Oct. 11, 1927. 1,644,706

M. L. BERNON

PERAMBULATOR

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Fig. 1.

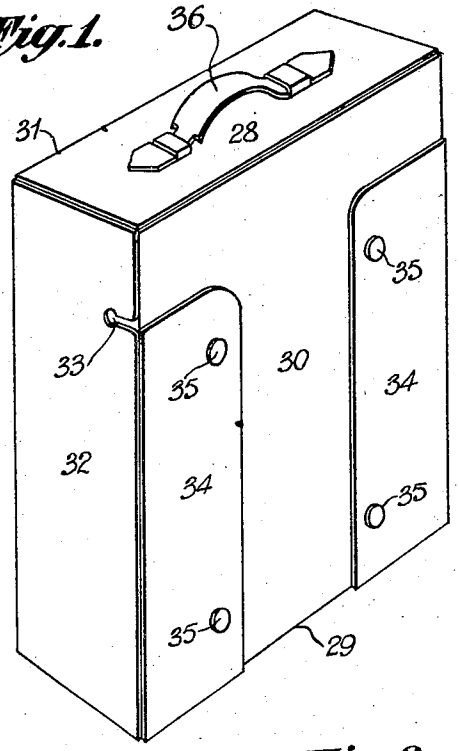
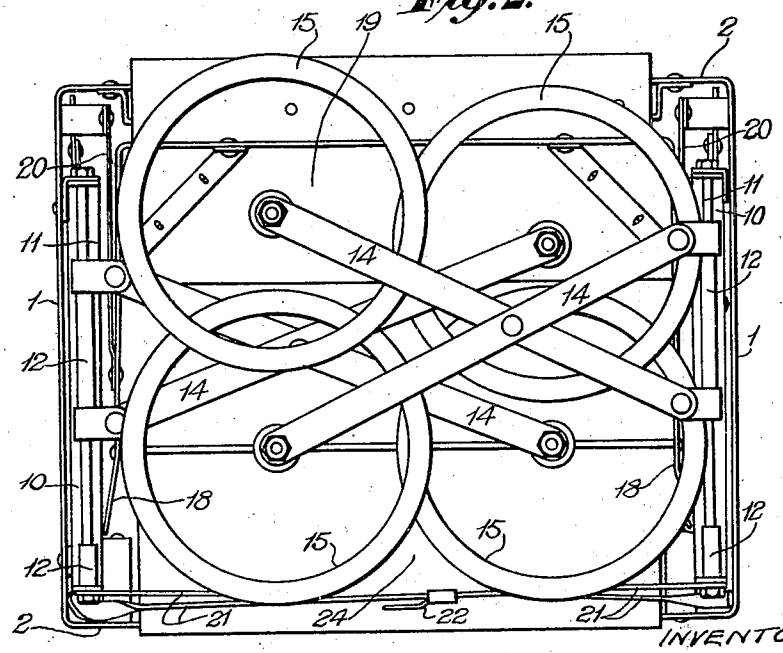


Fig. 2.



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PERAMBULATOR

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Fig. 3.

