F. PETERSON & D. R. COLLIER.

BABY CARRIAGE.

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1,297,006.

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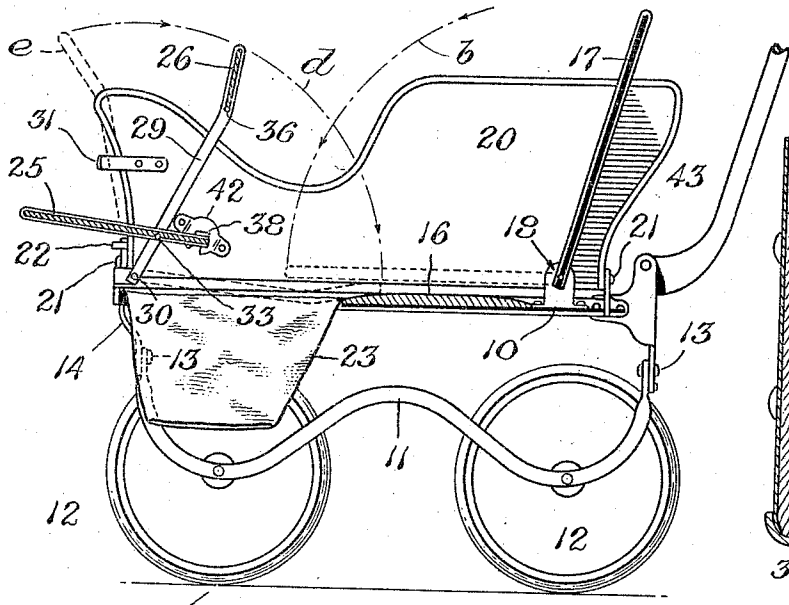



Fig. 1

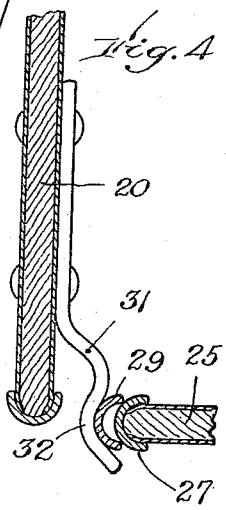



Fig. 4

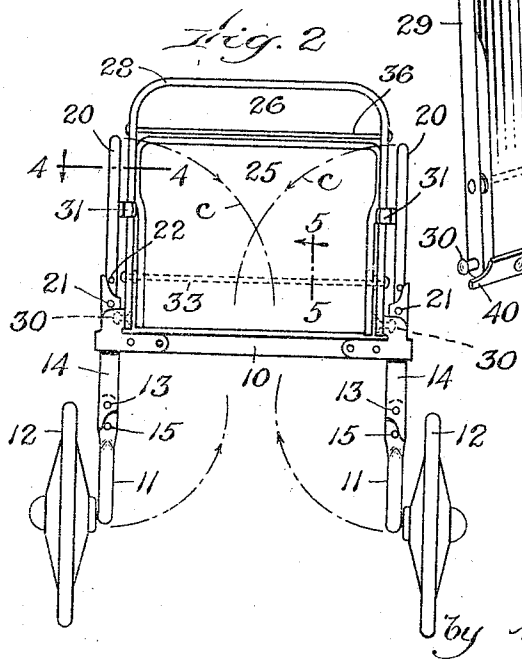



Fig. 2

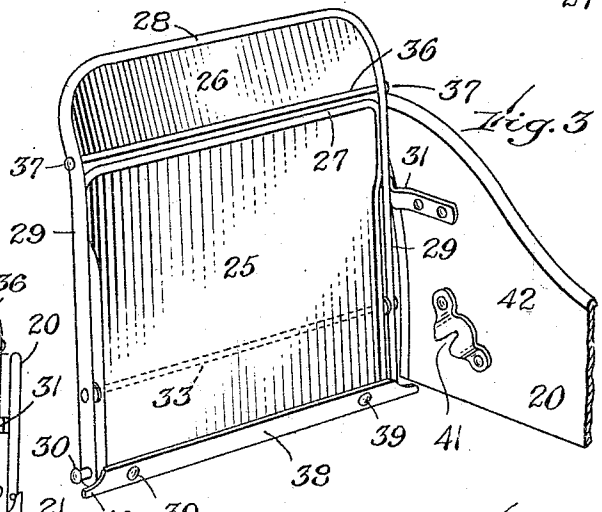



Fig. 3

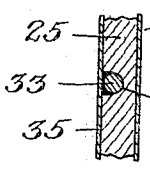



Fig. 5

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# UNITED STATES PATENT OFFICE.

