W. W. WILLIAMS.

CHILD'S CARRIAGE.

APPLICATION FILED AUG. 31, 1908.

1,073,379. Patented Sept. 16, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

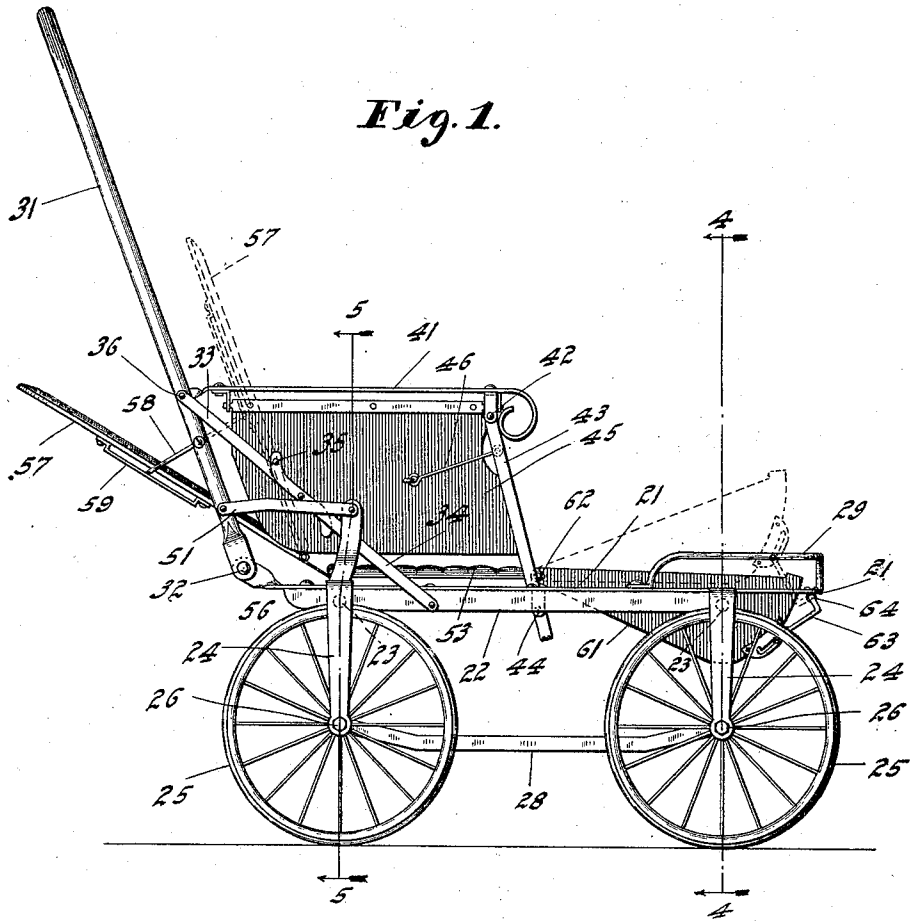
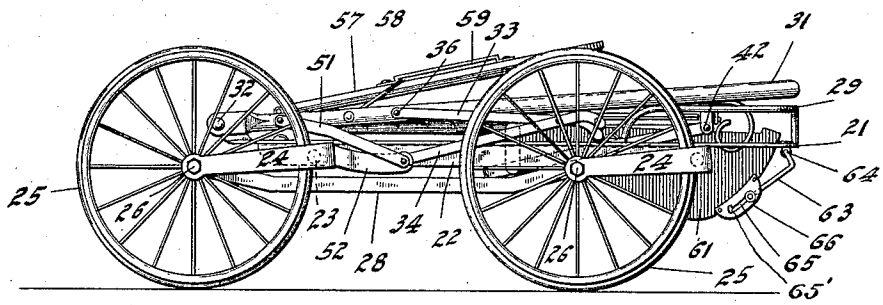


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 6.