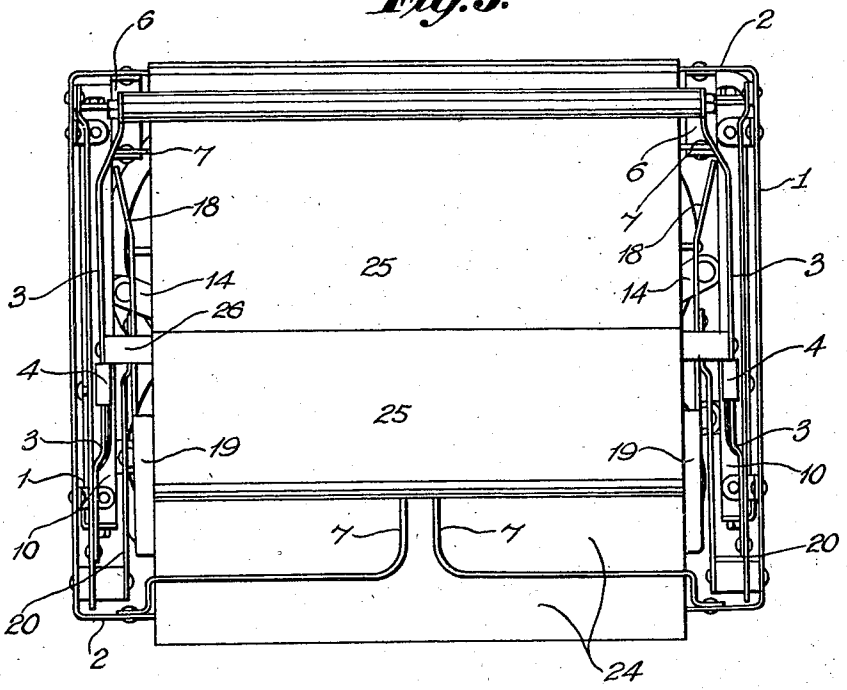
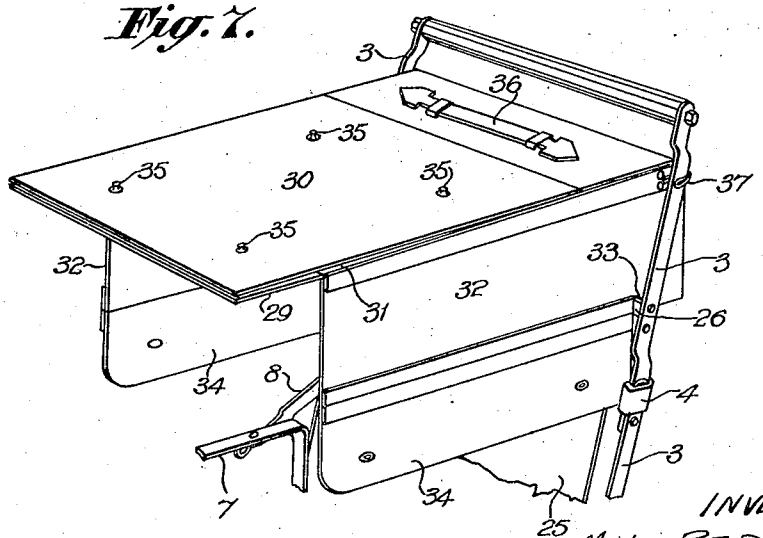


Fig. 7.



