No. 698,259. Patented Apr. 22, 1902.

H. W. COVERT.

CONVERTIBLE CAR.

(Application filed Jan. 7, 1902.)

(No Model.) 2 Sheets—Sheet 1.

FIG 1.

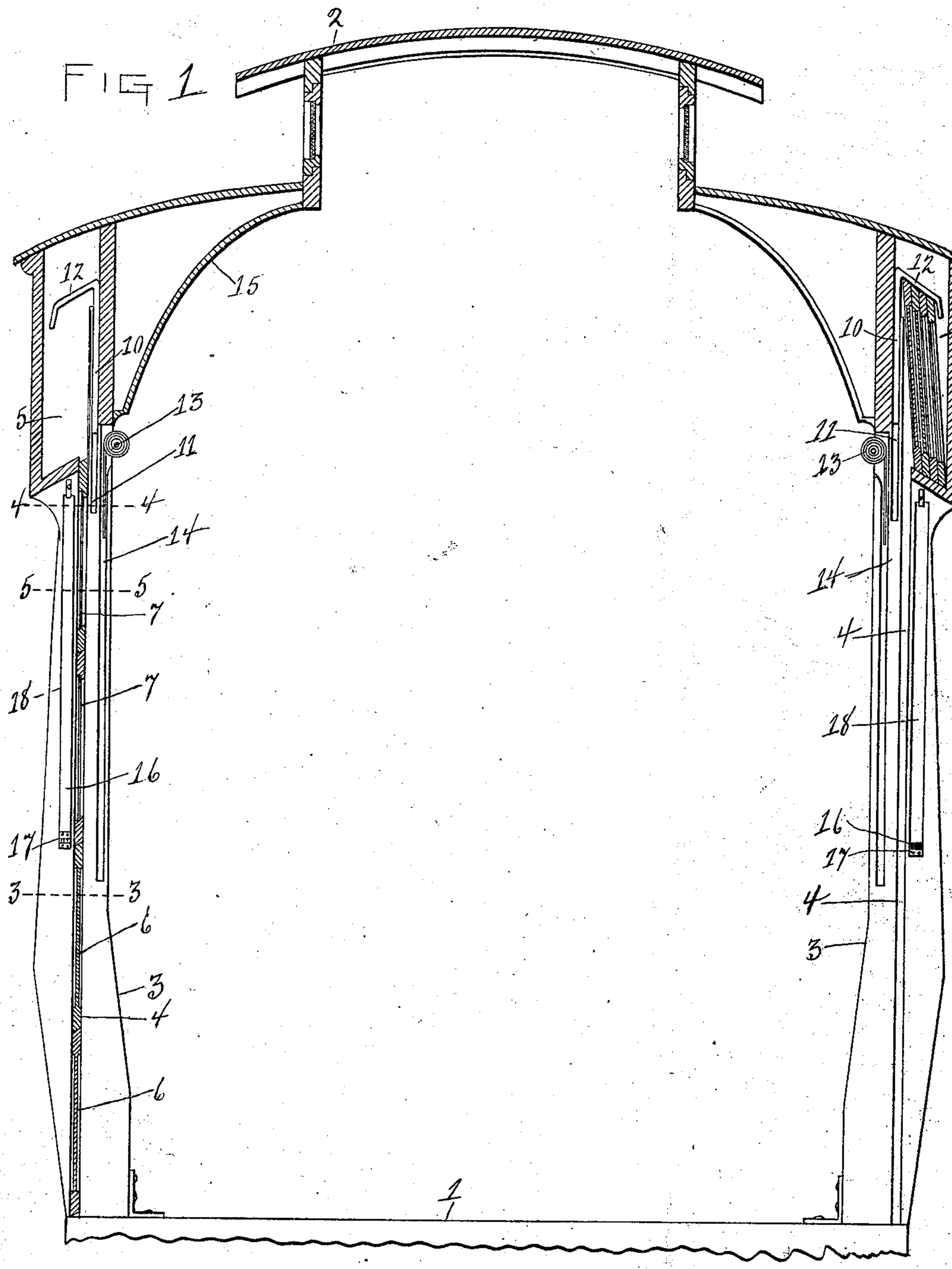

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FIG 2.

