Oct. 12, 1926. 1,603,182

M. ABORN

WEATHER GUARD

Filed Oct. 26, 1925

Fig. 1.

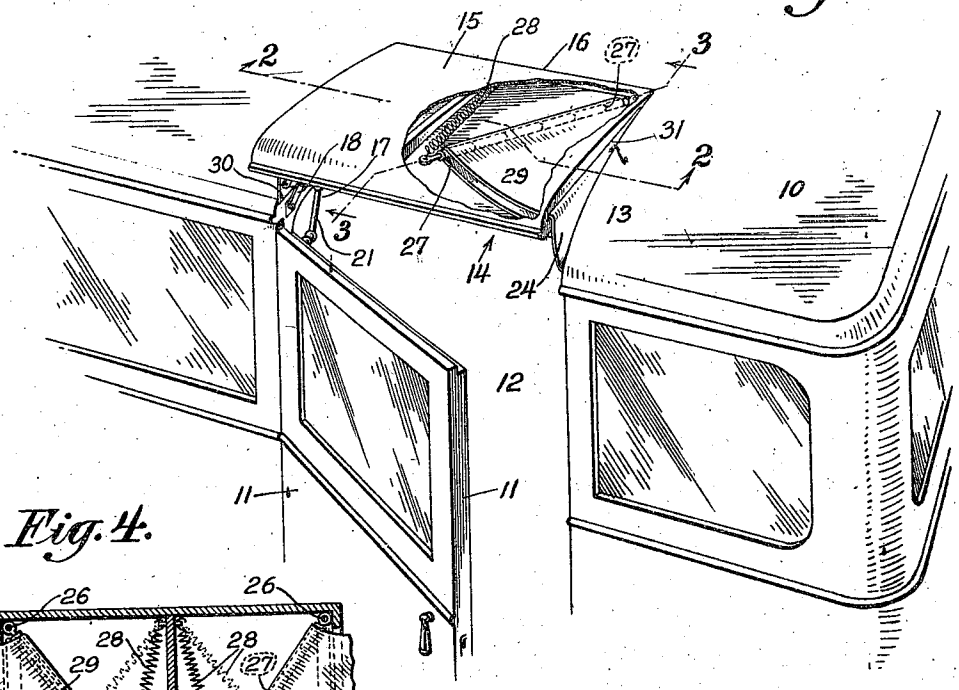
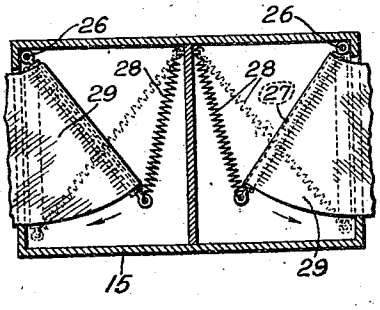


Fig. 4.



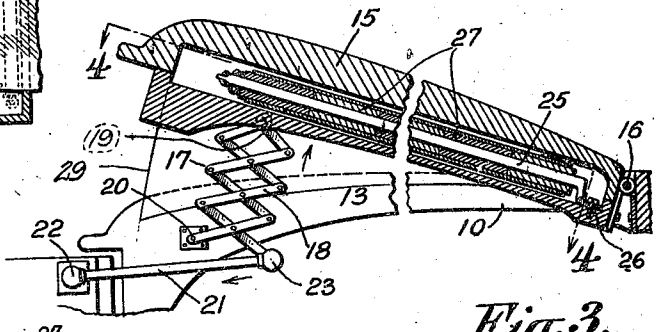


Fig. 2.

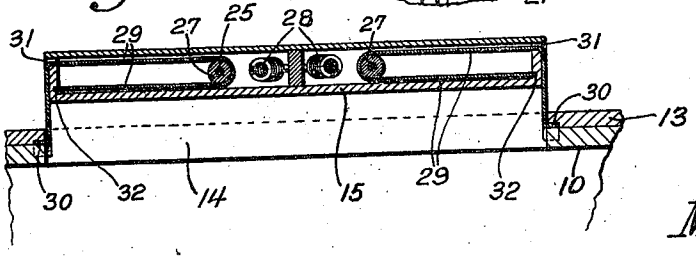


Fig. 3.

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UNITED STATES PATENT OFFICE.

MILTON ABORN, OF NEW YORK, N. Y.

WEATHER GUARD.

Application filed October 26, 1925. Serial No. 64,974.

This invention relates to weather guards or curtains for top doors for automobiles and is an improvement over that form of my invention shown and described in my application Serial 27,321, filed May 1st, 1925.

The primary object of the invention is the provision of a weather guard or curtain for closing the space between the sides of the top door and the top of a vehicle for excluding the elements from passing therebetween when the top door is raised to allow head room for a person entering the usual side door.

Another object resides in a curtain adapted to be automatically spread upon opening of the top door, and which automatically closes within the top door as the same moves to a lowered position.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a perspective view of my invention applied to the top door of an automobile, showing the door in a slightly raised position.

Figure 2 is a vertical sectional view on the line 2—2 of Figure 1.

Figure 3 is a similar view on the line 3—3 of Figure 1.

Figure 4 is a horizontal sectional view on the line 4—4 of Figure 3, showing the position of the rollers in dotted lines when the top door is at the limit of its upward movement.

