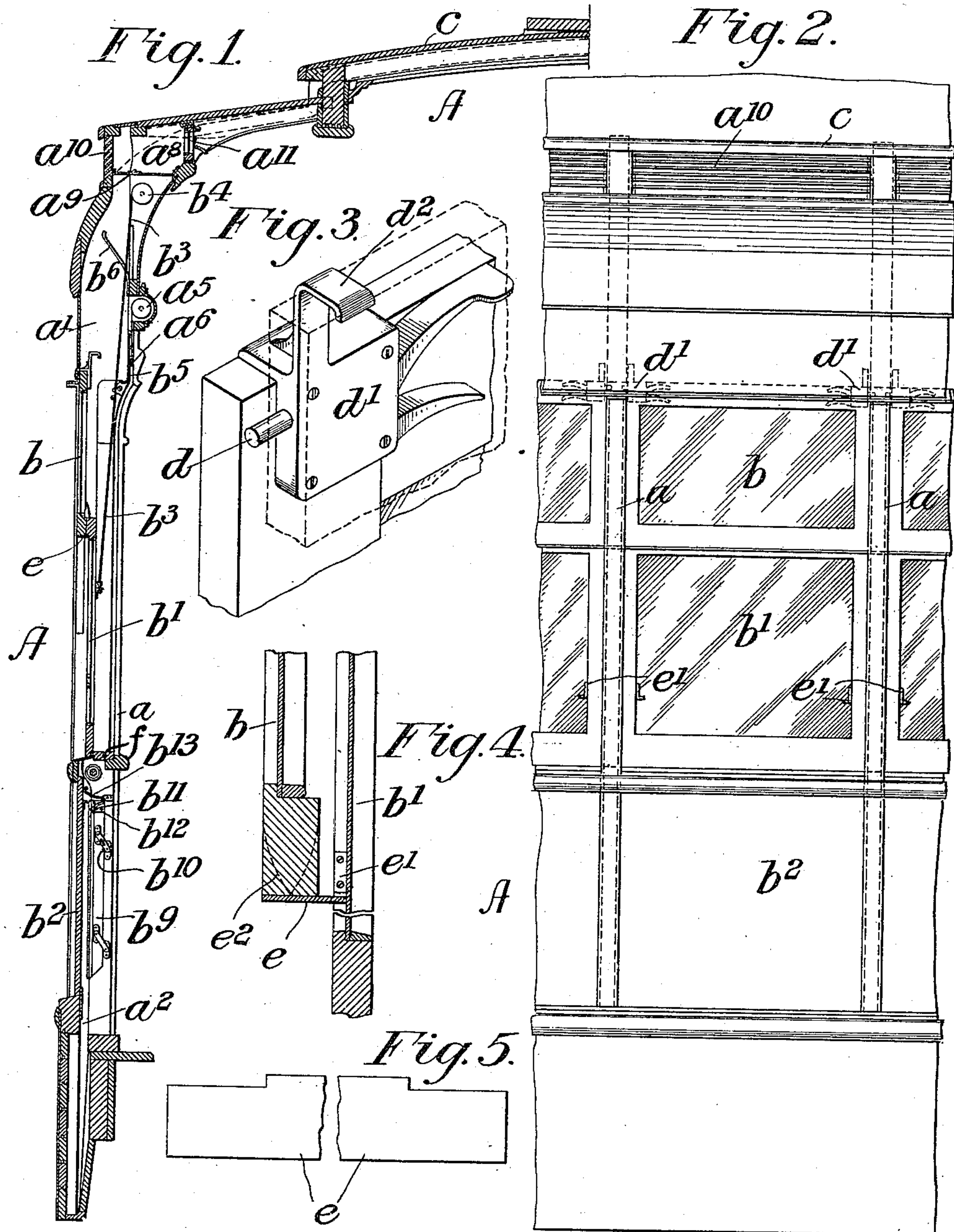


M. ROUNDS.
 CONVERTIBLE PASSENGER RAILWAY CAR.
 APPLICATION FILED MAY 27, 1909.

976,218.

Patented Nov. 22, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

Thomas M. Smith
 G. M. Connerston.