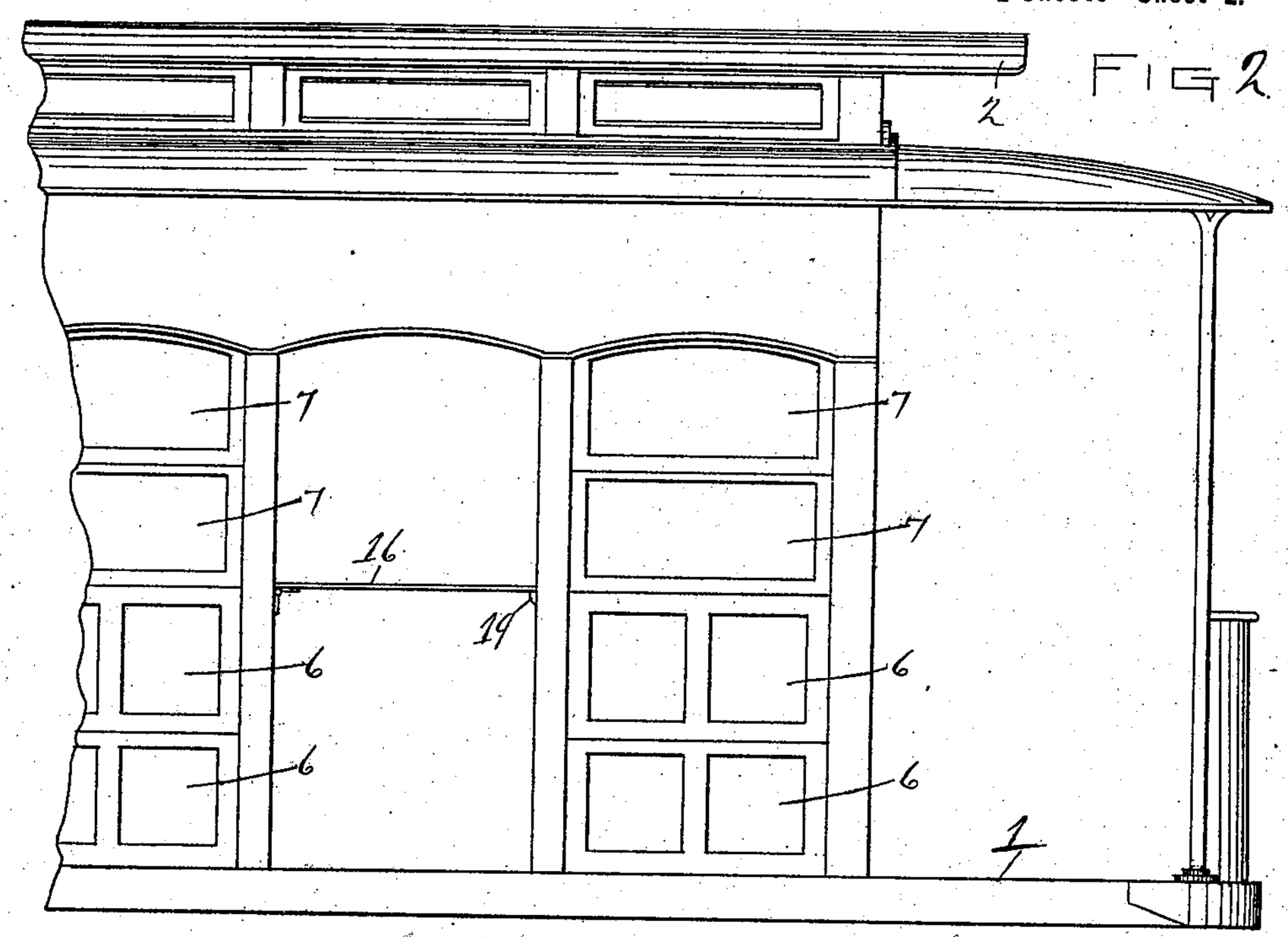


FIG 7.

