July 16, 1929. D. R. COLLIER ET AL 1,721,178

CHILD'S CARRIAGE

Filed Sept. 22, 1927 3 Sheets-Sheet 1

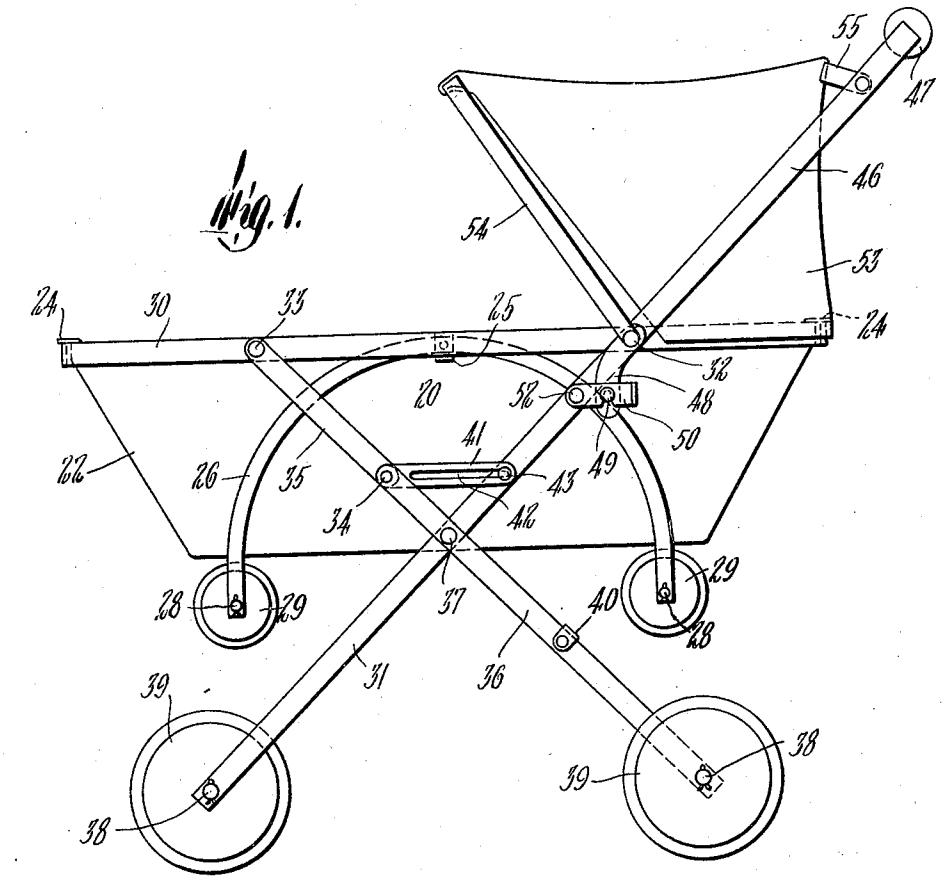


Fig. 1.

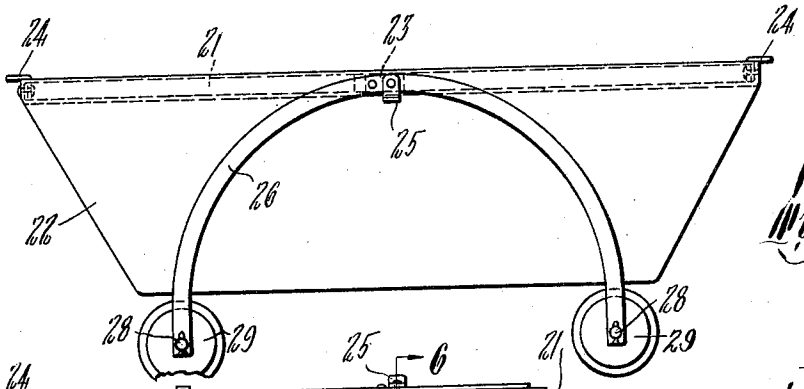


Fig. 2.