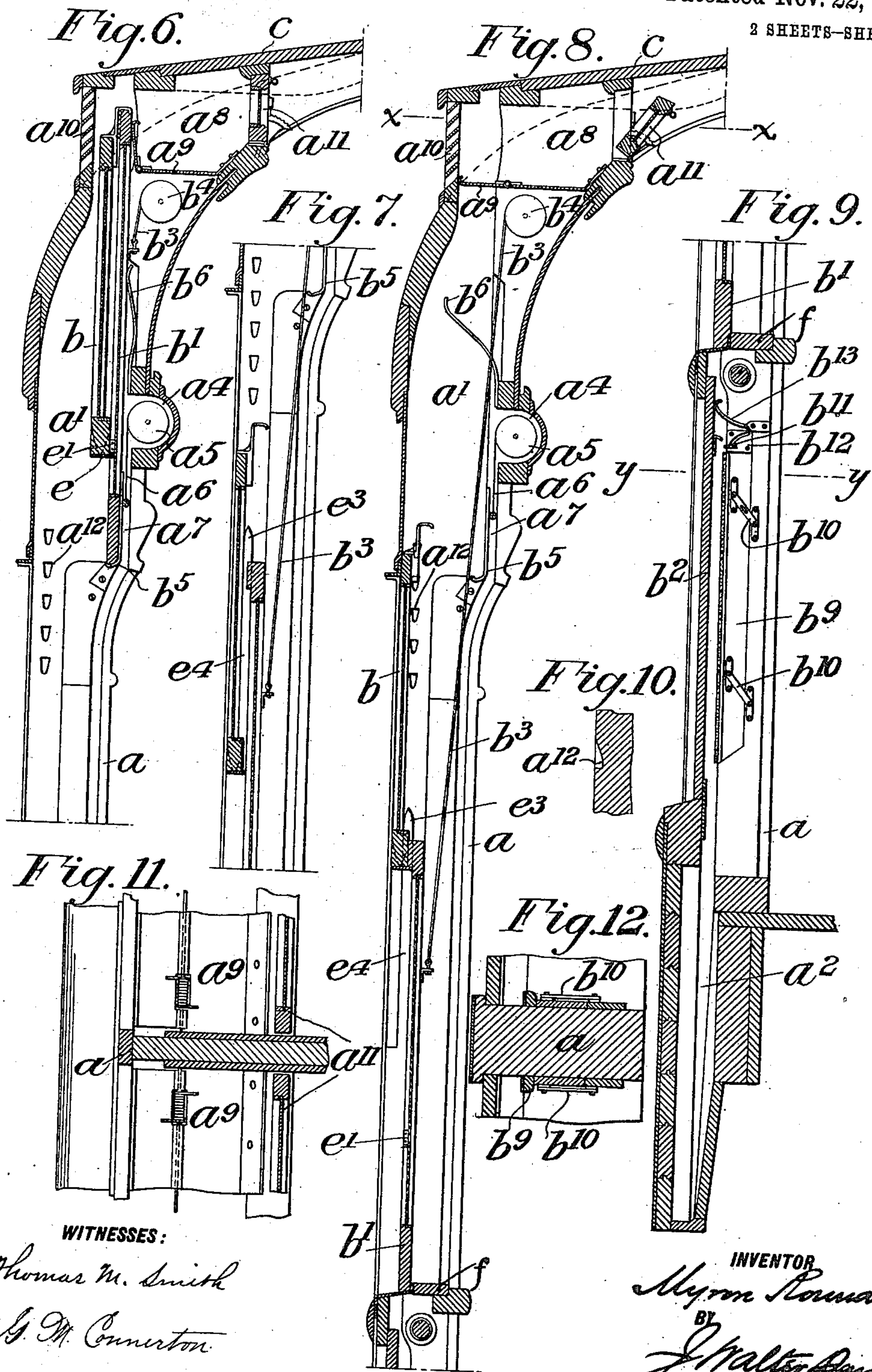
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2 SHEETS-SHEET 2.



WITNESSES:

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CONVERTIBLE PASSENGER RAILWAY-CAR.

976,218.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed May 27, 1909. Serial No. 498,698.

To all whom it may concern:

Be it known that I, MYRON ROUNDS, a citizen of the United States, residing at the city of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Convertible Passenger Railway-Cars, of which the following is a specification.

My present invention has relation to the type of passenger railway cars adapted by constructive arrangement to be quickly caused to assume a closed character for use during the winter season or an open relation for being adapted to heated weather conditions.