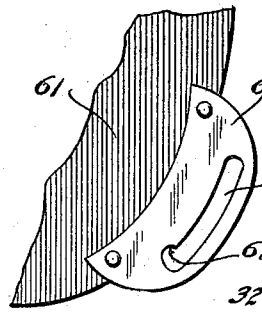


Fig. 3.

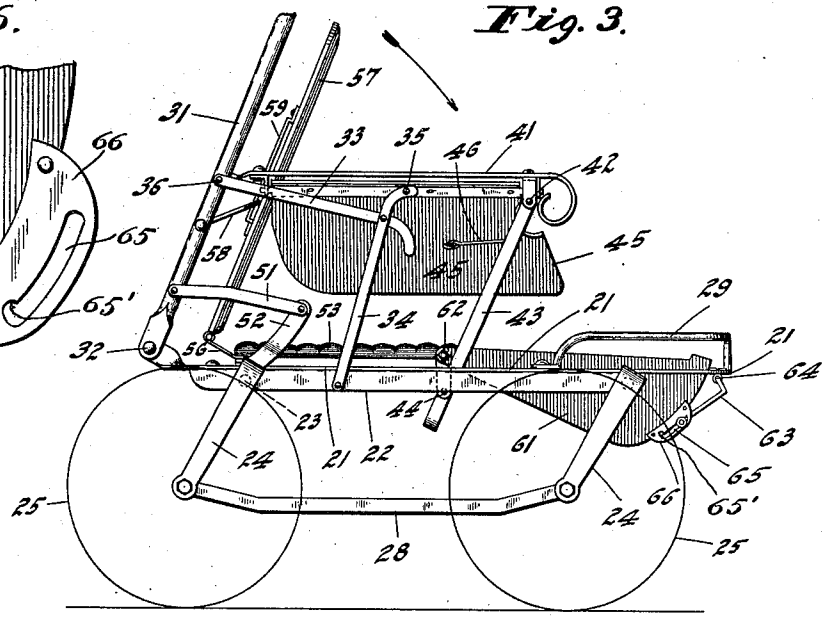


Fig. 4.

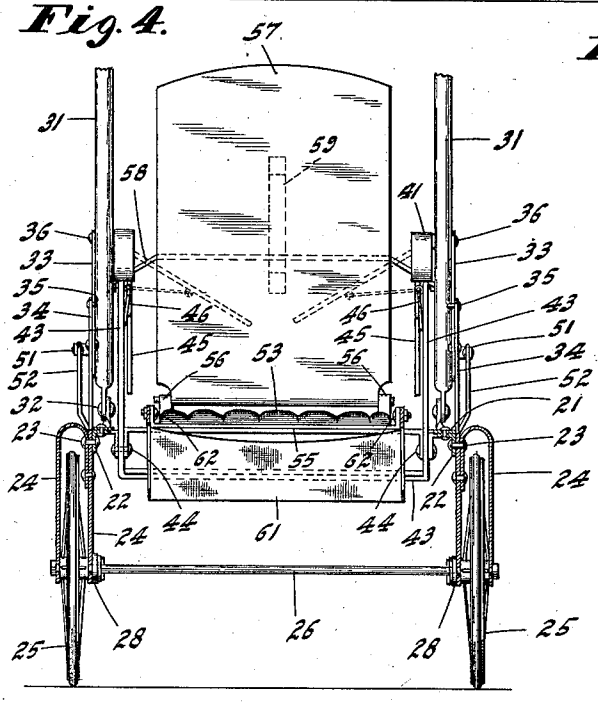
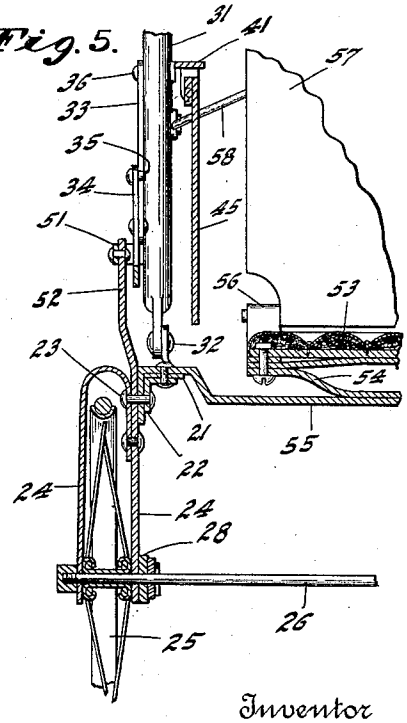