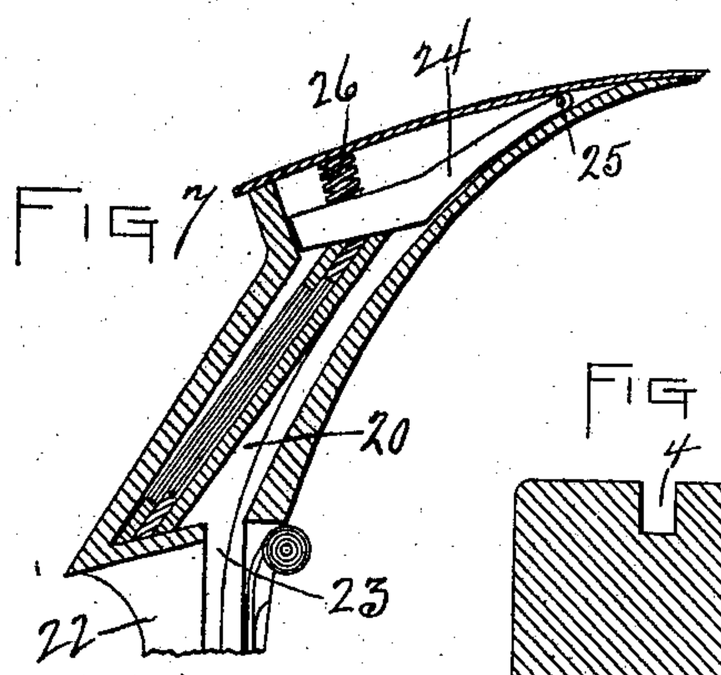


FIG 3.

FIG 4.

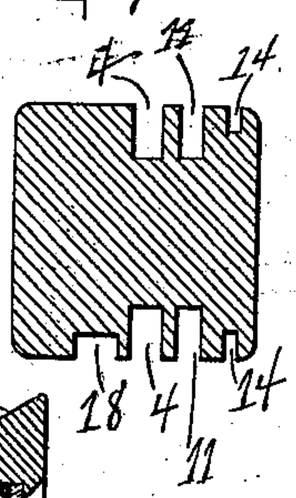
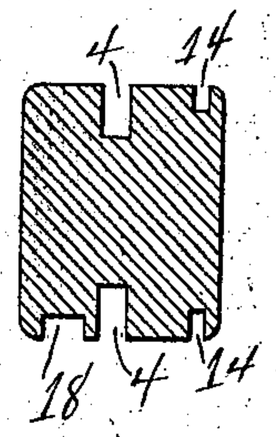


FIG 5.



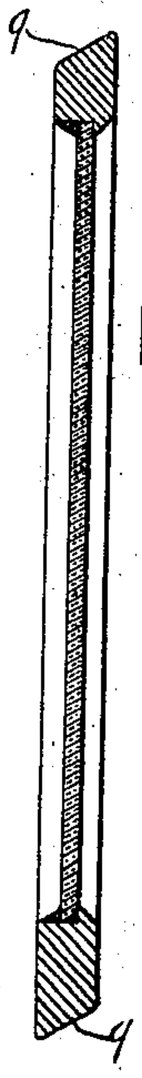
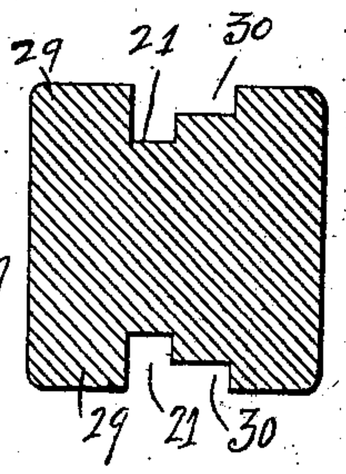


FIG 6.

FIG 9.



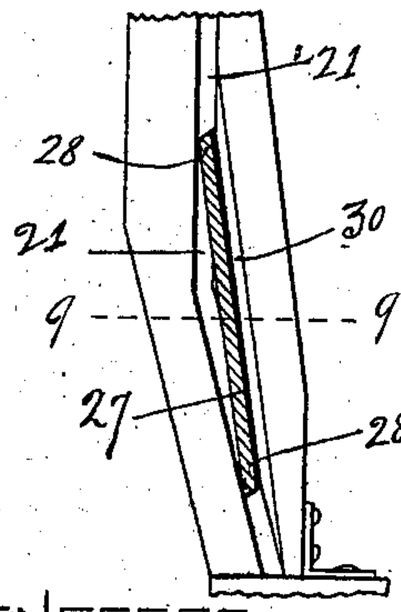
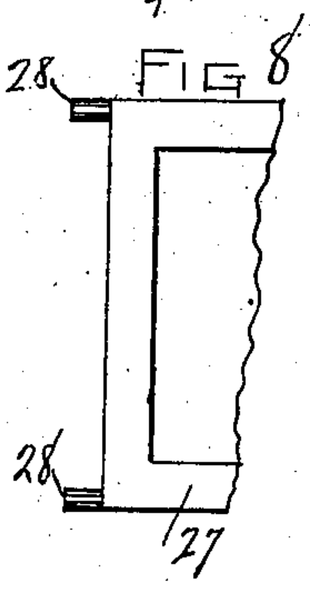


FIG 8.