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PERAMBULATOR

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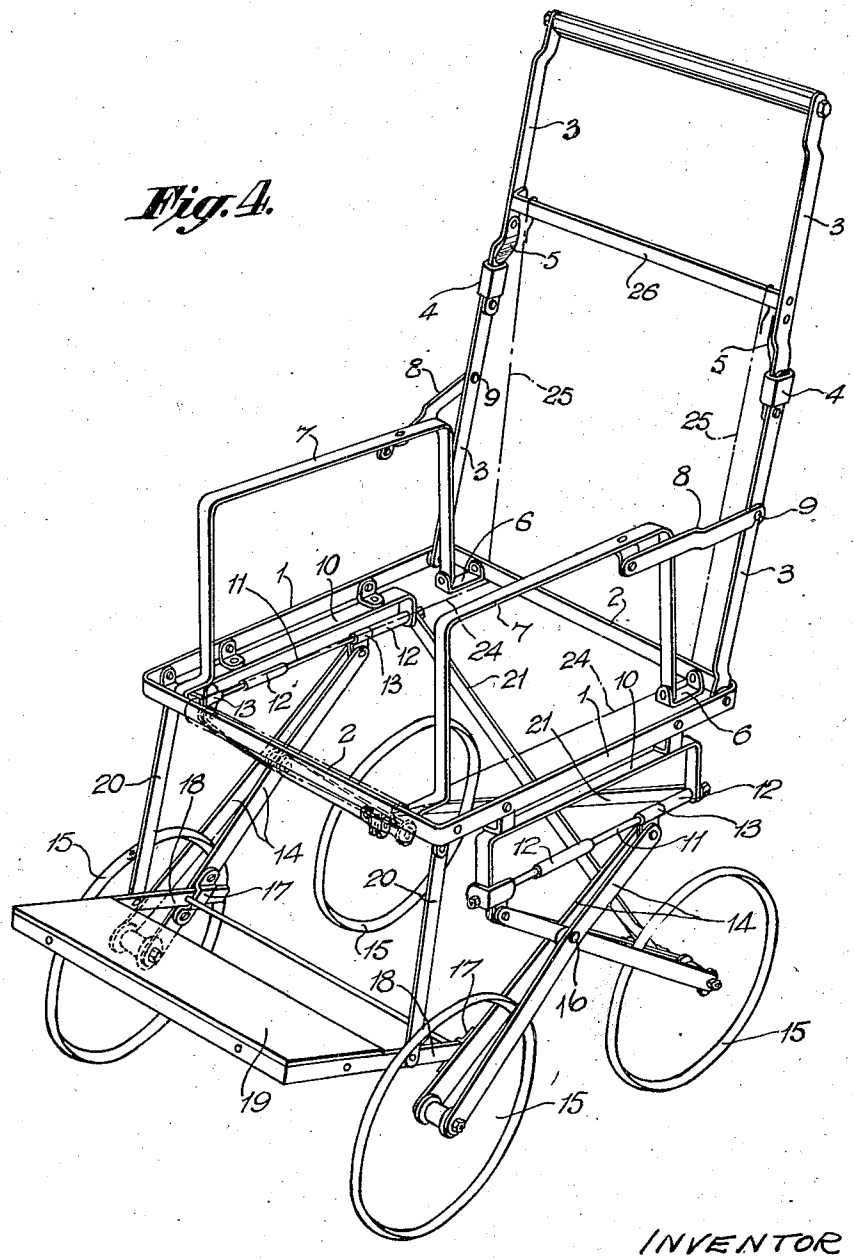
Fig. 4.



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PERAMBULATOR

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Fig. 5.

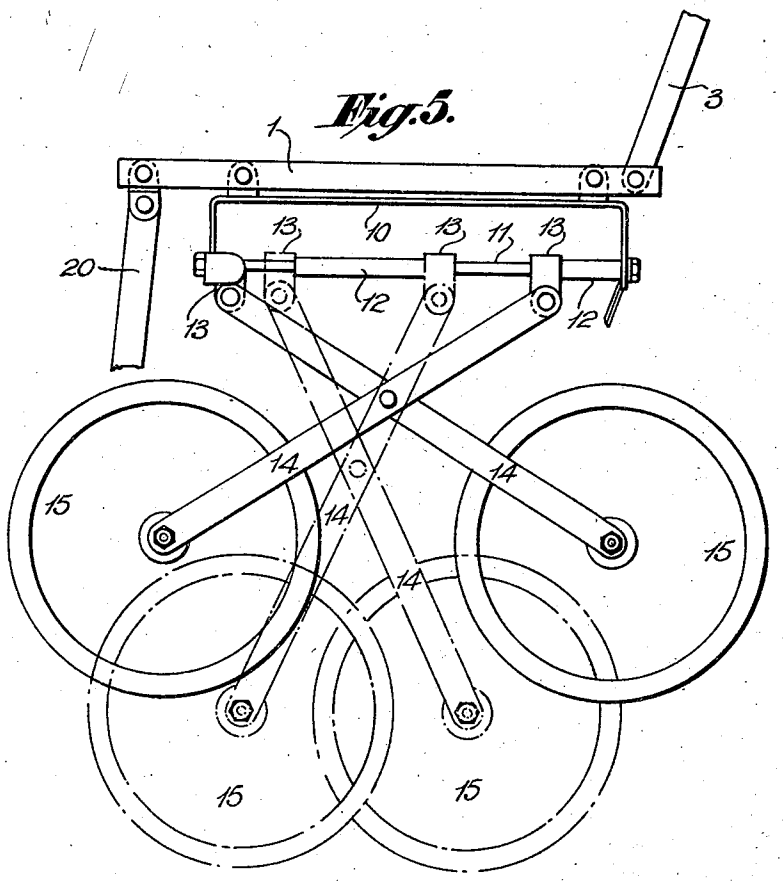
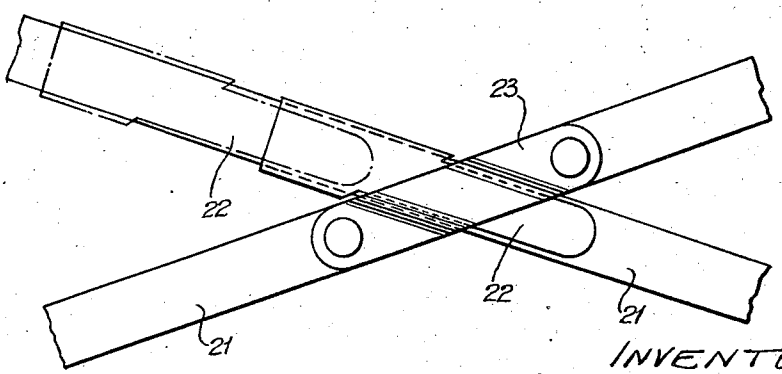