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CHILD'S CARRIAGE.

1,073,379. Specification of Letters Patent. Patented Sept. 16, 1913.

Application filed August 31, 1908. Serial No. 451,087.

To all whom it may concern:

Be it known that I, WILLIAM W. WILLIAMS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Children's Carriages, of which the following is a specification.

The principal object of my present invention is to produce a child's carriage of the sort which can be folded for transportation and storage into a small compass, wherein the folding devices shall be so arranged that the other portions shall be between the wheels when in folded position, the wheels themselves being undisturbed, or remaining in upright position, and consequently being capable of being mounted on plain or continuous shafts or axles, and to be utilized in moving the vehicle about whether in folded or unfolded condition.

Further objects are to secure an improved and convenient construction of the parts whereby various adjustments and advantages are secured.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters represent similar parts, Figure 1 is a side elevation of a child's carriage unfolded and in condition for use, a second position of the back and foot portions being indicated by means of dotted lines; Fig. 2 a side elevation showing the carriage folded up for transportation or storage; Fig. 3 a view showing one of the intermediate positions between the completely unfolded and the completely folded positions illustrated in Figs. 1 and 2; Fig. 4 a transverse vertical sectional view as seen when looking in the direction of the arrows as indicated in dotted line 4 4 in Fig. 1; Fig. 5 a detail sectional view at the point indicated by the dotted line 5 5 in Fig. 1, and Fig. 6 a detail of plate 6 6.

This vehicle has a U-shaped main frame 21; and this, in the construction shown, has angle bars 22 secured to its under side, the downwardly-extending members of which are connected by pivots 23 to the housings 24, which embrace the upper portions of the wheels 25 and rest at their lower ends on the shafts or axles 26. This arrangement enables the folding down of the frame as indicated in the drawings—the housings 24 operating as swinging links pivoted on the axles 26, and serving to carry the frame and the structure superimposed thereon down between the wheels directly onto the axles. The predetermined distance between the axles is maintained by means of distance rods 28. At the front of the vehicle, at the united end of the U-shaped frame 21, a guard rail 29 is preferably secured. To the ends of the sides of said U-shaped main frame at the open end, the back frame 31 is secured by means of pivots 32. Brace rods composed of two members 33 and 34 united by a joint of the familiar "rule" variety extend between appropriate points on the frame 21 and the back frame 31, and serve to hold said frames in the relation shown in Fig. 1, when the structure is in its unfolded condition—said brace rods being pivoted at ends to said frames. When it is desired to fold up the structure, the brace rods 33—34 are "broken" at the rule-joints therein, when the back frame is permitted to swing forward, as indicated in Fig. 3, finally reaching the position shown in Fig. 2. When the structure is completely unfolded, the braces 33—34 are straight, as shown in Fig. 1, and a stop 35 on part 34 comes in contact with part 33, preventing further movement. Arms or seat-sides 41 are also pivoted to the back frame 31, preferably by the same pivots 36 which connect brace parts 33 thereto. At the forward ends these arms or seat sides are pivoted at 42 to a U-shaped member 43, the sides of which form pivoted links uniting said arms to the frame 21 (or its flange 22) as by pivots 44, the transverse or lower portion of said frame 43 serving to hold the sides or link portions in upright position. Thus, frame 21 and arms 41 are arranged as parallel bars connected by links consisting of the lower portion of back frame 31 and the upper portions of frame 43. In this way the arms 41 are kept substantially parallel with the other parts, when the whole structure reaches its folded up position. Side boards 45 are pivotally secured at their upper edges to arms 41. Pivoted braces 46 connect the upwardly extending members of frame 43

to the outer sides of said side boards. When back frame 31 is pushed forward in the folding operation, the result is to throw the lower edges of these side boards toward each other, as indicated by dotted lines in Fig. 4, so that they reach a position substantially parallel with the other parts when the folding operation is completed.

