W. H. ROMER, H. WIMMERS & S. RANLEY.

STORM TOP FOR VEHICLES.

APPLICATION FILED APR. 25, 1912.

1,051,916. Patented Feb. 4, 1913.

2 SHEETS—SHEET 1.

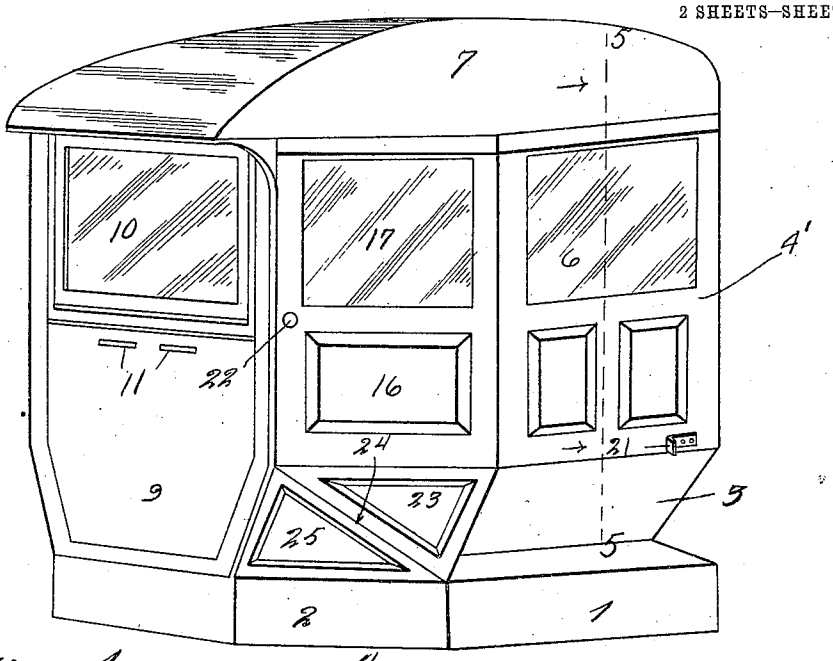

Fig. 1.

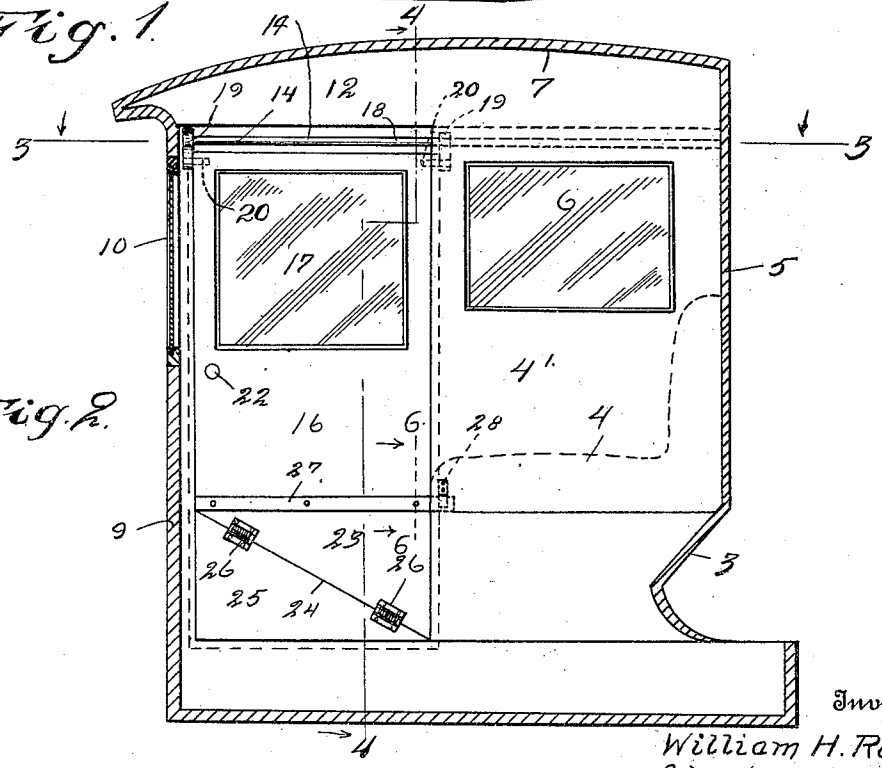

Fig. 2.

