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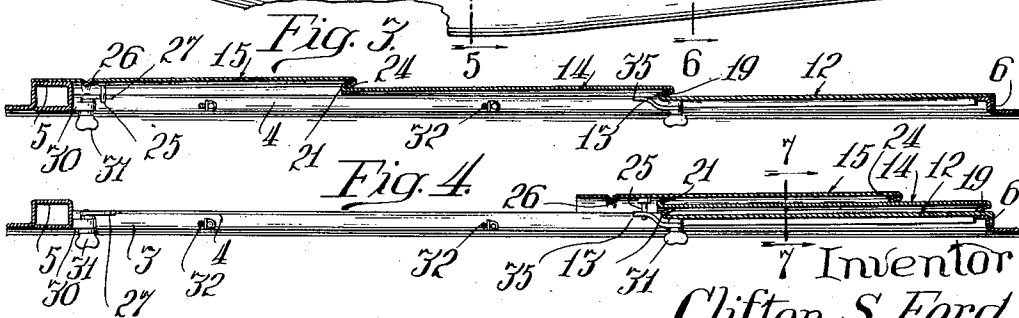
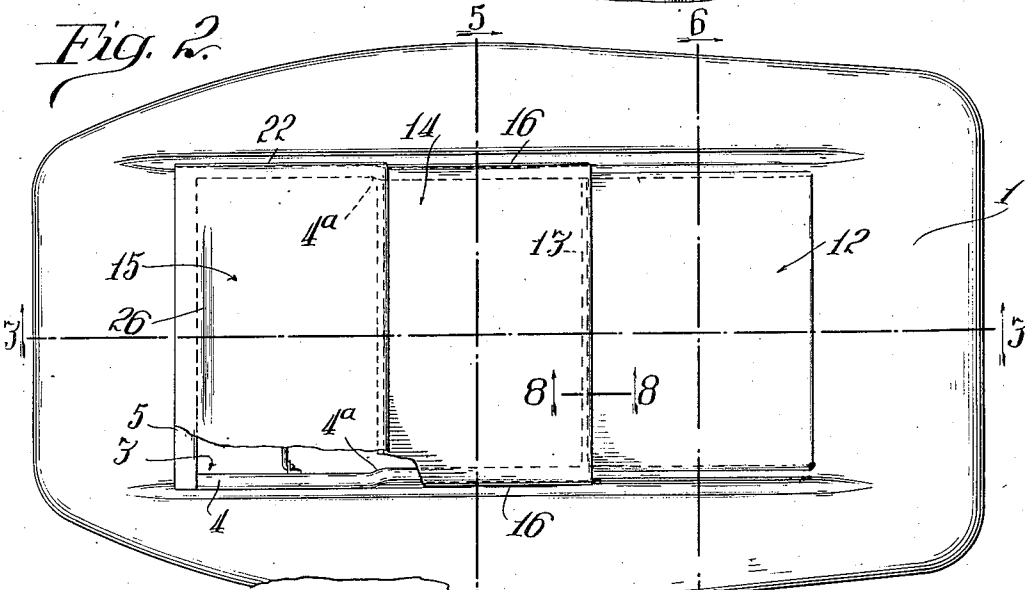
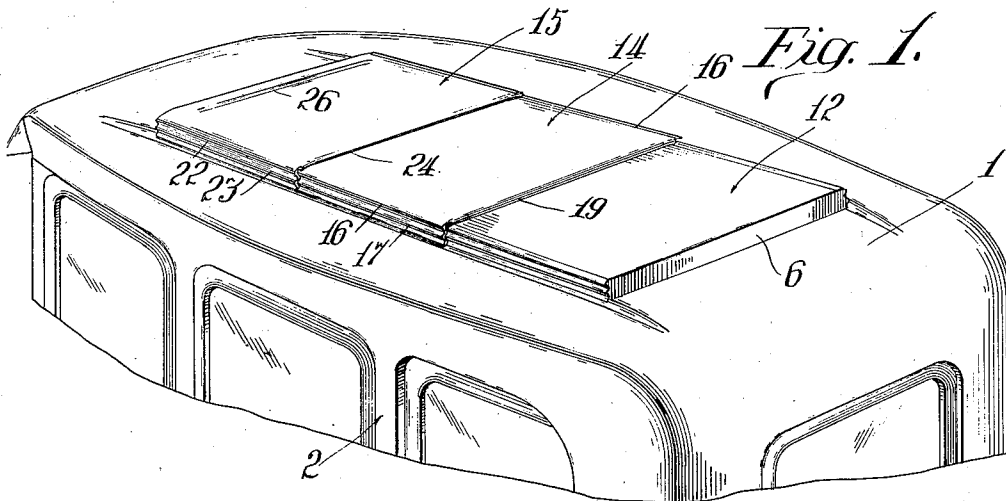
C. S. FORD