To that end, my invention has for its main objects first, to simplify the constructive arrangements of a convertible car, without sacrificing strength or seating capacity of such defined type of car; second to improve the manner of converting movable parts of such a defined car to adapt the same to be used, as an open car, to meet heated weather conditions, without interfering with quick restoration of such a car to a closed relation, in case of storms, necessitating quick changes in relation to movable parts to provide for comfort and to insure protection of the passengers; third, to provide a car of the character described, with means to facilitate proper ventilation interiorly, with the car in a closed relation, in respect to the movable convertible parts thereof; and fourth, to provide a convertible car with sashes adapted to be shifted upwardly and held in an offset of the side and below the roof of the car and of side panels adapted to be shifted downwardly into the car-body side so as thereby to be permitted to quickly and effectively convert a normally closed car into an open type of car.

My invention stated in general terms, consists of a convertible passenger railway car, constructively arranged, in substantially the manner hereinafter described and claimed.

The nature, scope and particular characteristic constructively arranged features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a vertical transverse sectional view through a car, showing one of the se-

ries of stanchions on each side of the car 55 and a corresponding portion of the roof of the car, between each two of which stanchions in position, in series arrangement, sashes and a panel are arranged to be manipulated to provide either an open or closed 60 car, the said described arrangements in this view, embodying essential main features of my present invention. Fig. 2, is a fragmentary side elevational view in broken section of the car shown in Fig. 1, with the embodiment of features of my said invention 65 shown in application, that is, the arrangement of stanchions, sashes and panels and ventilating means for the car, when arranged in a closed condition. Fig. 3, is a perspective 70 view of means for detachably fastening the parted sashes to the stanchions, when the car occupies a closed relation. Fig. 4, is a broken sectional view, of the two sashes in coöperative relationship assumed when 75 raised to cause the car to assume an open condition. Fig. 5, is a fragmentary plan view of a plate secured to the underside of the lower sash to insure the proper coöperation of the upper and lower sashes as the 80 same are raised and lowered to change respectively to open and closed conditions of the car. Fig. 6, is a vertical sectional view, enlarged, of one of the stanchions and part of the roof of the car having ventilating 85 means for a closed condition of the car and sashes shifted into an upright position in the upper part of the stanchions and roof and held by a spring balanced sash roll and cord, this being the position assumed by the 90 various parts when the car is in an open condition. Fig. 7, is a similar view, enlarged, of the intermediate portion of a stanchion, showing the lower sash in a relation to close one portion of the side of the 95 car and with the upper sash partially lowered. Fig. 8, is a vertical sectional view, enlarged, of one of the stanchions, showing both sashes in operative relation with respect to the side of the car, to provide a 100 close sided car, and also showing the means for ventilating the car, in the said defined relation thereof. Fig. 9, is a similar view, enlarged, of the lower portion of the stanchion of Fig. 8, showing the side panel in 105 position and the shifting cushioning clamp-plate and spring-bearing to hold the side-panel in position against displacement or

vibration, while the panel is in the position, as so illustrated. Fig. 10, is a vertical sectional view of one of the recesses or offsets of the stanchions for the tongue of the sash fastening device of Fig. 3. Fig. 11, is a horizontal sectional view on the line x, x , of Fig. 8, showing means for preventing improper ingress of air through the space provided for the reception of the sash in their raised positions; and Fig. 12, is a similar view on the line y, y , of Fig. 9, showing means for more securely fastening the side panels when the car is in a closed position.

Referring to the drawings A, is a car of the convertible type, consisting of a series of stanchions a , in position, arranged at defined distances apart to provide a plurality of openings a^1 , wherein are arranged upper and lower overlapping sashes b and b^1 , and side panels b^2 , adapted to be lowered into an oblong recess a^2 , in the side body of the car, as clearly illustrated in Fig. 1. The stanchions a terminate at the formation of the roof c of the car, and the upper ends of the openings a^1 constitute long pockets of sufficient size to receive and house the united or overlapping sashes b , b^1 .

One of the features of my invention relates to the manner in which the sashes are stored in the pockets a^1 and to the manner in which said sashes are elevated into the pockets and withdrawn therefrom. In designing my car, I have provided an arrangement and construction whereby the two overlapping sashes may be elevated into the pocket merely by the act of raising the lower sash, and may be withdrawn from the pocket merely by the act of lowering the lower sash, and I have also so constructed the pockets that when the sashes are stored therein, they occupy a different vertical plane from that which they occupy when they close the openings.