Witnesses

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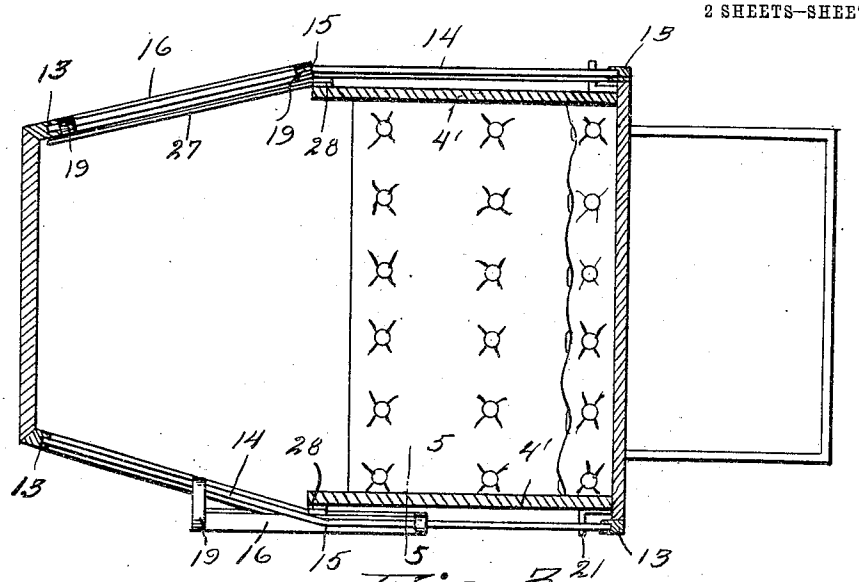

Fig. 3

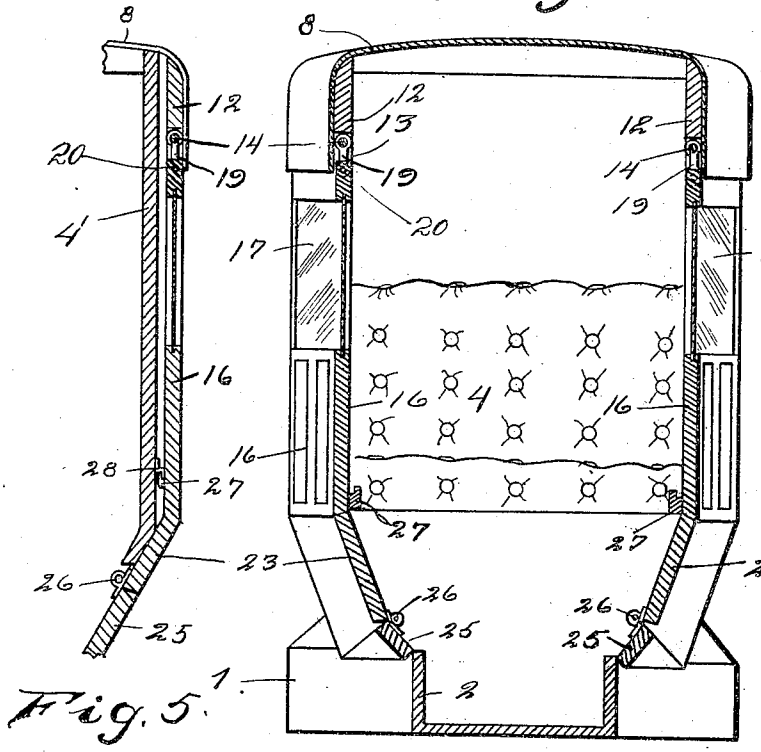

Fig. 5.

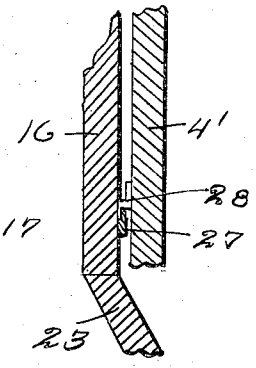

Fig. 6.