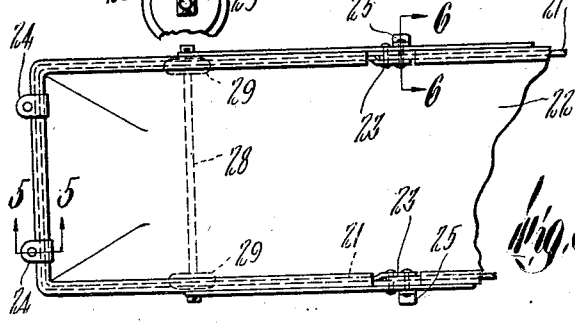


Fig. 3.

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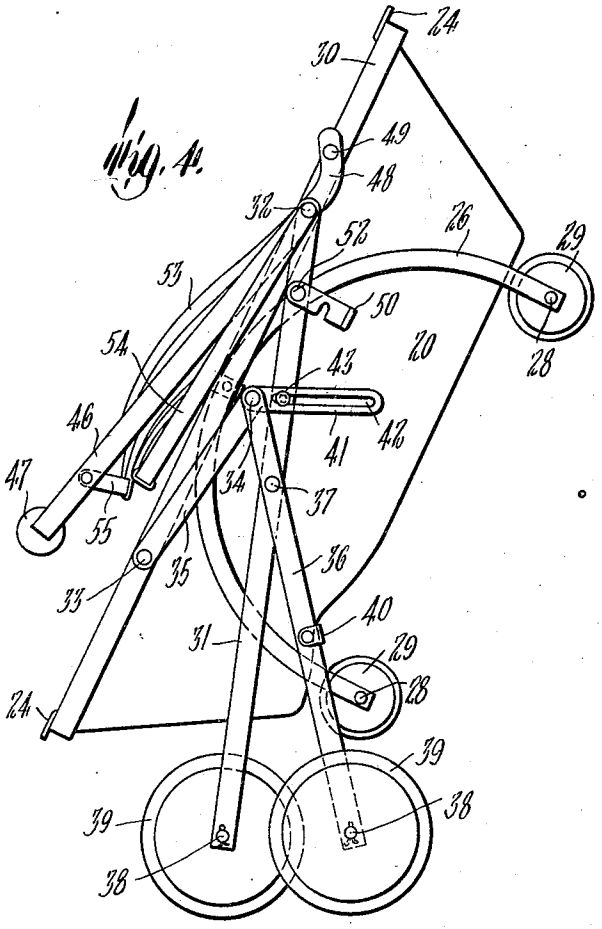


Fig. 4.

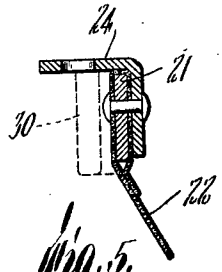


Fig. 5.

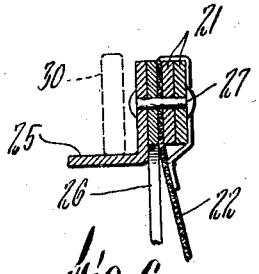


Fig. 6.

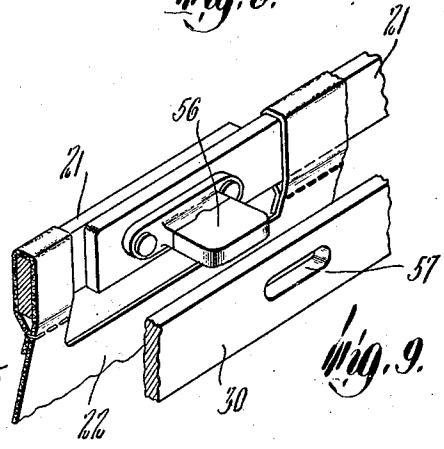


Fig. 9.

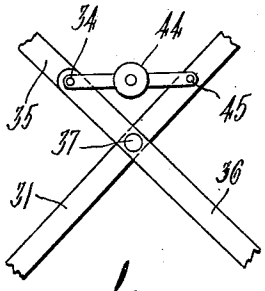


Fig. 7.

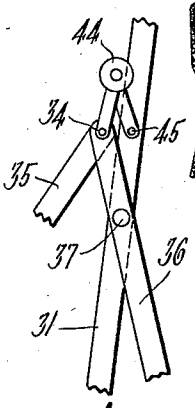


Fig. 8.