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UNITED STATES PATENT OFFICE.

HENRY W. COVERT, OF WATERFORD, NEW YORK.

CONVERTIBLE CAR.

SPECIFICATION forming part of Letters Patent No. 698,259, dated April 22, 1902.

Application filed January 7, 1902. Serial No. 88,732. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. COVERT, a citizen of the United States, residing at Waterford, county of Saratoga, and State of New York, have invented certain new and useful Improvements in Convertible Cars, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a view in cross-section of a convertible car embodying my invention, the left-hand side being shown closed and the right-hand side open. Fig. 2 is a view in side elevation of a portion of the same. Fig. 3 is a view in cross-section of one of the upright side members, taken on the broken line 3 3 in Fig. 1. Fig. 4 is a similar view taken on the broken line 4 4 in Fig. 1. Fig. 5 is a similar view taken on the broken line 5 5 in Fig. 1. Fig. 6 is a vertical cross-section of one of the panels removed. Fig. 7 is a view similar to Fig. 1, partly broken away and showing a modified form of construction. Fig. 8 is a side view, partly broken away, of the lower panel as shown in Fig. 7. Fig. 9 is a horizontal cross-section of the upright side member shown in Fig. 7, taken through the cut-away portion 30.

The principal object of my invention is to simplify the construction of convertible cars and to facilitate the raising and disposition when raised of the movable side panels adapted when lowered to close the side openings in the car.

1 represents the floor, and 2 the roof, of the car, and 3 the upright side members connecting the roof and floor and between which are located the side entrances common to summer or open cars. The upright members on opposite sides of each side passage-way are provided on their neighboring sides each with a longitudinal groove 4 and at the upper end with a pocket 5, communicating with said groove and forming a downward and lateral extension thereof. This pocket is preferably of a size adapted to receive a plurality of panels supported therein side by side in the position shown at the right-hand side of Fig. 1, the bottom of said pocket being preferably downwardly and outwardly inclined, so that said panels are maintained by gravity in the outer portion of the pocket. A plurality of panels are employed, which may be of any desired construction, the panels 6 6 being opaque, while the panels 7 7 are glazed. Four of these panels, two opaque and two glazed, are employed for each side opening, and they are adapted to rest one upon another in the grooves 4 in the upright side members adjacent said openings to close the space between the side members. These panels may be raised and deflected into the pocket 5 in any known manner.

I have shown the upper and lower edges of the several panels provided with inclined portions 9, (shown more particularly in Fig. 6,) the angle of inclination of said portions being similar to that of the bottom of the pocket and such that when a lower panel is raised the upper panel or panels supported thereby will be also raised until the lower edge of an upper panel reaches the lower edge of the pocket 5, whereupon said upper panel will be automatically deflected into said pocket by means of the inclined surfaces 9, and in like manner each of several upper panels will be successively deflected into the pocket by the raising of a single supporting lower panel.

For the purpose of preventing rattling or accidental displacement of the raised panels I provide a yielding keeper therefor, preferably having a surface inclined parallel with the bottom of the pocket and adapted to engage the upper edges of the several panels when raised. As shown in Fig. 1, the keeper comprises a slide-rod 10, movable in a slideway 11 in the side member 3 and provided with a hook-shaped end 12, projecting into the pocket 5 at an angle equal to the angle of inclination of the bottom of the pocket. The hook projection 12 is adapted to engage the inclined upper edges of the several panels when raised, and thereby hold the panels from jarring vibration or from displacement. The panel-engaging surface of the keeper and

the bottom of the pocket being similarly inclined, it will be seen that whatever the number of panels located in the pocket at any time they will be firmly supported in the oppositely-located angles of the keeper and pocket-bottom. The keeper may be of any known form.

13 is a roller-curtain, and 14 a slideway-groove therefor, which may be constructed to operate in the usual manner.

The car may, if desired, be provided with a ceiling 15.

One or more of the panels may be lowered, as desired, to close or partly close the side openings of the car.

As a means for guarding the side opening when the panels are raised I have shown a guard-rail 16, hinged at 17 to the upright member at one side of a side opening, said member being provided with a groove 18, adapted to receive said rail when raised in the position shown at the left-hand side of Fig. 1. This guard-rail may be connected with the side member and supported thereby in a raised position in any known manner.