1,826,871

AUTOMOBILE TOP CONSTRUCTION

Filed July 5, 1928

2 Sheets-Sheet 1



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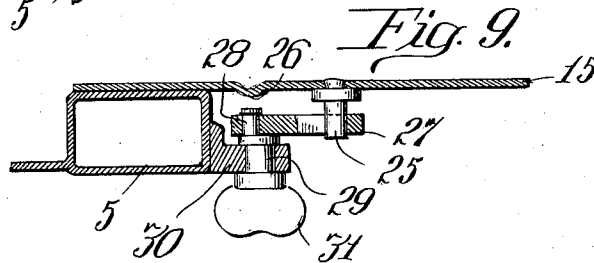
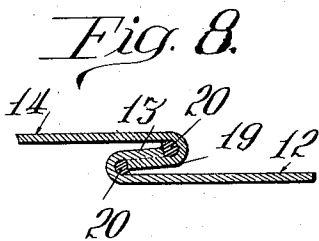
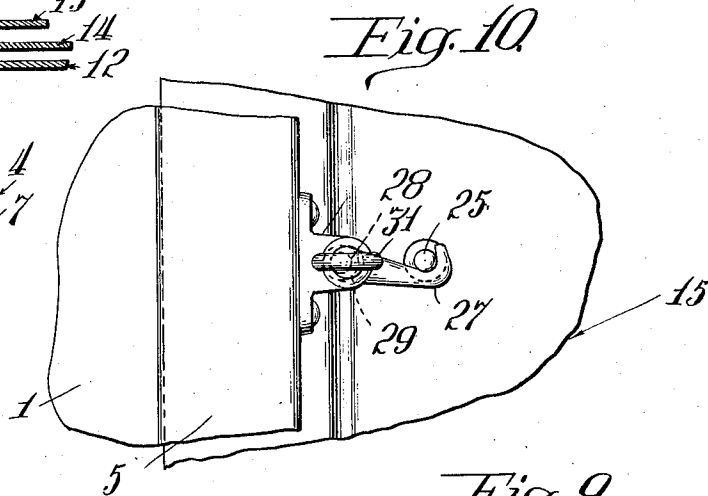
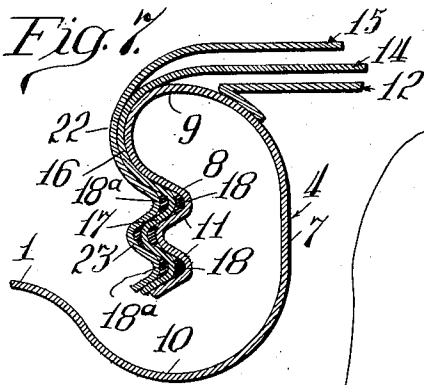
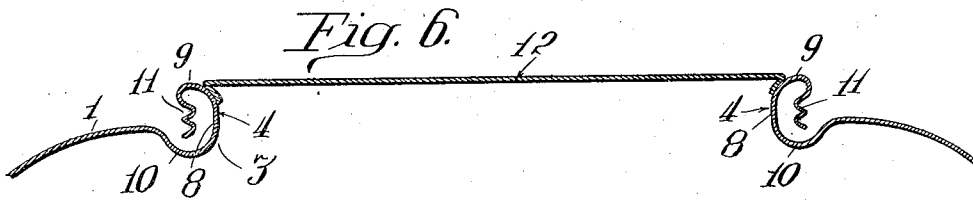
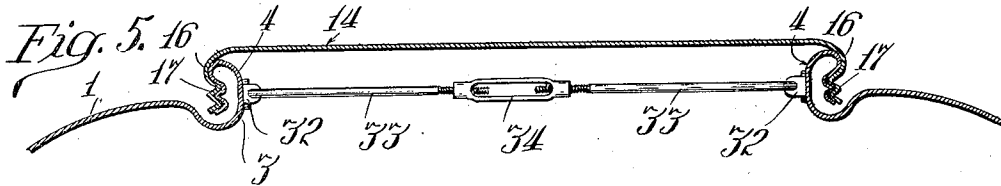
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AUTOMOBILE TOP CONSTRUCTION