Links 51 connect back frame 31 to the upper ends of arms 52, which arms are rigidly secured to and extend upwardly from the rear wheel housings 24. By this means the said wheel housings are caused also to travel into a substantially parallel position with the other parts when the folding is complete, the arms 52 and wheel housings 24 serving as a lever fulcrumed on the pivots by which the said housing is connected to the frame 21, and operating through the said frame and the distance bars 28 to keep these parts also substantially parallel.

The seat or cushion 53 is connected to the frame 21, being mounted upon springs 54 resting on transverse bars 55 extending between the sides of said frame. Extending out from said seat are brackets 56 to which back 57 is pivoted. Said back is also connected to back frame 31 by a bail-like rod 58, which is pivotally mounted in said back frame 31, and the central portion of which passes behind a rod 59 secured to said back and forming a slide. The back is thus enabled to occupy either the reclining position shown in full lines in Fig. 1, or the more nearly upright position shown by the dotted lines therein, simply by swinging said bail-like rod 58 from one position to the other. In folding the whole structure to its completely folded position as shown in Fig. 2, the back is first swung upon its more nearly upright position.

In front of the seat 54 is a foot portion 61 pivoted to said seat portion at 62, and capable of being placed either in the position shown by full lines in Fig. 1, or in the position shown by dotted lines therein. At the front or other end this portion 61 is connected to the frame 21 by swinging links 63 which are pivoted to the frame 21 at 64 and pass through slots 65 in ears 66 on part 61. The slot 65, at its lower end upon its upper side is provided with a slight depression or notch 65′ adapted to receive the link 63. These parts are so proportioned that when part 61 is swung up to the position shown by dotted lines in Fig. 1, the swinging links will act as braces, and hold it in that position—not, however, so securely but that it may be swung back to its other position by the application of sufficient force. It is, however, held firmly enough to support the feet of the occupant of the carriage, when it is desired that said occupant shall be in recumbent position.

It will thus be seen that by the arrangement described, the wheels are left undisturbed on simple straight axles, while the other portions of the vehicle body are folded down into small compass between the wheels. The otherwise very bulky article is thus reduced into a comparatively small compass, without disassembling the wheels, or in any way interfering with their operation, and the wheels may thus be utilized in moving the vehicle about when in folded condition as well as when in condition for regular use. The structure is also of an unusually light character, considering its strength, and is not at all likely to get out of order under ordinary use. The entire folding is effected merely by breaking the "rule-joints" in the braces 33—34, and pushing forward on the upper end of the back frame 31, the front portion of the vehicle being held against the force applied sufficiently to hold the vehicle from moving forward under such force.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle, and each pivotally connected to the seat frame, connections between said yokes for producing simultaneous swinging movement thereof, a handle pivotally connected to the seat frame, arm rests pivotally connected to said handle, swinging supports each connected to an arm rest and to the main frame, swinging sides each pivotally connected to an arm rest, two links each connected at one end to a swinging side and at the other end to a swinging support for the adjacent arm rest, a brace normally holding the handle rigid relative to the main frame, and a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause simultaneous swinging movement of the four wheel yokes.

2. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to the seat frame, connections between said yokes for producing simultaneous and similar swinging movement thereof, a handle pivotally connected to the seat frame, a brace normally holding the handle rigid relative to the main frame, and a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause simultaneous swinging movement of the four wheel yokes.

3. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to

the seat frame, connections between said yokes for producing simultaneous and similar swinging movement thereof, a handle pivotally connected to the seat frame, arm rests pivotally connected to said handle, swinging supports each connected to an arm rest and to the main frame, a brace normally holding the handle rigid relative to the main frame, and a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause simultaneous swinging movement of the four wheel yokes.

4. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to the seat frame, connections between said yokes for producing simultaneous swinging movement thereof, a handle pivotally connected to the seat frame, arm rests pivotally connected to said handle, swinging supports each connected to an arm rest and to the main frame, swinging sides each pivotally connected to an arm rest, two links each connected at one end to a swinging side and at the other end to a swinging support for the adjacent arm rest, a brace normally holding the handle rigid relative to the main frame, a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause simultaneous movement of the four wheel yokes, a back rest pivotally connected at its lower end to the seat frame, and a sliding connection between said back rest and handle.

5. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to the seat frame, connections between said yokes for producing simultaneous and similar swinging movement thereof, a handle pivotally connected to the seat frame, a brace normally holding the handle rigid relative to the main frame, a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause a simultaneous swinging movement of the four wheel yokes, a back rest pivotally connected at its lower end to the seat frame, and a sliding connection between said back rest and handle.

6. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to the said frame, connections between said yokes for producing simultaneous and similar swinging movement thereof, a handle pivotally connected to the seat frame, arm rests pivotally connected to said handle, swinging supports each connected to an arm rest and to the main frame, a brace normally holding the handle rigid relative to the main frame, a connection between said handle and one of the wheel yokes whereby swinging movement of the handle relative to the main frame will cause simultaneous swinging movement of the four wheel yokes, a back rest pivotally connected at its lower end to the seat frame, and a sliding connection between said back rest and handle.

7. The combination, in a vehicle, of a body frame, axles, wheels thereon, distance rods between the axles substantially parallel with the body frame, members extending between said axles and said body frame substantially parallel with each other and pivoted to both, a back frame, arms pivoted to said back frame substantially parallel with the body frame, members uniting the opposite ends of said arms with the body frame arranged substantially parallel with the back frame, and means whereby the whole may be folded down bringing the other structure members between the wheels and in substantially parallel relations.

8. The combination, in a vehicle, of a body frame, axles, wheels on said axles, members extending between the body frame and the axles and pivoted to both, a back frame pivoted to the body frame, one or more arms extending upwardly and each rigid with a member connecting the body frame with one of the axles, and links extending from said arms to said back frame, whereby when the back frame is pushed forward the body frame and the members connected thereto will swing around the axles and pass into folded position between the wheels.

9. The combination, in a vehicle, of two pairs of supporting wheels, a seat frame, four yokes each pivotally supported upon a wheel axle and each pivotally connected to the seat frame, connections between said yokes for producing simultaneous swinging movement thereof, a handle pivotally connected to the seat frame, a brace normally holding the handle rigid relative to the main frame, and a connection between the handle and one of the wheel yokes whereby a forward swinging movement of the handle relative to the main frame will cause simultaneous backward swinging movement of the four wheel yokes.

10. In a collapsible perambulator, the combination of a main frame, front and rear wheel supports pivoted to the main frame to turn longitudinally thereon about horizontal axes, axles carried by their respective supports, front and rear wheels journaled upon said axles, the main frame extending rearwardly beyond the rear wheel supports, a handle fulcrumed on the frame extension, arms pivoted to said handle substantially parallel with the main frame, members unit-

ing the opposite ends of said arms with the main frame arranged substantially parallel with the handle, and means whereby the wheel supports are folded when the handle is swung forwardly.

In witness whereof, I, have hereunto set my hand at Indianapolis, Indiana, this twenty-seventh day of August, A. D. one thousand nine hundred and eight.

WILLIAM W. WILLIAMS.

Witnesses:
CHESTER BRADFORD,
A. C. RICE.

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