FRITHIOF PETERSON AND DAVID R. COLLIER, OF GARDNER, MASSACHUSETTS, ASSIGNORS TO COLLIER KEYWORTH COMPANY, A CORPORATION OF MASSACHUSETTS.

## BABY-CARRIAGE.

1,297,006. Specification of Letters Patent. Patented Mar. 11, 1919.

Application filed March 31, 1917. Serial No. 158,835.

*To all whom it may concern:*

Be it known that we, FRITHIOF PETERSON and DAVID R. COLLIER, citizens of the United States, residing at Gardner, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Baby-Carriages, of which the following is a specification.

This invention relates to baby carriages of the type commonly called perambulators, and its object is to provide a convertible body structure capable of being adjusted to form a body having a dash, and of being adjusted to convert the dash into an additional seat, so that the carriage may be suitable for one occupant in the first instance, and suitable for two occupants in the latter instance.

The invention is embodied in the present instance in a perambulator of the collapsible type such as that illustrated and described in United Letters Patent to Collier, No. 930,044, granted August 3, 1909, and for that reason many of the collapsible features need not be repeated for the purposes of the present application. The body of the vehicle comprises a seat, a hinged back-rest capable of being folded forwardly and downwardly upon the seat, and hinged sides capable of being folded toward each other and downwardly upon the back-rest. In addition to the folding back-rest and sides the body comprises a hinged dash that is capable of being folded toward the rear and downwardly so that it may lie substantially in the same plane as the back-rest when the latter is folded, and underlie the sides when the latter are folded. The dash and the folding sides have coöperative elements arranged to be engaged with and disengaged from each other to hold the dash in position to fulfil the function of a dash, but the dash is capable of being converted into a seat. For the latter purpose the folding sides and dash are provided with coöperative elements that are arranged to be engaged with and disengaged from each other to sustain the dash in seat-forming position, the latter said elements serving to lock the hinged sides in operative position as well as to lock the dash-seat in seat-forming position.

On the accompanying drawings that illustrate one form in which the present invention may be embodied:

Figure 1 represents a vertical section in a plane from front to rear of a convertible perambulator in which the convertible dash is represented by solid lines in seat-forming position.

Fig. 2 represents a front elevation of the perambulator showing the dash-seat in dash-forming position.

Fig. 3 represents a perspective view including the dash-seat and a portion of one of the hinged sides, the dash-seat being arranged in dash-forming position.

Fig. 4 represents a horizontal section through the structure intersected by line 4—4 of Fig. 2.

Fig. 5 represents a section through the structure intersected by line 5—5 of Fig. 2.

The same reference characters indicate the same parts wherever they occur.

The running frame of the vehicle comprises a rectangular frame portion 10, two hinged portions 11, 11, and wheels 12. The axles of the wheels are affixed to the hinged portions 11, 11, and the latter are hinged to the frame portion 10 by hinge pins 13. The axes of the pins 13 extend horizontally from front to rear so that the sections 11 may swing toward each other and upwardly under the frame portion 10 as indicated by curved lines *a*, *a* in Fig. 2. For the purpose of forming such connection between the sections 11 and the section 10 the latter is provided with fixtures 14 that extend downwardly in lapped relation to the ends of the sections 11. These lapped portions are connected by the hinge pins 13, and the sections 11 are provided with stop pins 15 that are arranged to abut against the lower ends of the portions 14 to limit the opening movement of the sections 11 and to brace the latter in operative position. It will not be necessary to illustrate or describe the means for swinging the sections 11 about their hinges, for the reason that such means may be substantially the same as that shown in said Patent 930,044.

The principal seat of the vehicle is indicated at 16 in Fig. 1. A back-rest 17 is connected to the seat 16 by a pair of suitable hinges such as that indicated conventionally

at 18, said hinges being arranged to enable the back to swing forwardly and downwardly to folded position as indicated by curved broken line *b* in Fig. 1. The back-rest is thus adapted, when folded, to lie upon the seat 16.