The upright side member on the opposite side of the side opening is provided with a lug or stop 19, adapted to support the swinging end of the guard-rail when the same is lowered to a horizontal position to form a guard for the side opening, as shown in Fig. 2. This rail also serves as an arm-rest.

In Fig. 7 I have shown a modified form of construction, wherein the pocket 20 is inclined inwardly toward the top of the car, the groove 21 in the side member 22 being widened, as shown at 23, near the lower end of the pocket to facilitate the deflection of the panels into the pocket. The keeper 24 is shown in the form of a lever pivoted at 25 and provided with an actuating-spring 26.

In some cases it is desirable to have the lower portion of the car-body contracted in width, in which case the lower ends of the side members are inclined inwardly toward the bottom of the car. I have shown such construction in Fig. 7, the lower end of the groove 21 changing direction in accordance with the change in direction of the side member. With such a construction I make the bottom panel 27, which occupies the inclined portion of the groove when lowered, of less width than the other panels and provide the same at its corners with pintles 28, adapted to run in the grooves 21. The width of the body of the panel is, however, left greater than the distance between neighboring upright side members 22, so that the body of the panel is adapted to bear against the outer flanges 29 on the side members.

The side members are cut away at 30 to permit the inward movement therebetween of the contracted body of the panel as the same passes the bend in the groove 21.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a convertible car, the combination with the car-body, having members adjacent a side opening each provided with a slideway-groove and at the upper end with a downwardly and laterally extended pocket communicating with said groove; of a panel movable along said groove and capable of deflection into said pocket and adapted to rest therein, substantially as described.

2. In a convertible car, the combination with the car-body, having members adjacent a side opening each provided with a slideway-groove and at the upper end with a downwardly and laterally extended pocket communicating with said groove; of a panel movable along said groove and capable of deflection into said pocket and adapted to rest therein, and a yielding keeper for retaining the panel in the pocket, substantially as described.

3. In a convertible car, the combination with the car-body having members adjacent a side opening each provided with a slideway-groove and at the upper end with a laterally-extended pocket having an outwardly and downwardly inclined bottom and adapted to receive a plurality of panels, side by side; of a plurality of panels movable along grooves in said members and adapted to be supported side by side in said pocket, substantially as described.

4. In a convertible car, the combination with a car-body having members adjacent a side opening each provided with a slideway-groove and at the upper end with a laterally-extended pocket communicating with said groove and adapted to receive a plurality of panels side by side; of a plurality of panels movable along said grooves and adapted to rest therein one upon another, said panels having contiguous edge portions inclined downwardly toward the side adjacent said pocket whereby the upper panel can be lifted by means of a lower panel and deflected into said pocket, substantially as described.

5. In a convertible car, the combination with the car-body having members adjacent a side opening each provided with a slideway-groove, and at the upper end with a laterally-extended pocket having an outwardly and downwardly inclined bottom communicating with said groove and adapted to receive a plurality of panels side by side; of a plurality of panels movable along said grooves and adapted to rest therein one upon another; said panels having contiguous edge portions inclined similarly to the inclined bottom of said pocket, substantially as described.

6. In a convertible car, the combination with the car-body having members adjacent a side opening each provided with a slideway-groove and at the upper end with a laterally-extended pocket communicating with said groove and adapted to receive a plurality of panels side by side; of a plurality of panels movable along said grooves and adapted to rest therein one upon another, said panels having contiguous edge portions inclined downwardly toward the side adjacent said pocket

whereby the upper panel can be lifted by means of a lower panel and deflected into said pocket; and a yielding keeper for retaining the panels side by side in the pocket, substantially as described.

7. In a convertible car, the combination with the car-body having members adjacent a side opening each provided with a slideway-groove, and at the upper end with a laterally-extended pocket having an outwardly and downwardly inclined bottom communicating with said groove and adapted to receive a plurality of panels side by side; of a plurality of panels movable along said grooves and adapted to rest therein one upon another; said panels having contiguous edge portions inclined similarly to the inclined bottom of said pocket, and a yielding keeper for the panels having a surface parallel with the inclined bottom of said pocket and adapted to engage the inclined upper edges of said panels when raised, substantially as described.

In testimony whereof I have hereunto set my hand this 2d day of January, 1902.

H. W. COVERT.

Witnesses:

FRANK C. CURTIS,

GEO. A. MOSHER.