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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AUTOMOBILE TOP CONSTRUCTION

Application filed July 5, 1928. Serial No. 290,390.

This invention relates to improvements in automobile top constructions and it consists of the matters hereinafter described and more particularly pointed out in the appended

5 claims.

The primary object of the invention is to provide a top construction for automobiles wherein all the pleasures of open car riding may be had in a closed car when so desired.

10 Another object of the invention is to provide a closed car top construction embodying an opening therein which may be either readily exposed or closed and when closed is storm and wind proof and is incapable of being

15 opened from the outside by unauthorized persons. Still another object of the invention is to provide a top construction with an opening therein, with which is associated one or more

20 panels adapted to be moved to expose any desired area or part of the opening, which panels are slidable on rails and are so disposed thereon as to prevent rattling or squeaking therein.

25 These objects of the invention together with others, as well as the many advantages thereof will more fully appear as I proceed with my specification.

In the drawings:—

30 Fig. 1 is a perspective view of an automobile top embodying my improved construction as viewed from the rear left hand corner thereof.

35 Fig. 2 is a top plan view of the same with parts broken away to more clearly show the structure thereof.

40 Fig. 3 is a longitudinal vertical sectional view through the improved top construction as taken on the line 3—3 of Fig. 2 and with the parts in a position to close the opening therein.

45 Fig. 4 is a view similar to Fig. 3 but with the parts in position to fully uncover or expose said opening therein.

Fig. 5 is a transverse vertical sectional view on an enlarged scale through the top construction as taken on the line 5—5 of Fig. 2.

50 Fig. 6 is another transverse sectional view through the top construction as taken on the line 6—6 of Fig. 2.

Fig. 7 is a detail vertical sectional view through one side of the top construction on a further enlarged scale as taken on the line 7—7 of Fig. 4.

Fig. 8 is a longitudinal detail sectional view on an enlarged scale as taken on the line 8—8 of Fig. 2.

Fig. 9 is an enlarged detail view of parts shown at the left hand end of Fig. 3.

Fig. 10 is a detail bottom plan view of the parts shown in Fig. 9.

In general my improved construction contemplates the provision of a sheet metal top formed at its sides and ends to fit upon the body structure with which it is employed. In said top is provided a rectangular elongated opening in the metal sheet of the top which is defined at its sides by longitudinally extending rails with each of which is associated a gutter draining at both ends. With one end of this opening is associated a fixed panel and at least another panel slidable on the rails in such a manner as to be moved thereon from a position closing said opening to a position over the fixed panel to uncover or expose the opening, thus in all effects providing the pleasure of open car riding when desired, in a closed body car.

Certain means are provided to lock the movable panel in any desired position and to not only render the parts rattleproof but also wind and storm proof so that the desired advantage of either a closed or open body may be attained in a single structure.

Referring now in detail to that embodiment of the invention illustrated in the accompanying drawings, 1 indicates as a whole a substantially flat metallic sheet or sheets of suitable outline and having its margins formed for attachment to an automobile body 2 of the "closed" type to form the top therefor. In the mid portion of said sheet and extending longitudinally thereof is an elongated rectangular opening 3 defined at its sides by railing flanges 4—4 of peculiar cross sectional construction as will later appear, a front transverse rail 5 of a hollow box-like construction and an upright flange 6 at the rear.