The body of the vehicle includes hinged sides 20, 20, the lower portions of which are connected to the frame section 10 by hinge pins 21. For this purpose the members 14 extend upwardly, as shown by Fig. 2, to take the hinge pins 21. The sides 20, 20 are adapted to swing toward each other and downwardly as indicated by curved broken lines *c*, *c*, in Fig. 2, and when they are folded to collapsed position one of them lies upon the back-rest, and the other lies upon the one that lies upon the back-rest. The sides are provided with stop pins 22 that abut against the upper ends of the members 14 as shown by Fig. 2, to limit the opening movement and to brace the sides against spreading stresses. A foot-cowl 23 is provided for the feet of the occupant of seat 16, and is made of flexible sheet material such as imitation leather, so that it may be collapsed.

In most respects the vehicle as thus far described is substantially like that shown in said Patent 930,044, excepting that in the present instance the hinged sides 20, 20 extend to the front of the foot-cowl 23 instead of extending only to the front edge of seat 16.

The dash is preferably made in two sections for the purpose of the present invention. One main section of the dash includes a panel 25, and the other includes a panel 26. Each of the two panels is bound and reinforced along three edges by a strip of sheet metal of semicircular channel cross-section. The reinforcing strip of panel 25 is indicated at 27 and the reinforcing strip of panel 26 is indicated at 28. The cross-sectional shape of said strips is shown by Fig. 4. The end portions 29, 29 of strip 28 are hinged to frame section 10 by hinge pins 30, 30, to enable the panel 26 to swing from front to rear and downwardly as indicated by curved broken line *d* in Fig. 1. When this element of the dash is folded backwardly and downwardly it is adapted to lie upon the front edge of seat 16, and in folding the body of the vehicle it would be preferable to fold the dash to said position before folding the back-rest to collapsed position. When it is desired to adjust the panel 26 to dash-forming position, as shown by Figs. 2 and 3, and as indicated by dotted lines at *e* in Fig. 1, it is necessary to open the sides 20, 20 to operative position as shown, because the dash swings between the sides and serves as a spreader to keep the latter in open position. The sides are provided with clips 31, 31 that are curved as indicated at 32 in Fig. 4 to receive the portions 29 of the strips 28. When the portions 29 and clips 31 are nested as shown, the clips hold the hinged section of the dash against movement about its hinges, and by a reciprocal action the hinged section of the dash holds the sides 20, 20 in open position with the stop pins 22 against the upper ends of fixtures 14, 14. The sides 20, 20 are capable of springing sufficiently to enable the portions 29, 29 to move to and from the position shown by Fig. 4.

Panel 25 of the dash has hinge connection with portions 29, 29, the latter hinge connection being formed by a rod 33. The ends of this rod are fastened to portions 29, 29, and the intermediate portion of the rod lies in a groove 34 formed in the front of the panel 25. (See Fig. 5.) That portion of the rod that lies in the groove 34 is concealed by a facing of sheet material 35 with which the panel 25 is covered. This form of hinge connection is preferred for the reason that the rod serves to reinforce the panel 25 when the latter is used as an auxiliary seat as hereinafter explained. Furthermore the ends of the rod are provided with heads, and the portions 29, 29 are thereby tied to each other.

When the panels 25 and 26 of the dash are in coöperative dash-forming relation as shown by Figs. 2 and 3 the sides of the reinforcing strip 27 are nested in portions 29, 29 as shown by Fig. 4, and panel 25 is thereby held so that it will not be free to swing about the axis of rod 33. The portions 29 are capable of being sprung apart between panel 26 and rod 33 to enable the reinforcing strip 27 to move to and from nested relation, but a considerable force is required to spring them. In order to increase the effectiveness of the portions 29 for the purpose of holding the panel 25 as last described, the sections 29 are tied together by a tie-rod 36. The ends of this tie-rod extend through the portions 29 and are provided with heads as indicated at 37. The tie-rod has the additional function of locking the panel 26 of the dash in the channel afforded by strip 28.

When it is desired to use the panel 25 of the dash to provide an auxiliary seat the panel 26 will be moved about hinge pins 30 to the position represented by solid lines in Fig. 1. At the same time panel 25 will be swung about the axis of rod 33 by moving the upper edge forwardly and downwardly. A metallic strip 38 is affixed to the lower marginal portion of panel 25 by any suitable means such as rivets 39. The ends 40, 40 of strip 38 project laterally beyond portions 29, and are arranged to enter notches 41 formed in locking members 42. There are two such locking members 42 and they are