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July 16, 1929. D. R. COLLIER ET AL 1,721,178

CHILD'S CARRIAGE

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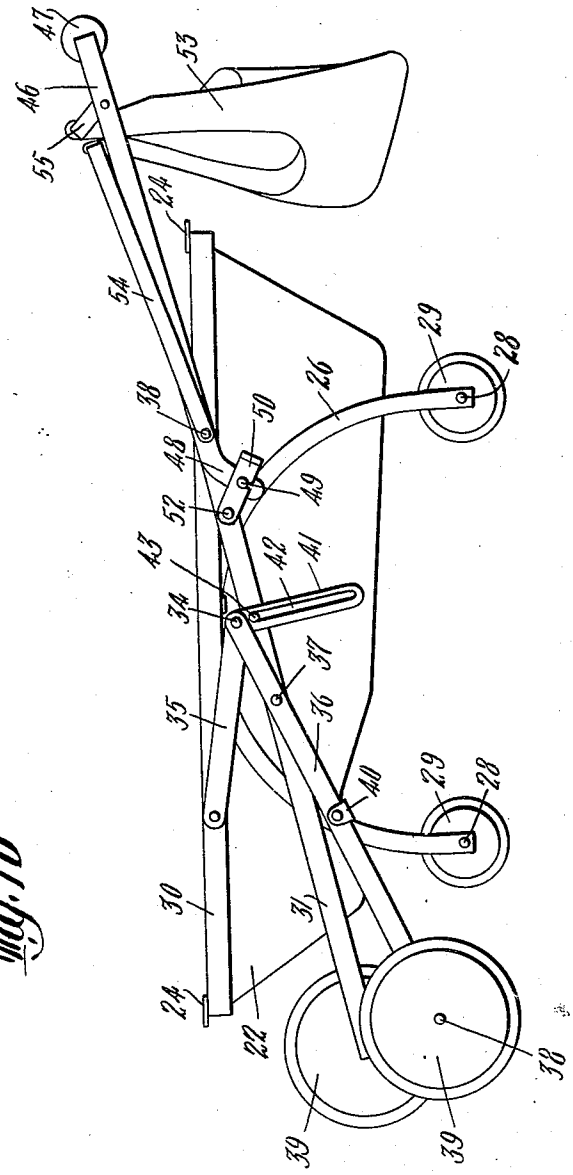


Fig. 10

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Patented July 16, 1929. 1,721,178

UNITED STATES PATENT OFFICE.

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CHILD'S CARRIAGE.

Application filed September 22, 1927. Serial No. 221,323.

This invention relates to perambulators or vehicles for carrying infants or dolls, and is more particularly directed to folding types of vehicles which can be collapsed into a relatively small compass. It is an object of the invention furthermore to provide a two-part vehicle, the body portion of which can be detached and can serve as a wheeled bassinet. A further object of the invention is to provide running gear including a folding frame to support the body member in a relatively elevated position, or, when folded, to cooperate with wheels attached directly to the body member to support the latter in lowered position.

Other advantageous features of the invention will appear from the following description and the drawings, of which

Figure 1 is a side elevation of a perambulator embodying the invention.

Figure 2 is a side elevation of the body member of the perambulator, showing its adaptability for use as a wheeled bassinet.

Figure 3 is a fragmentary plan view of the bassinet shown in Figure 2.

Figure 4 is a side elevation of the perambulator partially collapsed.

Figures 5 and 6 are sections taken on the lines 5—5 and 6—6, respectively, of Figure 3.

Figures 7 and 8 show a modified form of a device for limiting the angular opening between the side bars of the frame when they reach their unfolded position.

Figure 9 is a fragmentary perspective view of the side of the body member, showing a modified form of means for securing the body member to the frame.

Figure 10 is a side elevation of the perambulator showing its use in another position with the running gear collapsed.

