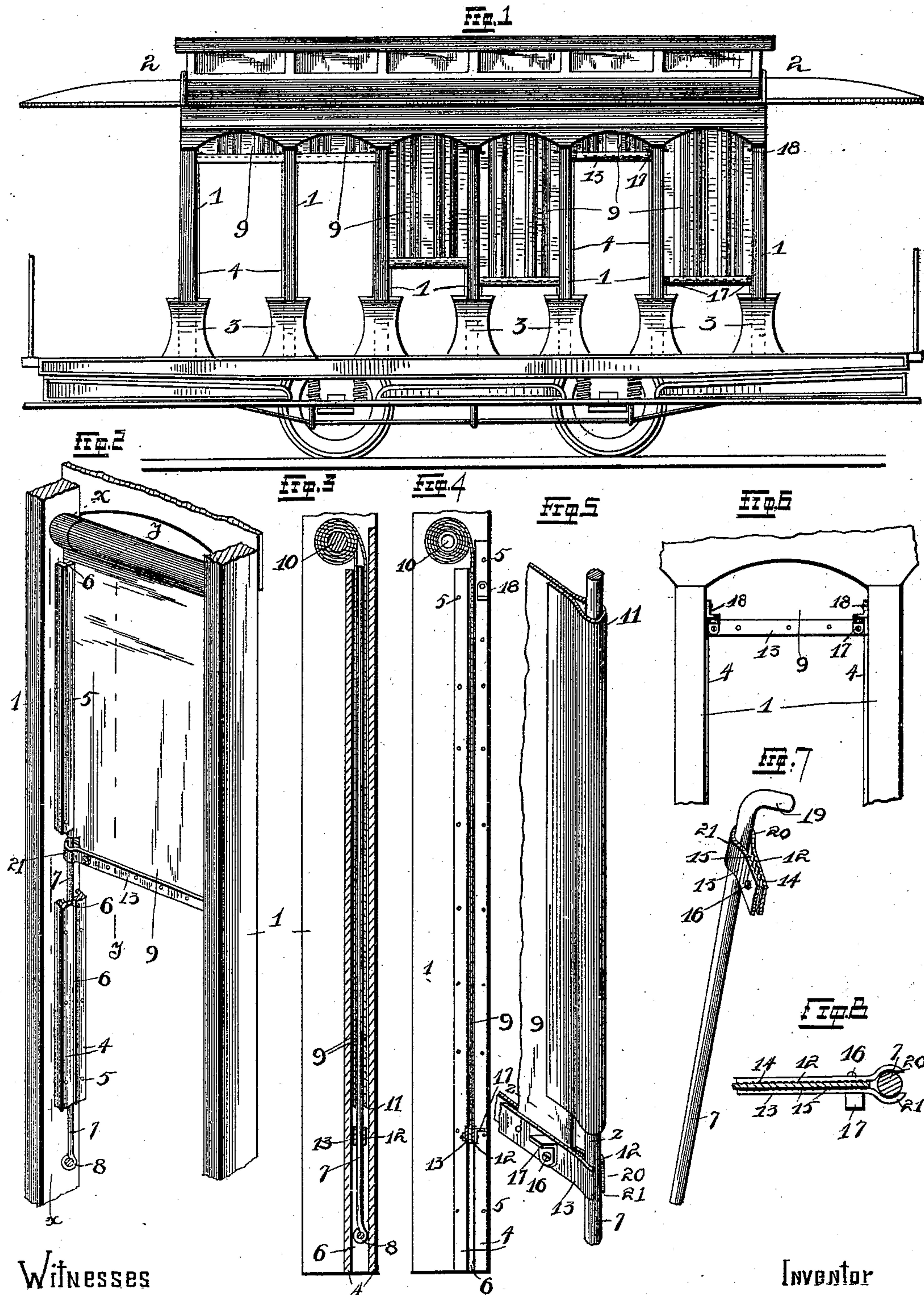


(No Model.)

J. M. SCHATZ.  
SUMMER CAR.

No. 496,232.

Patented Apr. 25, 1893.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH M. SCHATZ, OF ST. LOUIS, MISSOURI.

## SUMMER-CAR.

SPECIFICATION forming part of Letters Patent No. 496,232, dated April 25, 1893.

Application filed September 10, 1892. Serial No. 445,550. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH M. SCHATZ, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Summer-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to summer cars, and consists in the novel combination and arrangement of parts for closing the openings between the vertical side posts of the car, hereinafter fully described and pointed out in the claims.