Referring more particularly to the drawing, the reference numeral 10 designates a portion of the body of an automobile of the closed type having a hingedly mounted side door 11 for closing the entrance and exit opening 12. The top 13 of the body is provided with a head opening 14 in alignment with the opening 12 and is closed by a top door 15. The top door is hinged to the top 13 as at 16, and when closed the same co-acts with the door 11 to provide an enclosed body.

In order to actuate the top door 15 simultaneously with the side door there is provided a top door actuating mechanism 17. This mechanism includes a lazy tong 18, the links at one end being pivoted on a common axis to one side of the top door as at 19, while one of the links at the other end is pivoted to the top 13 as at 20. An operating arm 21 has one end secured to the inside of the side door by means of a ball and socket connection 22, while the other end of the arm is connected with the remaining end link of the lazy tong, by a similar ball and socket joint 23.

In practice, the lazy tong 18 is normally collapsed but as the side door 11 is moved outward about its hinge, the same will move the arm 21 causing a pull to be exerted upon the lazy tong, thereby extending the same which causes the top door to move upward on an arc about its hinge 16. The universal connections between the door 11 and the arm and between the arm and the lazy tong allows the arm to swing on an arc when the side door is opened without causing the parts to jam. The weight of the side door when swinging to an open position beyond 90° will support the top door in an open position. As the side door is closed, the top door is simultaneously moved to a closed position as will be readily understood.

The foregoing description relates to that structure shown in my pending application, but has been here shown and described to illustrate the manner in which my improved weather guard 24 is used. The guard 24 includes a spindle or shaft 25, pivoted beneath the door 15 at the inner side corner adjacent the axis of rotation, as at 26. It will be appreciated that two guards are employed for each top door 15 for closing the space between the sides of the same and the side walls of the opening 14. In view of the fact that each guard is identical in construction, it is believed that a description of one will suffice for the other.

The spindle 25 is pivoted to swing on a plane parallel with the underside of the door 15, and mounted on said spindle are a plurality of rollers 27. A spring 28 has one end fixed to the free end of the spindle and its other end secured to the underside of the door 15 and normally tends to pull the spindle in a direction away from the side edge of the door.

A curtain 29 of flexible waterproof material has one end fixedly connected to the side wall of the opening 14 as at 30 and passes through a slot 31 in the side wall of the door 15. After passing through the opening 31, the curtain passes about the rollers 27 to pro-

vide a pair of leads, the other end of the curtain being fixedly connected to the side wall of the door 15 below the opening 31 as at 32. With reference to Figures 1 and 4, it will be seen that the spring 28 holds the curtain in a fan shape beneath the door 15 when the door is in a lowered position but upon the raising of the door, the curtain will be automatically paid out through the slot 13, at which time the spindle will move toward the side edge of the door. When the door is fully raised and during the raising operation, the curtain bridges the space between the door and the top of the automobile to seal the same and exclude the elements from the interior of the automobile.

By providing a plurality of rollers 27 instead of having a single roller mounted upon the spindle, the friction between the rollers and the curtain is greatly reduced, as it will be appreciated that the outer portion of the curtain is paid out at a greater speed than that nearest the pivot 26.

From the foregoing description, it will be seen that the action of the curtain is automatic with the operation of the top door and is always held taut by the action of the spring 28.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:—

1. In combination with a supporting structure, a door hingedly mounted thereon, curtains normally concealed within said door, each curtain having one end fixedly connected with said door adjacent one side edge thereof and the other end to said supporting structure, and automatic means for normally holding each curtain in a concealed position within said door when the latter is in a closed position, and for gradually paying out said curtains when said door is opened to bridge the space between said door and said supporting structure.

2. In combination with a supporting structure, a door hingedly mounted thereon, curtains normally concealed within said door, each curtain having one end fixedly connected with said door adjacent one side edge thereof and the other end to said supporting structure, and automatic means for normally holding each curtain in a concealed position within said door when the latter is in a closed position, and for gradually paying out said curtains when said door is opened to bridge the space between said door and said supporting structure, said means including a pivoted member about which the respective curtains pass to form a loop.

3. In combination with a supporting structure, a door hingedly mounted thereon, curtains normally concealed within said door, each curtain having one end fixedly connected with said door adjacent one side edge thereof and the other end to said supporting structure, and automatic means for normally holding each curtain in a concealed position within said door when the latter is in a closed position, and for gradually paying out said curtains when said door is opened to bridge the space between said door and said supporting structure, said means including a pivoted member about which the respective curtains pass to form a loop, and a spring acting against the said pivoted member during the opening of said door and for taking up said curtains during the closing of said door.

4. In combination with a supporting structure, a door hingedly mounted thereon, curtains normally concealed within said door, each curtain having one end fixedly connected with said door adjacent one side edge thereof and the other end to said supporting structure, and automatic means for normally holding each curtain in a concealed position within said door when the latter is in a closed position, and for gradually paying out said curtains when said door is opened to bridge the space between said door and said supporting structure, said means including a spindle pivoted to said door, rollers on said spindles and about which the respective curtains pass, and a spring acting against said spindle to provide a tension on said curtain.

In testimony whereof I affix my signature.

MILTON ABORN.