Referring to the drawings in detail, 20 represents the body member of the perambulator, which may comprise a rectangular loop or frame 21, to which is secured the edges of a load-receiving element such as a baglike trough or hammock 22, which may be made of cloth or any other suitable flexible material. The loop or frame 21 is preferably made of two separate parts, each part comprising a strip of steel or other suitable material bent to form an open rectangular or angular U-shape. The trough is made to shape in any desired manner and a hem is formed extending around the edge thereof, this hem having a pair of breaks at opposite points. The U-shaped members are then threaded through the sections of hem and their ends projecting from the breaks in the hem are either pivoted together or else riveted, welded or otherwise permanently secured together as at 23, thus forming a closed rectangular loop or frame, from which the flexible hammock-like body depends. At suitable points along this rectangular loop or frame outwardly extending lugs may be secured. As shown, a pair of lugs 24 are secured at each end of the loop, these lugs projecting from the upper edge of the loop. A similar lug 25 may be secured at the mid point of each side portion of the loop, these lugs projecting from the lower edge of the loop. In order to permit the use of the body member 20 as a wheeled bassinet, I provide a suitable running gear which may comprise side members 26 which may take the form of strips of steel of a semi-circular or arcuate shape, secured at their mid points to the loop 21 at the points 23, there being a side member 26 at each side of the loop 21. A preferred method of connecting these parts together is illustrated in Figure 6, the various parts being shown as assembled with a rivet 27 passing through to hold them together. At the lower ends of the side members 26 are perforations to receive cross bars 28, which carry suitable wheels 29, these being preferably of relatively small diameter. Any other suitable running gear in lieu of the arcuate side members, provided with supporting wheels, may be employed for the body member. The body member thus is capable of being readily moved about by itself while supported on the wheels 29.

In combination with the body member thus far described, we provide a collapsible main frame having running gear. This includes a folding frame comprising a rectangular frame or loop 30 similar to the loop 21, but slightly larger so as to receive the loop 21 therewithin. The lugs 24 are adapted to rest upon the end portions of the loop 30 so that the body member 20 is thus supported thereby. In order to hold the loop 21 in place within the loop 30 the laterally extending lugs 25 are made to engage the under edge of the side portions of the loop 30, these being positioned by springing the side portions of the loop 30 outwardly when

the loop 21 is put in place. To each side portion of the loop 30 is pivotally attached a pair of intersecting bars. One of these bars 31 is attached to the loop 30 as at the point 32 and is rigid throughout its entire length. The other bar which is attached to the loop 30 as at the point 33 comprises two connected pieces, being articulated by a pivot joint 34 which connects the upper portion 35 and the lower portion 36 of the bar. The two side bars are pivotally connected at their point of intersection 37. At the lower ends of the bars are perforations to receive cross bars 38, on which are mounted suitable vehicle wheels 39. A reinforcing cross bar 40 may be riveted to the opposite side bars 36 to stiffen the frame. The cross bar 40 also acts as a stop to limit the folding of the frame since the side bars 31 engage the bar 40 at points adjacent to the side bars 36 when the frame is fully folded, as in Figure 10. In order to limit the angular opening between the side bars 31 and 36, when the frame is in unfolded position, we provide a link 41 which may be pivotally attached at the joint 34 to the side bar 35—36. This link 41 is provided with an elongated slot 42 which rides over a suitable pin 43 fixed in the side bar 31. When the frame is in its fully unfolded position, it is obvious from Figure 1 that the pin 43 will bear against the end of the slot 42 which is remote from the pivot point 34. As indicated in Figure 4, in folding up the vehicle frame, the side bar 35—36 is broken at its joint 34, the link 41 sliding on the pin 43. This permits the loop 30 and the side bar 31 to swing together, the segments 35, 36 of the articulated side bar doubling up. Instead of the link 41, we may employ a toggle jointed member 44 (Figures 7 and 8), one end of which is pivoted at the point 34, the other end being pivoted on the bar 31 as at 45. This type of connection between the point 34 and the side bar 31 not only limits the angular opening between the side bars but also releasably locks the frame in its unfolded position.

As indicated in Figures 1 and 10, the perambulator as a whole may be used in either a raised or lowered position. When the side frames are unfolded, the body is supported in the raised position. The side frames may be collapsed to tilt the body almost to a vertical position. In this position the perambulator occupies little floor space and can be stood in any small out-of-the-way space when not being used. If a low perambulator is desired, the body may be swung down to substantially horizontal position with the side frames folded so that the vehicle rests on one pair of the large wheels 39 and a pair of the small wheels 29. If used as a doll carriage, this feature makes it convenient for use by children too small to operate it easily when in its unfolded position as in Figure 1. If it is desired to have the cross bar 40 clear of the body 22 when the perambulator is in its lowered position, the central portion of the cross bar may be bowed or bulged downwardly, such bulge not being shown on the drawings.