In the drawings: Figure 1 is a side elevation of a car having my invention applied thereto. Fig. 2 is a detail view, in perspective, showing the inner side of one of the rolling or collapsible sections for closing the openings between the vertical posts, made use of in carrying out the invention. Fig. 3 is a detail sectional elevation of same, the section being taken on line *x x* of Fig. 2. Fig. 4 is a detail sectional-elevation of same, the section being taken on line *y y* of Fig. 2. Fig. 5 is a detail view, in perspective of a vertical guide-rod having a portion of a rolling section applied thereto. Fig. 6 is a detail elevation, with parts broken away, showing the arrangement of stops upon the vertical posts, for limiting the upward movement of the rolling sections. Fig. 7 is a detail view in perspective, illustrating a modified construction of the upper end of the vertical guide-rods. Fig. 8 is a detail section on line *z z* of Fig. 5.

Summer-cars usually have what may be termed door-openings between each of the vertical posts which support the roof, and these openings usually extend from the roof to the floor of the car, so that passengers may enter and leave the car by way of any one of said door-openings. But, my invention may be applied to cars having openings which do not extend entirely to the floor thereof, if so desired.

1 indicates a series of vertical door or window posts, extending from the roof 2 of the car to the floor thereof, or to a point adjacent the upper portions of the seats 3, so as to form door or window openings between them. The posts 1 each have two vertical guide-strips 4 detachably secured, by means of screws 5, or

other suitable fastening devices, on their oppositely-facing sides. The guide-strips 4 are each substantially L-shaped in cross-section, and are secured in position in pairs, so as to form T-shaped grooves, or dovetail-grooves 6, and so that the open side of each groove will be opposite the open side of another groove; or in other words, so that the open sides of two grooves will face each other.

7 indicates vertical guide-rods, one of which is loosely mounted within each groove 6, so that it will be free to move laterally therein a limited distance. The upper end of this rod is free, and terminates a short distance above the upper end of one of the L-shaped strips 4. The lower end of this rod is secured to the side of the post 1, which supports it, by means of a screw, nail or pin passed through an eye 8 on the lower end of said rod.

9 indicates vertically sliding door or window sections, which are preferably made of heavy canvas, or collapsible material, and each suspended by its upper end from a spring-roller 10. Each spring roller has the ordinary functions of a spring roller, so that the section suspended therefrom will be automatically wound upon said roller by the action of a spring contained therein. Each roller is mounted in suitable bearings, above the upper ends of the grooves 6, so that the periphery of each will be substantially in vertical alignment with a pair of said grooves.

The canvas sections 9 have their edges provided with vertical loops 11, extending continuously from their upper ends to a point adjacent their lower ends, and these loops are arranged to slide up and down in the slots or grooves 6, upon the guide-rods 7, during operation. The loops 11 are securely held within the grooves 6, as are also the guide-rods 7, by reason of said rods constructed with a diameter in cross-section greater than the width of the opening between the guide-strips 4, so that when the sections are drawn downward, they will be at all times held taut and devoid of wrinkles, said guide-rods 7 forming continuous stays for the edges of said sections. The lower end of each section 9 is attached to a suitable horizontal stiffening bar, or bars, which may be done in the following manner:

12 and 13 indicate, respectively, horizontal combined clamping and guide-bars, between



which the lower end of a section 9 is clamped. The inner face of the bar 12 is provided with depressions 14, which are engaged by portions of the section which are forced therein by  
 5 corresponding, oppositely located, teeth or projections 15, projecting from the opposite face of the bar 13.

The bars 12 and 13 are securely locked together by means of bolts or screws 16, which  
 10 are passed through both bars and through the section, preferably one bolt or screw adjacent each edge of said section.

For limiting the upward movement of each section, I fix a stop 17 upon the bar 13, preferably one stop adjacent each end of said bar.  
 15 These stops are secured to the bar by being mounted upon the same bolts or screws 16, which secure the bars 12 and 13 together. These stops are preferably in the form of L-shaped brackets, one arm of which projects  
 20 from the outer surface of the bar 13 so as to engage the projecting arm of a similar stop 18 fixed in the path of the projecting arm of the stop carried by said bar. (See Fig. 6.)  
 25 Another way in which the upward movement of the sections may be limited is shown in Fig. 7, in which I have formed a stop, corresponding to the upper stops 18, just described, by bending the upper end of the guide-rod 7  
 30 at a right angle to the body thereof, thereby forming a stop 19, which is in the direct path of one of the horizontal bars carried by the lower end of the sections.

The corresponding ends of the bars 12 and  
 35 13 are provided with oppositely curved portions 20 and 21, which, when said bars are in the relative position shown, form an enlargement which slides within one of the grooves 6, and retains the lower end of the section to  
 40 which said bars are attached in proper position for vertical movement. The adjacent faces of the curved portions 20 and 21 also loosely engage and slide upon the guide-rod 7. This construction forms what I may term  
 45 a "fork" upon each end of the horizontal stiffening bar carried by the lower end of the sections 9, which fork loosely embraces the guide-rod, but does not encircle same; thereby permitting ready engagement and disengagement  
 50 of said guide-rod by said bar, at any point in the length of said guide-rod.