Fig. 4.

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UNITED STATES PATENT OFFICE.

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STORM-TOP FOR VEHICLES.

1,051,916. Specification of Letters Patent. Patented Feb. 4, 1913.

Application filed April 25, 1912. Serial No. 693,046.

To all whom it may concern:

Be it known that we, WILLIAM H. ROMER, HENRY WIMMERS, and SEBASTIAN RANLEY, citizens of the United States, residing at St. Henry, in the county of Mercer and State of Ohio, have invented certain new and useful Improvements in Storm-Tops for Vehicles, of which the following is a specification.

The present invention relates to a storm top for buggies or other vehicles, to completely inclose the driver and protect him from the weather and to permit of his easy entrance and exit from the vehicle.

An important object of the invention is to provide a storm top of the above mentioned character, embodying a sliding door or doors, having novel means for supporting them.

A further object of this invention is to provide a sliding door having a swing lower section which will automatically move inwardly so that the door will conform generally to the curvature of the forward contracted portion of the body of the buggy or other vehicle.

A further object of this invention is to provide a storm top which is neat in appearance, highly capable of fulfilling its function, and durable.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a perspective view of the buggy top equipped with the improved storm top, Fig. 2 is a central vertical longitudinal sectional view through the same, Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 2 and looking downwardly as indicated by the arrows, Fig. 4 is a transverse vertical sectional view taken substantially on line 4—4 of Fig. 2 and looking in the direction of the arrows, Fig. 5 is a fragmentary detail sectional view taken on line 5—5 of Fig. 1, and Fig. 6 is an enlarged fragmentary detail sectional view taken on line 6—6 of Fig. 2 and looking in the direction of the arrow.

In the drawings wherein for the purpose of illustration, we have shown a preferred embodiment of our invention, the numeral 1 designates the body of a buggy, having a forward tapering or contracted portion 2, as shown. Formed upon the rear portion of the body 1 is a seat support 3, containing a seat 4 of any desired construction. Secured to the supports 3 are fixed or stationary sides 4′ between which is disposed a back 5. The sides 4′ may preferably be provided near their upper ends with openings spanned by panes of glass 6 or other transparent material.

The numeral 7 designates the top of the storm top and has its forward end tapered or contracted to correspond substantially to the shape of the forward portion 2 of the body 1, as shown. The top 7 includes a suitable frame-work covered with oil-cloth 8 or the like, the ends of which extend downwardly to overlap the upper ends of the stationary sides 4′, as shown.

The numeral 9 designates a front section or wall, which is suitably mounted upon the forward end of the body 1 and is provided near its upper end with a pane of glass 10. The front wall 9 is provided with openings 11 for receiving therethrough the reins (not shown).

Secured upon the outer faces of the stationary sides 4′ above the panes of glass 6 are spacing strips 12, covered by the depending edges of the oil-cloth 8. These strips 12 extend forwardly and terminate adjacent the front section or wall 9. The spacing strips 12 have their forward end portions converging to correspond generally to the shape of the forward reduced or contracted portion of the top 7. The spacing strips 12 are provided at their ends with depending ears or lugs 13, for holding horizontal track-rods 14, bent midway their ends, as shown at 15, so that their forward end portions converge, as more clearly shown in Fig. 3.

The spaces or openings between the front section or wall 9 and the stationary sides 4′ are closed by horizontally movable sliding doors 16, provided in their upper portions with openings which are spanned by sections of glass 17 or other transparent material. Each of the sliding doors 16 is pivotally connected at its upper corners with links 19, such connections being effected by

pins 20. At their upper ends the links 19 have enlarged apertured heads which receive the track-rod 14. The links 19 are free to turn on the track-rod and to move longitudinally thereof. It is thus seen that the track-rods are disposed near and outwardly of the stationary sides 4′ and the doors 16 may be moved horizontally to assume different positions, when they will be disposed adjacent the stationary sides 4′ and outwardly of the same.