Fig. 6.



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Patented Oct. 11, 1927. 1,644,706

UNITED STATES PATENT OFFICE.

MAURICE LOUIS BERNON, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF TO ROBERT JAMES WALKER, OF LEICESTER, ENGLAND.

PERAMBULATOR.

Application filed July 12, 1926, Serial No. 121,964, and in Great Britain August 10, 1925.

This invention, which relates to perambulators, has for its object the provision of an improved construction and arrangement of a folding perambulator or push-cart, and the use in conjunction therewith of a carrying box or case.

The invention is characterized in that the handle, the back and the side arms or pieces fold into the upper part of the body or main framework of the perambulator, whilst the wheels and their supporting means and the foot-rest fold into the other part of said body or main framework.

For a clear understanding of the invention, reference is to be had to the following description and accompanying sheets of drawings illustrative of a preferential embodiment of the invention, and wherein:—

Figure 1 is a perspective view of the box or case for carrying the perambulator.

Figure 2 is an underside view of the perambulator in its folded condition ready for placement in the box or case.

Figure 3 is a top plan view thereof.

Figure 4 is a perspective view of the perambulator opened out, but with the canvas back and seat removed.

Figure 5 is a part side view showing, in full lines, a pair of wheels of the perambulator in their running position, and in dot-and-dash lines the wheels drawn together ready for folding into the main frame of the perambulator.

Figure 6 is a view of the means for locking together the pivotal transverse bars of the perambulator.

Figure 7 is a perspective view illustrative of the application of the box or case as a hood to the perambulator, said figure also showing part of the canvas back and seat.

Like numerals of reference indicate corresponding parts in the several figures.

In carrying out the invention and referring first to Figure 4, the main frame or body consists of an oblong member of metal, constituted by long sides 1, 1 and short or end members 2, 2. To the rear ends of the long sides 1, 1 of the frame, the lower ends of the arms 3, 3 of the U-shaped handle are pivotally connected, said arms 3, 3 being each centrally in their length divided and hingedly connected together, and adapted to be locked in their extended condition by means of sliding clips 4 engaging said joints, leaf springs 5 on the upper members of the arms 3, 3 being provided to engage and hold said clips 4 when they are pushed upwards to enable the arms 3, 3 to break joint and fold.