In order to provide for connecting the two sashes together so that they can be raised unitedly into the pockets, I have provided the upper sash with the clips d^2 situated to be engaged by the upper edge of the lower sash when the latter is raised, and I have also provided the lower edge of said upper sash with a plate e , seen best in Figs. 4 and 5, which is adapted to engage under brackets or knees e^1 secured to the stiles of the lower sash, said plate e and brackets together with the clips d^2 serving to positively lock the two sashes together so that they will be raised into the pocket and withdrawn therefrom unitedly. When the two sashes are in their lowered position closing the openings a^1 , as shown in Fig. 1, the parting strip e^4 separates the sashes sufficiently so that the edge of the plate e is out of line with the knees e^1 and the lower sash can, therefore, be raised and lowered. When the two sashes are to be stored into the pocket, the lower

sash is elevated until it engages the clips d^2 , at which time the plate e will occupy a position just below the knees e^1 although out of engagement therewith, due to the fact that the sashes are separated by the parting strip. As the sashes are raised unitedly into the pocket, however, the sashes engage the inclined outer wall of the pocket and are tilted slightly, and at the same time the sashes pass off from the upper end of the parting strip a^3 and when this occurs, the upper sash will fall by gravity toward the lower sash until the plate e engages the glass of the lower sash and passes in under the knees e^1 , as shown in Fig. 4. When in this position the two sashes are positively locked together. The sashes are held in their elevated position by means of the rests b^5 which are formed on the stanchions a at the bottom of the pockets. When the two sashes are to be unitedly lowered from the pocket, the lower sash is raised out of the rests or supports b^5 and the two sashes are unitedly dropped down into the openings. As the sashes come into place, the lower pointed ends e^2 , see Fig. 4, of the upper sash engage the inclined or pointed upper end of the parting strip e^3 and thus the sashes are separated sufficiently to withdraw the plate e from engagement with the knees or brackets e^1 . The lower sash can then be lowered independently from the upper sash and brought into the position shown in Fig. 1.

It will be noted that the pockets are so arranged that when the two sashes are unitedly stored therein, they occupy a different vertical position from what they do when they are in their lowered position.

I will preferably employ a leaf spring b^6 which assists in guiding the sashes into their upright position and serves to hold them against possible lateral movement when they are stored in the pockets, as clearly seen in Figs. 1 and 6.

The upper sashes are provided with brackets or holders d^1 that sustain spring-pressed bolts d and the stanchions are provided with offsets a^{12} into which the bolts d may be received for supporting the upper sash in different positions. When the two sashes are lowered, as shown in Fig. 1, it is possible to raise the lower sash independently of the upper sash, or lower the upper sash independently of the lower sash, and the occupants of the car may, therefore, have the windows open either at the top or at the bottom. The tips d^2 may conveniently be formed as part of the brackets d^1 , although this is not essential to the invention. The plate e not only serves to assist in locking the two sashes together, as above described, but it also prevents ingress of air between the meeting rails of the upper and lower sashes when the same are in closed positions, as shown in Figs. 1 and 8.

In order to assist in raising the sashes, I have shown spring rolls b^4 supported in the pockets and connected with the lower sashes by flexible connections b^3 . This spring roll, however, is not essential to the invention. I have also shown a spring roll a^5 in an offset a^4 formed in each pocket which supports a shade a^6 that is adapted to be slid up and down in the channelway a^7 from the interior of the car.

Between the series of stanchions a and roof c , see Figs. 1, 6 and 8, is provided an oblong chamber a^8 having a spring-controlled hinged bottom flap a^9 . This chamber a^8 is in open communication with the outside of the car through a slatted wall a^{10} and at the opposite side said chamber is provided with an adjustable drop door a^{11} which opens into the car. When the sashes are in their lowered position the hinged flap a^9 closes the bottom of the chamber a^8 and by opening the drop door a^{11} , the car may be ventilated through said chamber a^8 and through the slatted wall a^{10} . When the sashes are raised, however, as shown in Fig. 6, they engage the flap a^9 and raise the latter and the upper ends of the sashes pass into the chamber a^8 . The panels b^2 , in the sides of the car A, between the stanchions a , are held to place by a cushioned bearing plate b^9 , as shown, by means of parallel links b^{10} , connected with the body of each of the stanchions a . The bearing plate b^9 , carries a slotted plate b^{12} , at its upper end, which is engaged by a clamping-bolt b^{11} , serving to lock the bearing plate b^9 , in either of its respective positions. A leaf spring b^{13} , serves to prevent vibration of the panel b^2 , when in a closed position and by the shifting of the plate b^9 , as will be clearly understood from Figs. 1 and 9, the panel b^2 , can be released from its supports and shifted then into the space a^2 , in the lower side of the car A, as clearly shown in Figs. 1 and 9. The cushioning of the panels b^2 , in the manner described when in operative position is to maintain the same firmly between stanchions a , free from vibration and entrance of air about the panels, while in such position.