The flanges 4—4 each comprise spaced in-

ner and outer walls 7 and 8 respectively connected together at the top by rolling bead 9 and the inner wall is connected to the metallic sheet 1 forming the top by a depressed gutter portion 10 which as best shown in Figs. 1 and 2 disappears at its ends into said sheet to provide drainage at each end of each gutter portion. The outer wall 8 terminates short of the gutter portion and is preferably corrugated longitudinally as at 11 to provide longitudinal "hills and valleys" therein. Preferably the front end portions of said side railing flanges are offset outwardly as indicated at 4^a in Fig. 2. The rear end part of said opening is closed by a raised panel 12 which rests at its lateral margin upon and is fixed to the flange 6 at the rear end of said opening, the top surface of said fixed panel being arranged substantially flush with the top surface of the rolling beads 9. The front marginal portion of the fixed panel is upset to provide a rearwardly facing hook flange 13 on the top surface thereof as best shown in Figs. 3 and 4.

Associated with the fixed panel for closing said opening or for uncovering or exposing said opening or any part thereof forward of the fixed panel, is one or more movable panels depending of course upon the type and size of car with which the top is employed. In that type of body known as "coupe" preferably only one movable panel need be employed, but in connection with a longer body such as a "sedan" two of such panels would preferably be employed, with one adapted to telescope over the fixed panel and with the other adapted to telescope over the first. As the body illustrated in Fig. 1 is of the "sedan" type I employ in connection therewith two panels numbered 14 and 15 respectively and which will be termed for convenience the "rear movable" panel and the "front movable" panel respectively.

The rear movable panel has its lateral margins curved to provide hook line flanges 16—16 each of which are corrugated longitudinally as at 17 to provide "hills and valleys" that engage in the like parts of the outer wall 8 of the flanges 4—4 and have a definite guided movement therein, packing strips of rubber 18 or the like being interposed between said parts of the flanges 16 and wall 8 as best shown in Fig. 7. The rear margin of said panel is bent under to form a flange 19 adapted for a hook like engagement with the flange 13 on the front end of the fixed panel 12; packing strips 20 being provided between said flanges as best shown in Fig. 8 to provide a storm proof and noiseless engagement between the two. The front margin of the panel 14 is bent over upon itself to provide a hook flange 21 therealong, the purpose of which will soon appear.

The front movable panel has its lateral margins curved to provide hook-like flanges

22—22 each of which is corrugated longitudinally as at 23 to engage with either those parts of the outer walls 8 of the railing flanges 7 forward of the offsets 4^a—4^a therein or with the like flanges 16—16 of the intermediate panel 14 so as to have a definite guided path of movement with both said wall portions and flanges 16—16. Suitable packing strips 18^a similar to those before mentioned are interposed between said parts to make them rattle and storm proof. The rear margin of said front panel is bent under to form a flange 24 to have a hooking engagement with the flange 21 of the rear movable panel, suitable packing strips similar to the strips 20 before mentioned being provided between said hook flanges 24 and 21 respectively. The front margin of the front movable panel is left flat to engage upon the box like rail 5 and on the under surface of said panel a suitable distance to the rear of said margin near each side thereof is a short depending stud 25 and a depending projection 26 providing a convenient part to grasp with the hands to impart movement to said front panel.

Associated with each pin 25 is a hook 27 journaled on a stud 28 disposed eccentric upon a stub shaft 29 which has bearing in a bracket 30 projecting rearwardly from the hollow box like rail. On the shaft 29 below the bracket is a winged head 31 by which the shaft may be turned. It is apparent from the foregoing that when the front and rear movable panels are in the position closing the opening 3 the hook 27 may be engaged with the pin 25 and upon turning the winged head in the proper direction the hook will impart a short forward pull to the front panel to draw its rear hooked margin into tight engagement with the front hooked margin of the rear movable panel and will also draw the rear hooked margin of the rear movable panel into tight engagement with the front hooked margin of the fixed panel. Thus the panels are secured in a longitudinal direction against rattling and against the entrance of weather elements.