Along each long side 1, and interiorly thereof and hingedly connected by its ends to the end members 2, 2 of the main frame, the rear connection being by means of brackets 6, is an inverted U-shaped bar or arm piece 7 to which is pivotally connected a hook-ended bar 8 which, by its hook, is adapted to engage a stud or the like 9 on the corresponding arm 3, of the handle to lock said handle and said side arms 7 rigidly together.

Along each long side 1 of the main frame and interior thereof, and below the same, there is fixedly secured an inverted U-shaped bar 10 and in the depending ends of said bar 10 there is fixedly secured the ends of a horizontally disposed round slide bar 11. On each slide bar 11, which slide bar 11 is fitted with stop piece 12, are slidably and rotatably mounted two slides 13, seen more particularly in Figures 2 and 5, to each of which is pivotally connected the upper ends of two flat bars 14 of convenient length, said bars 14, which at their outer ends are splayed to receive the axle pin of a wheel 15, being pivotally connected together at the point 16 where they cross one another centrally in their length.

The rearwardly extending arm of each pair of wheel-carrying arms 14 is, at a short distance from its axle end, fitted with a clip 17 for the removable engagement therein of the free ends of two bars 18 to which the foot-rest 19 is affixed, said bars 18 being each pivotally connected to the one end of a link 20 which, by its other end, is pivotally connected to the long side 1 of the main frame, thereby preventing the loss of the foot-rest 19 in the event of the bars 18 thereof coming out of their clips 17 aforesaid.

Further, to the rear end of each of the inverted U-shaped bars 10 aforesaid, there is pivotally connected the one end of bar 21 disposed transversely of the main frame, said bars 21 at their free ends being L-shaped to engage in clips positioned on each rearwardly extending arm of each pair of wheel-carrying arms 14 and at a short distance above the axle end thereof to maintain said pairs of wheel-carrying arms 14 rigid when in a position depending from the main

frame, that is to say, wheels being in running position, as shown in Figure 4, said bars 21 being locked together where they cross one another by means of a slidable tongue 22 on the one bar 21 engaging in a clip 23 on the other bar 21, as shown in Figure 6 of the drawings.

Further, the seat 24 and back 25 are constituted by a canvas strip which is affixed to the front member 2 of the main frame and then carried back to and under the rear member 2 of said main frame and then upwards and connected to the cross bar 26 which connects the upper members of the arms 3, 3 of the handle together.

To fold the perambulator, the hook-ended bars 8 of the arm pieces 7 are disconnected from the arms 3, 3 of the handle and are turned back flush with said arm pieces 7, which are then swung inwards into the main frame and on top of the seat 24, as shown in Figure 3 of the drawings.

The sliding clips 4 of the arms 3, 3 of the handle are then moved away clear of the joints thereof, and the upper part of the handle is swung backwards and downwards on to the lower part thereof, and the two parts are then swung forwards and downwards on to the arm pieces 7, as shown in Figure 3.

The perambulator thus partly folded is now turned upside down, and the foot-rest 19 withdrawn from its clips 17, and by means of the pivotal links 20 is swung over and placed within the lower part of the main frame which is now uppermost. The tongue 22 on one of the L-ended bars 21 is then withdrawn from the clip 23 and the bars are disconnected from their respective clips on the wheel-carrying arms 14 and turned down into said main frame, as shown in Figure 3. The pair of wheels 15 on the one side of the main frame are then brought close together, as shown in Figure 5, the arms 14 carrying said wheels 15 pivoting on one another, whilst the slides 13 at the upper ends of said arms 14 move towards one another on their slide bar 11 and contact with the stop piece 12 on said slide bar 11, as shown in said Figure 5, and the wheel-carrying arms 14 and with them the wheels 15, are then, by their slides 13, swung inwards and downwards into the main frame and on to the foot-rest therein, as shown in Figure 2.