affixed respectively to the confronting surfaces of the folding sides 20, 20. The open ends of the notches 41 are at the bottoms of the members 42 so that the end portions 40 may enter the notches when moving upwardly. When the panel 25 is used as a seat the greater portion of the load is in front of pivot rod 33, and consequently the effect of the load will be to force the end portions 40 upwardly into the notches. Incidentally to moving the panel 25 to seat-forming position section 26 is necessarily moved to the position of a back-rest, and the stresses encountered by the latter in performing the function of a back-rest are sustained by the locking members 42. Said locking members, therefore, act to lock the members 29 against movement about the axis of hinge pins 30, 30 in addition to locking the seat panel against movement about the axis of rod 33. It is desirable to arrange the locking members 42 so that the notches 41 will be inclined as shown, for the reason that an excessive force from front to rear against the back-rest would tend to force the end portions 40 toward the closed ends of notches 41, thus making the locking elements as effective as possible to prevent accidental disengagement of the ends 40 from the members 42 when the auxiliary seat is occupied. The confronting edges of the notches 41 are preferably formed in converging relation, and the end portions 40 are preferably made of such width as to be wedged tightly between such edges, so that the auxiliary seat will not be too easily detached from the locking members. When the strip 38 of the auxiliary seat is interlocked with the members 42 it acts as a spreader to keep the sides 20, 20 open as far as the stop pins 22 will permit.

It is to be observed that the lower edge of the dash section 25 has considerable movement toward the rear when said section is moved from dash-forming position to seat-forming position. This is due partly to the fact that the hinge rod 33 is a considerable distance from the lower edge of said section, and is due also to the fact that said hinge rod is carried to the rear by the portions 29, 29 when the latter swing to the position represented by solid lines in Fig. 1. The significance of this movement of the auxiliary seat portion toward the rear is that the distance from such seat to the axle of the rear wheels is shortened, and the force required to lift the front wheels by bearing down upon the push bars 43 is reduced to a corresponding degree.

So far as the function of a dash and the function of a seat are concerned, the panel 26 is not necessary, the latter being merely supplemental to panel 25 for the dash-forming purpose, and not indispensable as a back-rest. We therefore desire to claim our invention without any undue limitation involving the supplemental panel 26, excepting the claims that recite the latter.

We claim:

1. A baby-carriage body having a hinged dash-supporting frame arranged to swing about a transverse axis, a panel affixed to said frame in a position remote from said axis, a movable panel arranged in said frame between said fixed panel and said axis, said movable panel and said frame having hinge connection with each other to enable the said panel to tilt relatively to the frame, said frame and said movable panel being movable to arrange the latter and the first said panel in the relation of a seat and back-rest, respectively, and means arranged to sustain said movable panel and said frame in seat-forming relation.

2. A baby-carriage body having a hinged dash-supporting frame arranged to swing about a transverse axis, a dash panel arranged in said frame and having hinge-connection therewith, the axis of said hinge-connection being parallel to the first said axis, said frame having resilient portions of channel cross-section arranged to embrace edge portions of said panel to hold the latter in one position relatively to said frame, said resilient portions being capable of being sprung to release said panel, and means arranged to hold said frame in one position.

3. A baby-carriage body having hinged sides, a hinged dash arranged to swing about a transverse axis, a portion of said dash being movable between said sides and behind said axis, and holding devices fastened to said sides respectively and arranged behind said axis to coact with said portion to sustain said dash substantially in a horizontal position.

4. A baby-carriage body having hinged sides, a hinged dash-supporting frame arranged to swing about a transverse axis, two dash-panels arranged in said frame, one of said panels being fixed to said frame and the other being movable relatively thereto, hinge-forming means connecting said frame and said movable panel, the axis of said means being parallel to the first said axis, said movable panel and the latter said axis being between the first said axis and said fixed panel, said movable panel being movable to a substantially horizontal position to serve as a seat, and said frame being movable about the first said axis to place said fixed panel in the position of a back-rest relatively to such seat, holding devices fastened to the confronting faces of said sides, and elements carried by said movable panel and arranged to coact with said holding devices to hold said movable panel and said frame in seat-forming relation.

5. A baby-carriage body having hinged sides, a dash panel, dash-supporting means including pivotally mounted links arranged to swing about a transverse axis, said panel and links having pivotal connecting means the axis of which is parallel to the first said axis, said means being movable from front to rear in consequence of angular movement of said links about the first said axis, holding devices fastened to the confronting faces of said sides, and elements carried by said panel and arranged to coact with said holding devices to hold said panel in a substantially horizontal position.

In testimony whereof we have affixed our signatures.

FRITHIOF PETERSON.
DAVID R. COLLIER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."