f , is a wide sill-piece interposed in the openings between stanchions a , as shown in Figs. 1, 8 and 9, for the arms of passengers to rest upon, when the lower sash b^1 , has been shifted upward and which is a desirable feature of the described car, due to the arrangement provided therefor.

The foregoing description of my invention embraces constructive arrangement of the stanchions and manner of operating and positioning the sashes b , b^1 , with their accessories and also with means for locking the same temporarily, during shifting and the spring controlled means for assisting in the raising of the sashes into the shifted positions together with the shiftable panel

b^2 , to engage in the oblong recess and the cushioned bearing plate and spring bearing for the panel, all of which provide a very much simplified structural arrangement of a convertible car over that of Letters Patent No. 895,686, dated August 11th, 1908, in that economy of space for the operative parts has been provided for, without sacrificing seating capacity of the car.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a car, the combination with a car body provided with openings in the sides and pockets with which said openings merge and extending to the car roof, of movable sashes in said openings adapted to be shifted together from said openings into said pockets so as to occupy upright positions in different vertical planes from those they occupy while closing said openings, and means provided in said openings to receive and support the shifted sashes while occupying the pockets.

2. In a car, the combination with a car body provided with openings in its sides and pockets merging into said openings, of movable sashes in said openings adapted to be shifted and stored in said pockets, but in different vertical planes from the positions the sashes occupied in closing said openings and fixed means to receive and support said shifted sashes in their inoperative position and located at the junction of said openings with said pockets.

3. In a car, the combination with a car body having openings in the sides and enlarged pockets extending to the roof, of movable sashes mounted in each side opening and adapted to be shifted united into a pocket into substantially upright positions therein, means located between said openings and pockets to support the shifted sashes, and means in connection with one of said sashes to hold the shifted sashes in said pockets.

4. In a car, the combination with a car body having openings in the sides and pockets extending to the roof, of movable sashes mounted in each side opening and adapted to be shifted unitedly into a pocket of said roof and stored therein in substantially upright position, means for guiding the sashes into such position as they are shifted, and means for supporting the shifted sashes in different planes from those they occupy while closing the openings.

5. In a car, the combination with a car body provided with openings in its sides and pockets into which said openings merge, of movable sashes in each opening adapted to be shifted overlappingly into a pocket, means located at the junction of said openings with said pockets to support the sashes in an upright position in planes different from

those occupied by the sashes in closing the openings, and means associated with said sashes for assisting in the shifting of them and in supporting them in their stored position.

6. In a car, the combination with a car body provided with openings in its sides and pockets extending to the roof, of movable sashes in said openings adapted to be shifted together into upright position in said pockets in different planes from what the sashes occupy while closing the openings, means for guiding the sashes during their entire movement from the openings into said position in the pockets, and means for receiving said sashes when shifted and holding the same in said upright position.

7. In a car, the combination with a car body provided with openings in its sides and pockets communicating with the openings and extending to the roof, of movable sashes located in overlapping planes in said openings adapted to be shifted into said pockets, means for supporting said sashes in an upright overlapping position in said pockets in different overlapping planes from those the sashes occupied in closing said openings and means to receive and maintain the shifted overlapping sashes in such position.

8. In a car, the combination with a car body provided with openings in its sides and pockets above the openings forming continuations thereof, said pockets being adapted to receive sashes in an upright position, of movable sashes in said openings adapted to be shifted into said pockets, means for connecting the sashes in each opening in an overlapped relation while they are being shifted into the pockets, means in said pockets connected with said sashes to assist the shifting thereof, and means in the walls of the openings for supporting the shifted sashes in the pockets.