The operation is as follows: The normal position of the sections 9 is that shown at the left hand of Fig. 1, which is with the greater  
 55 portion of each section wound or rolled upon its respective spring roller, which position the sections occupy during clear and fair weather, and it will be observed that when they are in such position the spaces between the vertical  
 60 posts 1 are open to the floor of the car. Of course if it is desired that the sections shall not extend farther down than the tops of the seats 3, such construction may be had without departing from the scope of my invention.  
 65 When it is desired to wholly or partially close the openings between the seats, and between

the posts 1, all that is necessary is to grasp the lower end of the sections and draw them down as far as required, and the ordinary dogs  
 70 of the spring rollers will retain them in such position as long as the judgment of the passengers dictates. They may be returned to normal position in the manner in which an ordinary spring shade is elevated. When the  
 75 sections are drawn down to the limit of their downward movement, the sides of the car will be closed from the roof to the floor, thereby providing a practically closed car adapted to  
 80 shelter its occupants from rain, dust, &c. Each edge of each section, when at the limit of downward movement, is held taut, devoid of  
 85 either vertical or horizontal wrinkles, by means of the devices above described: distortions of the sections are also prevented, and the edge of each section is confined through-  
 90 out its length within the grooves between the guide-strips. The fact that the guide-rods 7 are larger in cross-section than the width of  
 95 the open sides of the grooves 6, confines said rods in such grooves throughout their length, and prevents them from being bent or buckled at any point in their length, which might otherwise occur were the construction not as  
 shown and described. As it is, no portion of the rods can be pulled out of the slots which

What I claim is—

1. The improved sliding closure for the openings of cars, having a collapsible section  
 9 the opposite edges of which are secured, continuously, throughout their length, to slide  
 100 upon vertical guide-rods 7 in grooves in the vertical posts of the car when said section is at the limit of its downward movement, said  
 105 guide-rods 7 constructed with a greater diameter than the width of the opening of said grooves, thereby retaining said edges in said position at all portions of their length, substantially as and for the purpose set forth.

2. An improved sliding closure for the openings of cars comprising posts 1 having a pair  
 110 of vertical guide-strips 4 detachably secured on their opposite facing sides, said guide strips being substantially L-shaped in cross-section and arranged to form T-shaped grooves facing  
 115 each other, a vertical guide-rod 7 loosely mounted within each groove with its upper end free and its lower end secured to the side of the post which supports it, the diameter of  
 120 said guide-rod being greater than the width of the opening of said grooves, a spring roller 10 mounted in suitable bearings above the upper ends of the grooves so that its periphery is substantially in alignment with each  
 125 groove, a door or window section 9, made of collapsible material and having its upper end secured to said spring roller, vertical loops 11 extending continuously along the vertical  
 130 edges of said section, said loops being arranged to slide up and down upon the guide-rods 7 located in said grooves, and a horizontal stiffening bar attached to the lower edge



of said section and having its respective ends located in a groove, substantially as and for the purpose set forth.

3. An improved sliding closure for the openings of cars, having vertical posts 1 provided with vertical grooves which face each other, a guide-rod 7 loosely mounted within each groove and extending in the full length thereof and having one end fixed, a section 9, made of collapsible material and having loops 11 extending continuously along its edges, said loops being arranged to slide up and down upon the guide-rods in said grooves, means for supporting the upper end of said section, the horizontal combined clamping and guide-bars 12 and 13 between which the lower end of said section is clamped, the inner face of said bar 12 provided with a series of depressions 14 which are engaged by portions of the section 9 which are forced therein by corresponding oppositely located teeth or projections 15 projecting from the opposite face of the bar 13, bolts or screws 16 passing through both bars 12 and 13 and securing same together, the ends of said bars 12 and 13 provided with oppositely curved portions 20 and 21, which are located within one of said grooves and retain the lower end of the section in position for vertical movement, said

curved portions arranged to partly encircle and slide upon said guide-rods in said grooves, and a stop for limiting the upward movement of the lower end of said section, substantially as and for the purpose set forth.

4. An improved sliding closure for the openings of cars, having a vertically sliding section of collapsible material, guide-rods 7 upon which said section slides, and the upper ends of said rods bent to form a stop 19, for limiting the upward movement of said collapsible section, substantially as and for the purpose set forth.

5. The improved sliding closure for the openings of cars, constructed with a vertically sliding section 9, guide-rods 7, and a horizontal stiffening bar attached to the lower portion of said section and having forks which engage said guide-rods, in combination with means for fastening said horizontal stiffening bar to said section, and a stop for limiting the upward movement of the section, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH M. SCHATZ.

Witnesses:

HERBERT S. ROBINSON,  
ALFRED A. EICKS.