially open or closed position. The posts or standards 78 are preferably formed to provide laterally projecting lugs or ears 85 by means of which they are secured in proper position to the opposite vertical side edges of the wind shield 14, and the upper ends of the same rising above the top edge of the latter, and received in suitable recesses 86 formed in the under face of the front transverse bar 15 of the top framing, substantially as is shown in Figs. 7 and 8. To assure of the curtains being positively retained in their lowered or closed position the lower end portions of the grooves or channels 79 of the several posts or standards are deepened as at 87 whereby the headed ends 83 of the combined curtain guides and securing rods 81 will be forced inwardly of such deepened portions 87 and abut the shoulder formed at the junction of such latter portions and the said lower ends of the grooves or channels 79 (see Fig. 5).

In the use of the curtain, the same may

be retained in operative position on the top as long as the same is extended over the body so as to always be ready for instant lowering, as in case of sudden rain storms, and are only to be removed from operative position when it is desired or necessary to fold the top to its inoperative position at the rear of the vehicle body. These several curtains may be provided with the usual light admitting inserts 88, the same being made of any of the usual flexible or pliable materials now used for such purpose. It is to be especially noted that the verticle side edges of the several pairs of curtains 64, 64′; 65, 65′; and 66, 66′; which are engaged in the grooves 79 of the several top supporting bows or posts 56, 57, 58 and 78 are perfectly bound with sheet metal, whereby to fully protect the curtain fabric from undue wear and tear, and also to facilitate the sliding movement of the same within the said grooves 79.

From the foregoing, it will be readily apparent that we have provided for a substantially constructed but comparatively light weight top structure, and one of a greater durability under the usual strains and stresses brought to bear on the same during the travel of an automobile than is now found to be the case with known types thereof, and that, by the particular arrangement of the several transverse frame members, brace members, and the curved metal rear frame member, the top covering is maintained and otherwise supported in a manner as to be smooth and comparatively free from any and all tendency to sag or wrinkle; also, the curved metal plate takes practically all strain from the back curtain of the top, when the air pockets within the same during the run of the automobile, which strain and pocketing of the air very often results in an annoying and otherwise objectionable flapping of the back curtain, and in the tearing out of the fastenings by means of which the lower edge of the latter is secured to the body of the automobile. It will also be apparent that the novel construction and arrangement of the side storm curtains provides for the carrying of the same always in position for instant lowering and raising without the usual delay in removing them from their pockets within the top or elsewhere about the automobile and of the attaching and detaching thereof to and from operative position, which operation is usually accomplished only by the operator or other persons manipulating the curtains becoming wet, especially, if the operation is delayed too long, as until after a storm breaks and it starts to rain or snow.

From the foregoing also, it will be understood that, while a preferred embodiment of the top and the side storm curtains therefor have been described and illustrated herein in specific terms and details of construction, arrangement and operation, various changes in and modifications of the same may be resorted to without departing from the spirit of the invention, or scope of the claims appended hereto.

Having thus particularly described the invention what is claimed is:—

1. A vehicle top as characterized comprising a foldable framing consisting of transversely extending members, sectional brace members interposed between said transverse members and normally spacing the same one from the other, hinges connecting the sections of said brace members together and to said transverse members, a top covering extended over said framing, said brace members having their upper faces disposed in the plane of the upper faces of the said transverse members whereby to maintain and support said covering substantially smooth and free from sagging, a back curtain formed by a continuation of the said covering depending from the rear end of said framing, and a metallic member extending outwardly from the rear of said transverse members and supporting said back curtain in position.

2. A vehicle top comprising a framing consisting of transversely extending members having their ends downwardly disposed, sectional brace members hinged together and interposed between and hinged to said transverse members, a top covering mounted on said framing and extended over the ends of said transverse members, a curved support seated in the rear transverse member and depending therefrom, a rearwardly extending lining seated in the rear transverse member and positioned against said support, a depending back curtain mounted on said support and extended from said covering, and said brace members having their upper faces disposed in the plane of the upper faces of the transverse members whereby to maintain and support said covering substantially smooth and free from sagging, said brace members positioned in proximity to the downwardly disposed ends of said transverse members.

In testimony whereof, we affix our signatures.

HUGH M. HORNE.
THADDEAUS T. DICKENSON.