9. In a car, the combination with a car body having openings in its sides and pockets forming continuations thereof and extending to the car roof, of sashes in said openings adapted to be shifted into said pockets in an upright position therein, a hinged partition extending across each pocket and normally forming a compartment at the upper end thereof, each compartment having ventilating openings leading both to the interior and exterior of the car.

10. In a car, a car body provided with openings in its sides and pockets communicating with the openings and extending to the roof, movable sashes in said openings adapted to be shifted into said pockets so as to assume with respect to each other overlapping upright positions therein, means between the openings and pockets to receive the shifted sashes and support the same, spring controlled means connected with

some of the sashes to facilitate the shifting of the same and means in the pockets for guiding the shifted sashes into an upright position and to maintain the same against lateral vibration.

11. In a car, a car body provided with openings in the sides and pockets forming continuations and extending to the roof, an upper sash and a lower sash in each of said openings, the upper sash arranged to be lowered independently of the lower sash, and a lower sash arranged to be raised independently of the upper sash, and both sashes arranged to be shifted into a pocket in an upright inoperative position, means to guide the sashes as they are shifted, and means located beneath said pockets to receive and hold the shifted sashes, the planes occupied by the sashes when shifted into the pockets being to the interior of those occupied by the sashes when closing the openings.

12. In a car, a car body provided with openings in the sides and pockets forming continuations thereof and extending to the roof, sashes in each side opening adapted to be shifted together to assume an upright inoperative position in a pocket but in different vertical planes from those they occupy when closing the openings, means for supporting the shifted sashes in their inoperative position, and side panels below said openings and adapted to be shifted downwardly into the side of the car.

13. In a car, a car body provided with openings in the sides and pockets forming continuations thereof and extending to the roof, sashes in said side openings adapted to be shifted together to assume upright inoperative positions in said pockets but in different vertical planes from those they occupy when closing the openings, means for receiving and supporting the sashes when in the pockets, panels in the sides of the car adapted to be shifted downwardly into recesses in the body of the car, and means operative to maintain the panels in position.

14. In a car body, a car provided with openings in its sides and pockets forming continuations thereof and extending to the roof, sashes in said openings adapted to be shifted into said pockets into upright inoperative positions therein, a movable partition separate from the car side and extending across each of the pockets and forming compartments having exterior and interior ventilating means provided in the sides thereof, and side panels below said openings and adapted to be shifted downward into the car body side.

15. In a car, a car body provided with openings in the sides and pockets forming continuations of said openings and extending to the roof, sashes shiftable independently of each other in the side openings into said pockets, means in the shifting of the

sashes to direct the same so as to assume upright inoperative positions in said pockets, and means located at the junction of said openings with said pockets for receiving and supporting the shifted sashes.

16. In a car, a car body provided with openings in the sides and pockets forming continuations of said openings and extending to the roof, sashes in said openings adapted to be shifted therefrom into said pockets so as to occupy upright positions in different vertical planes from those they occupy while closing the openings, said pockets having means for ventilating the car from beneath the roof when the sashes are in their operative position.

17. In a car, a car body provided with openings in the sides and pockets forming continuations of said openings and extending to the roof, movable sashes in said openings adapted to be shifted into inoperative upright positions in said pockets, means normally dividing each pocket into compartments, one of which has a ventilating opening in one side leading to the exterior of the car and another opening in another side leading to the interior of the car, said means being movable to permit the sashes to be raised into their inoperative position and being separate from the sides of the pocket and in its normal closed position preventing a draft of air down through the bottom of the pocket.

18. In a car, a car body having side openings and pockets forming continuations thereof and extending to the roof, sashes occupying each opening and shiftable together in overlapping relation upwardly into said pockets to occupy different vertical planes from those they occupy when closing the openings, spring-controlled means connected with one of the sashes in each opening to maintain the sashes shifted in the given upright position in said pocket, means for receiving and supporting the shifted sashes, and panels held under cushioning tension in the sides of the car body below said openings and permitting of the shifting of said panels into inoperative relations into recesses in the car body.

19. In a car, a car-body having sides with openings and pockets formed as continuations thereof and extending to the roof, upper and lower sashes arranged to overlap and engage each other when shifted and stored in said pockets, said sashes provided with means operating to facilitate the shifting of the same into the said pockets in an upright inoperative relation and panels in the sides maintained in operative relation by shiftable cushioning devices and springs.