The other pair of wheels 15 are treated in similar manner, but to allow of their folding down flat on the first mentioned pair of wheels, the slide bar 11 of said second pair of wheels is positioned at a lower level than the slide bar 11 of the first pair of wheels, and the now folded up perambulator is ready for placement in its carrying case or box.

This case or box, which is a member separable from the perambulator and is made up from any suitable light waterproof material, is a collapsible case or box, and consists, as shown in Figure 1, of top and bottom ends 28 and 29 respectively, hingedly connected along their longitudinal edges to front and back portions 30 and 31 respectively, and side flaps 32 hingedly connected along their rear vertical edges to the back portion 31, each side flap 32, which near its upper end is provided with a horizontal slot 33, has hingedly connected thereto, along its front vertical edge, an extension flap 34 adapted, when the case or box is in box formation, to be secured by press-buttons 35, or other convenient fastening means, to the front 30 of the case or box, whose top end 28 is fitted with a handle 36 for carrying purposes.

The one or the other of the flaps 32, 34 is unfastened and opened out, and the perambulator is placed in the case or box, and the flaps 32, 34 closed down again on to the case or box ready for carrying about by means of the handle 36.

When the case or box is required to be used as a hood for the perambulator, the flaps 32, 34 are opened out and the remainder collapsed together, said flaps 32, 34 depending vertically therefrom, thus forming the roof and side wings of the hood.

The hood is then, as shown in Figure 7, placed over the cross bar 26 of the handle of the perambulator and secured to said cross bar 26 by engaging the slots 33 of the side flaps 32 thereover, hooks 37 on said side flaps 32, by engaging the upper members 3 of the side arms 3, 3 of the handle, preventing any downward movement.

When the hood is not required, it can be placed flat against the back of the handle and held in position by any convenient means so that it constitutes a support to the canvas back of the handle.

I claim:—

1. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed wheel supporting members slidably and rotatably mounted on said slide bars, stop pieces on said slide bars adapted to limit the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other slide bar, whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position.

2. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed front and rear wheel supporting members slidably and rotatably mounted on said slide bars, means on said slide bars for limiting the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other, whereby all of said wheels may be folded in

a plane at right angles to the plane of said wheels when in operative position, and crossed pivoted members carried at the rear of said frame adapted to lock into clips carried adjacent the lower ends of the rear members of said wheel supporting members.

3. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed front and rear wheel supporting members slidably and rotatably mounted on said slide bars, means on said slide bars for limiting the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other, whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position, and crossed pivoted members carried at the rear of said frame and adapted to lock into clips carried adjacent the lower ends of the said rear wheel supporting members, and means adjacent the point of intersection of said crossed members for locking the same in operative position.

4. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed wheel supporting members slidably and rotatably mounted on said slide bars, stop pieces on said slide bars adapted to limit the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position, and a foot rest pivotally supported on the frame and detachably connected with the forwardly extending members of said crossed wheel supporting members.

5. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed wheel supporting members slidably and rotatably mounted on said slide bars, stop pieces on said slide bars adapted to limit the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position, and a foldable U-shaped handle pivotally supported on said frame and having means comprising slidable clips for locking the elements of said handle in extended position.

6. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed wheel supporting members slidably and rotatably mounted on said slide bars, stop pieces on said slide bars adapted to limit the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position, and a foldable U-shaped handle pivotally supported on said frame, side arms pivoted on said frame, and detachable reinforcing links between said handles and arms.

7. A folding perambulator comprising a frame, spaced slide bars carried thereby, crossed wheel supporting members slidably and rotatably mounted on said slide bars, stop pieces on said slide bars adapted to limit the movement of said wheel supporting members, one of said slide bars being disposed in a lower plane than the other whereby all of said wheels may be folded in a plane at right angles to the plane of said wheels when in operative position, and a carrying case adapted to cover said perambulator when folded and to be carried thereby when in operative position.

In testimony whereof I have affixed my signature hereto this 24th day of June, 1926.

MAURICE LOUIS BERNON.