The sliding movement of the door 16 to the rear is limited by a stop 21, fixed upon the stationary side 4′, as shown. The door 16 is provided upon its inner and outer faces with knobs 22, whereby the door may be slid in either direction as required. Rigidly mounted upon the lower end of each of the doors 16 is a triangular section or wing 23, having a lower oblique edge 24 to be engaged by a swinging lower triangular leaf or section 25, as shown. The stationary leaf or section 23 is connected with the swinging leaf or section 25 by means of spring hinges 26, disposed upon the inner faces of said leaves or section, thus automatically swinging the lower section 25 inwardly to assume an angular position and allowing the same to move outwardly until the sections or leaves 23 and 25 form a flat surface. The section 25 cannot swing outwardly beyond this extent. It is obvious that when the sliding door 16 is in its closed position, its rear vertical edge will engage the outer surface of the stationary side 4′ and swinging wing or section 25 will engage the outer surface of the tapered or contracted portion 2 of the top 1, that is to say, it will overlap them slightly.

Rigidly mounted upon the inner surface of each of the sliding doors 6 at the lower end thereof where it is joined with the upper leaf or section 23, is a horizontal guide-track or bracket 27, substantially L-shaped in vertical cross-section. This bracket 27 is slidably engaged by a bracket 28, fixed upon the inner surface of the stationary side 4′ at the lower forward corner, which is in vertical alinement with the point 15 at which the track-rod 14 is bent, as above stated. There is sufficient space between the bracket 28 and the track 27 to allow the sliding door 16 to be swung upon the same as a pivot point at the point 15 when the door is being moved horizontally.

In the use of the storm top, the sliding door 16 is moved to its open position by the operator taking hold of the knob 22 and sliding the door toward the stop 21, which limits the movement of the door in that direction. When the door 16 is passing the angular point 15 of the track and the corresponding angular point in the body 1, the links 19 form a sufficiently flexible connection to allow the door to properly pass the same. When a portion of the door has passed the point 15, the forward link 19 swings outwardly so that the door may remain parallel with the fixed or stationary side 4′, as shown in Fig. 3. It is obvious that the loose connection between the track 27 and the bracket 28 allows the door 16 to swing thereon but prevents the door from being swung bodily outwardly by the lower leaf or section 25, which is moved by the spring hinges 26. When the sliding door 16 is thus moved to the rear, the lower section or leaf 25 by engaging the tapered portion 2 of the body 1, is gradually swung to its outermost position with relation to the upper leaf 23, that is to form a flat surface with the same. When this flat surface has moved to or passed the point 15, it slides along the outer surface of the seat support 3. When the sliding door 6 is moved forwardly the lower leaf or section 25 gradually swings inwardly so that it will be angularly disposed with relation to the upper leaf 23, thus forming a tight connection with the tapered or contracted portion 2 of the body 1. The longitudinal edges of the oil-cloth 8 or the like extend downwardly sufficiently to cover the opening between the strips 12 and overlap slightly the upper ends of the doors 16, as shown.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described our invention, we claim:—

1. In a storm top for a buggy or other vehicle, the combination with the body of the buggy having its forward end contracted, of a top structure mounted upon the body portion including stationary sides and a top which has its forward portions contracted, tracks disposed near the top and having their forward portions converging, sliding doors supported by said tracks, an angular portion connected with the lower end of each sliding door and formed of a plurality of sections, spring hinges pivotally connecting said sections whereby one section is automatically moved inwardly with relation to the other section, and means to limit the bodily outward swinging movement of the lower end of the sliding door.

2. In a storm top for a buggy or other vehicle, the combination with the body of the buggy having its forward end contracted, of a top structure mounted upon the body portion including sides and a top, tracks disposed near the top and having their forward portions converging, sliding doors supported by said tracks, a portion connect-

ed with the lower end of each sliding door and extending inwardly at an angle with relation thereto, said portion comprising a plurality of approximately triangular sections, and spring hinges pivotally connecting said sections whereby one will be automatically swung inwardly with relation to the other.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM H. ROMER.
HENRY WIMMERS.
SEBASTIAN RANLEY.

Witnesses:
HERBERT A. ROMER,
H. A. BECKMAN.