20. In a car, a car body having side openings and pockets formed as continuations thereof and extending to the roof, sashes and panels, said pockets at one side slatted

and formed into a compartment having side drop doors and hinged floors and said sashes adapted to be shifted into upright inoperative position in said pockets and said panels to be shifted downward into the car body.

21. In a car, a car body having side openings and pockets as continuations thereof extending to the roof, sashes arranged to overlappingly engage while shifting from said openings into said pockets, means connected with one of each set of sashes to permit when the sashes are shifted their assuming an upright inoperative position and to assist in maintaining the same in such position in said pockets and means located at the bottom of the pockets in the walls of said openings to receive and support said shifted sashes.

22. In a car, a car body having side openings and pockets formed as continuations thereof and extending to the roof, sashes and panels adapted to occupy said openings, the sashes in each opening having means to engage each other in overlapping relation and to maintain such engagement while the sashes are shifted into the pockets, means for supporting the sashes in an upright position in said pockets in different planes from those the sashes occupy in closing the openings, and said panels being arranged to be shifted downwardly into the car body side, and means to cushion and support the panels in operative position.

23. In a car, a car-body having side openings and pockets formed as continuations thereof and extending to the roof, side-sashes and panels, the sashes having means to engage each other in their overlapping relation and means to support the same from offsets in the walls of said openings when shifted into their pockets, means connected with the sashes to facilitate their shifting and means to prevent the panels from vibrating while in operative position.

24. In a car, a car body provided with openings in the sides and pockets formed as continuations thereof and extending to the roof, sashes and panels, the sashes adapted to be shifted upward into inoperative positions in said pockets, fixed means connected with the walls of said openings to receive and support said sashes in their shifted position, the panels adapted to be shifted downward and stored in the car body, means to maintain said panels in their given position against vibrations and curtains shiftable in the openings adjacent to the shiftable sashes of said openings.

25. The combination with a car body provided with openings in its sides and pockets forming continuations of the openings and adapted to receive sashes and support the same in upright positions, of movable sashes in each opening, and means rigid with the sashes for connecting them together so as

to prevent either sash from movement relative to the other while they are stored in the pockets.

26. The combination with a car body provided with openings in its sides and pockets forming continuations of the openings and adapted to receive sashes and support the same in upright positions, of movable sashes in each opening, means rigid with the sashes for connecting them together so as to prevent either sash from movement relative to the other while they are stored in the pockets, and means to separate the sashes during their lowering movement.

27. The combination with a car body provided with openings in its sides, of movable sashes in each opening, said car body having pockets forming continuations of the openings which are arranged to support the sashes in upright positions in different vertical planes from that which they occupy when closing the openings, and means to lock the sashes rigidly together when they occupy the pockets.

28. The combination with a car body provided with openings in its sides, of movable sashes in each opening, said car body having pockets forming continuations of the openings which are arranged to support the sashes in upright positions in different vertical planes from that which they occupy when closing the openings, means to lock the sashes rigidly together when they occupy the pocket, and means to unlock the sashes from each other during their lowering movement.

29. In a car, the combination with a car body provided with openings in its sides, of movable sashes in each opening, said car body having pockets forming continuations of said openings and adapted to receive the

sashes in upright positions, clips on the upper sash adapted to be engaged by the lower sash when the latter is raised, a plate on the lower edge of the upper sash, and brackets on the lower sash under which the plate engages to positively lock the two sashes together when they are in their elevated position.

30. In a car, the combination with a car body provided with openings in its sides, of movable sashes in each opening, said car body having pockets forming continuations of said openings and adapted to receive the sashes in upright positions, clips on the upper sash adapted to be engaged by the lower sash when the latter is raised, a plate on the lower edge of the upper sash, brackets on the lower sash under which the plate engages to positively lock the two sashes together when they are in their elevated position, and means to separate the plate from the brackets as the sashes are lowered.

31. In a car, the combination with a car body provided with openings in its sides and pockets forming continuations of said openings, of movable sashes in the side openings adapted to be shifted to assume with respect with each other upright inoperative positions in said pockets, side panels below said openings and adapted to be shifted downward into the side body of the car, and bearing plates *b*⁹ supported by parallel links and adapted to engage the panels and hold them in operative position.

In witness whereof, I have hereunto set my signature in the presence of two subscribing witnesses.

MYRON ROUNDS.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.