To hold the lateral corrugated hook-like flanges of the panels against vibration under the action of the jolting and jarring imparted to the top as a whole when the automobile is travelling along a road, I find it preferable to provide means by which portions of the rails 7—7 can be slightly expanded laterally to provide a good tight fit between said rails and the corrugated flanges of the movable panels. One simple and novel construction for this purpose is shown in Fig. 5 which is disposed with respect to the rails 4—4 at points coincident with mid portion of each movable panel when it is in its closed position. Such means comprises a pair of bracket plates 32—32 fixed to the inner wall 7 of each rail 4 and pivotally but non-rotatively con-

nected to each bracket is the outer end of a pair of rods 33—33. The inner ends of the rods of each pair are threaded in opposite directions and receive a turn-buckle body which may be turned in one direction and this will move the rods of each pair outwardly thus exerting an endwise pressure laterally on the adjacent portions of the rails to bring the outer walls thereof in line therewith snugly against the corrugated flanges of the said panels. By this construction the turn-buckle bodies cannot become loosened by vibration.

When it is desired to open the panels, the turn-buckle bodies are turned in the other direction and this shortens each pair of rods after which the winged heads 31 of the shafts 29 are turned to loosen the hooks 27 from the studs 25. The hand holds 26 are now grasped and the front panel is pushed rearwardly, the studs being of such length as to pass the turn-buckle rods. As the studs engage the front flanges of the rear movable panel, said panel is caused to move rearwardly with the front panel into the position shown in Fig. 4. To lock the panels in this position I provide a hook like arrangement 35 on the underside of the front margin of the fixed panel, similar to the arrangement before described on the box-like rail 5, to engage the stud 25. Thus both panels may be locked in the open position to fully expose the opening in the top of the automobile body.

Should it be desired to have the front panel only part way open this may be easily carried out by simply unlocking its front margin and then moving said panel rearwardly the desired distance and then locking it in position by manipulating the turn-buckle body associated therewith.

From the above it is apparent that with my improved construction, all the benefits of open air driving may be attained with a closed body automobile. The construction is such that it is storm and rattle proof and the whole may be readily manipulated by one person only and from within the automobile body.

While in describing my invention, I have referred in detail to the form and arrangement of the parts thereof, the same is to be considered as by way of illustration only except as may be specifically set forth in the appended claims.

I claim as my invention:

1. A sheet metal automobile top having an opening therein with flexible guide rails including inner and outer sheet metal walls along opposite sides thereof the outer wall being corrugated, a plurality of panels slidable on said rails and having parts interengaged with the outer wall of said rails and means directly engaged with the inner walls of the rails for flexing them to impose a lock-

ing action on those parts of the panels engaged with the outer walls thereof.

2. A sheet metal automobile top having an opening therein with flexible guide rails including inner and outer sheet metal walls along opposite sides thereof the outer wall being corrugated, a plurality of panels slidable on said rails and having parts interengaged with the outer walls of said rails and means for imposing a lateral expansion to said flexible rails for frictionally locking said interengaging panel and corrugated outer wall parts of the rails together.

3. A sheet metal automobile top having an opening therein with flexible guide rails including inner and outer sheet metal walls along opposite sides thereof the outer walls being corrugated, a plurality of panels slidable on said rails and having parts interengaged with the outer walls of said rails and means carried by the opposed inner walls of said rails and capable of elongation to impose a lateral pressure to said parts of the guide rails to spread them into locking engagement with said panel parts.

4. In a construction of the kind described, a top sheet, a guide rail associated therewith and including inner and outer flexible walls, said inner wall connecting with said sheet by means of a depressed gutter and the outer wall being transversely corrugated for engagement with an associated panel member.

5. An automobile top comprising a top sheet having parts thereof formed to provide laterally spaced double wall flexible rails, one at each side of an opening in the top sheet, a panel having a part engaged with the outer wall of each rail for a guided movement thereon, and means acting upon the inner walls of said rails whereby said rails and panel parts may be relatively moved laterally into and out of close contacting engagement.

6. An automobile top comprising a top sheet having parts thereof formed to provide laterally spaced double wall flexible rails, one at each side of an opening in the top sheet, a panel having a part engaged with the outer wall of each rail for a guided movement thereon, and means carried by the inner walls of said rails and operable only from within the automobile for flexing said rails into and out of close contacting engagement with the panel parts.

In testimony whereof, I have hereunto set my hand, this 26th day of June, 1928.

CLIFTON S. FORD.