In order to push and guide the vehicle in either its raised or lowered position, a suitable handle member 46 may be provided, this member preferably comprising a U-shaped steel strip pivoted near its ends at the points 32 of the loop 30. A gripping piece 47 may be mounted on the crosswise extending portion of the handle member. The ends of this member are preferably extended below the pivot 32 as at 48. This extension is provided with a pin or button 49, which is adapted to catch in a slot of a latch member 50, which may be pivoted to the bar 31 as at 52. By lifting the latch 50 on each side of the frame, the handle member 46 may be swung forwardly as shown in Figure 4. A hood or canopy 53 may be supported over one end of the body member, as by a U-shaped frame 54, which may be pivoted at the points 32, and a cross bar 55 attached to the handle member near the grip 47. When the canopy or hood is not desired in use, the frame 54 may be swung back and the canopy 53 allowed to hang down outside the body, as in Figure 10.

A modified form of catch for holding the loop 21 within the loop 30 is shown in Figure 9. This consists of a turn button 56, which is adapted to enter a suitable slot 57, the button being turned after having passed through the slot to lock the frame in place.

Having thus described an embodiment of this invention, it should be evident to those skilled in the art that various changes and modifications might be made therein without departing from its spirit or scope as defined by the appended claims.

We claim:—

1. In a vehicle of the class described, a body having wheels mounted thereon, and running gear comprising a foldable frame having wheels mounted thereon, said body being supported in substantially horizontal position by the frame wheels alone when the frame is in unfolded position, and by certain of the frame wheels and body wheels when the frame is folded.

2. In a vehicle of the class described, a body, wheeled running gear rigidly attached thereto, and additional wheeled running gear comprising a folding frame supporting said body and attached running gear when unfolded, and when folded cooperating with said attached running gear to support the body in substantially horizontal position.

3. In a vehicle of the class described, a body member and a separate wheeled supporting frame therefor, said frame having a rigid

rectangular loop normally in a horizontal plane, said body having a similar loop receivable within said frame loop and provided with a plurality of horizontally projecting lugs, some of said lugs being arranged to engage said frame loop from above, others of said lugs being arranged to engage said frame loop from below.

4. A foldable frame, comprising a rigid rectangular loop, a pair of intersecting side bars on each side of said loop, said side bars being pivotally attached at their upper ends to said loop at fixed points and carrying wheels at their lower ends, said bars being pivotally connected at said point of intersection, one of said bars having a pivoted joint between its point of attachment to said loop and said intersection, the other of said side bars having a pivoted extension beyond said loop, means for releasably holding said extension in fixed angular relation to said other side bar, and means for limiting the angular opening between said side bars.

5. A foldable vehicle frame, comprising a normally horizontal rigid rectangular loop, a pair of intersecting side bars on each side of said loop pivotally secured at their upper ends to a side of the loop, said bars extending downwardly beyond the point of intersection and carrying wheels at their lower ends, said bars also being pivotally connected at their point of intersection, one of said bars being rigid throughout its length, the other said bar being pivotally jointed between its point of attachment to said loop and said point of intersection, means extending between both said bars for releasably securing the bars in their unfolded position, a U-shaped handle member having its ends pivotally attached to the opposite sides of said loop at the points of attachment of the rigid side bars to the loop, and a pair of latches for releasably holding said handle member in unfolded position.

6. A baby carriage comprising a collapsible main frame provided with running gear, and a detachable body member adapted to be supported by said main frame, said body member comprising a loop, a baglike body supported thereby, means on the loop for detachably engaging the main frame so as to be supported thereby, and supporting wheels carried by said loop, and normally elevated when said body member is in place upon the uncollapsed main frame but adapted to support said body member when it is detached from the main frame.

7. A baby carriage comprising a main frame provided with wheeled running gear and with a handle for propelling it; a body provided with wheeled running gear; and means by which said body may be detachably connected to and supported by said main frame, said body and said main frame having similar loops or frames of which one is capable of fitting within the other.

In testimony whereof we have affixed our signatures.

DAVID R. COLLIER.
WILLIAM HOGLUND.