No. 766,537. PATENTED AUG. 2, 1904.

D. & J. J. SIMPSON.

FOLDING PERAMBULATOR.

APPLICATION FILED MAR. 7, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 3.

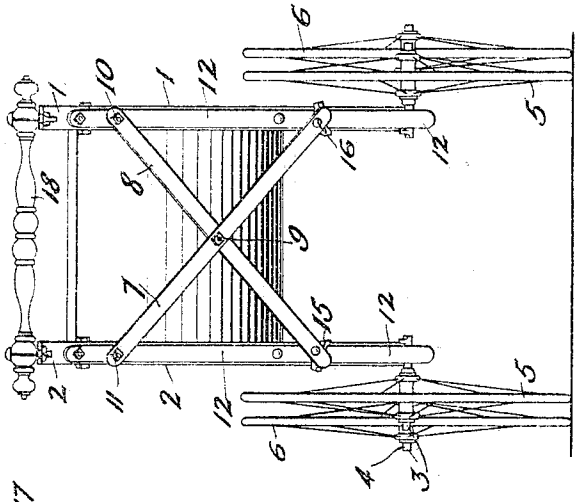


FIG. 1.

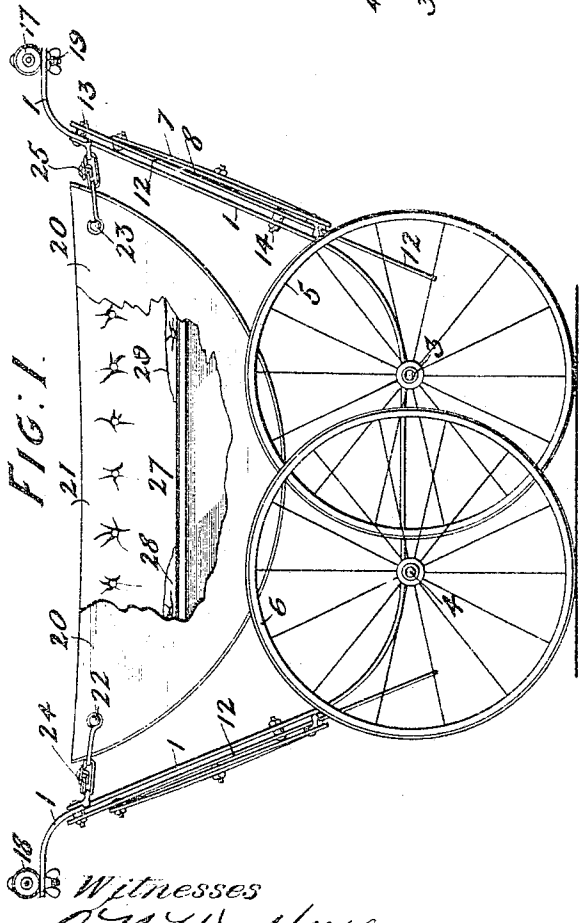
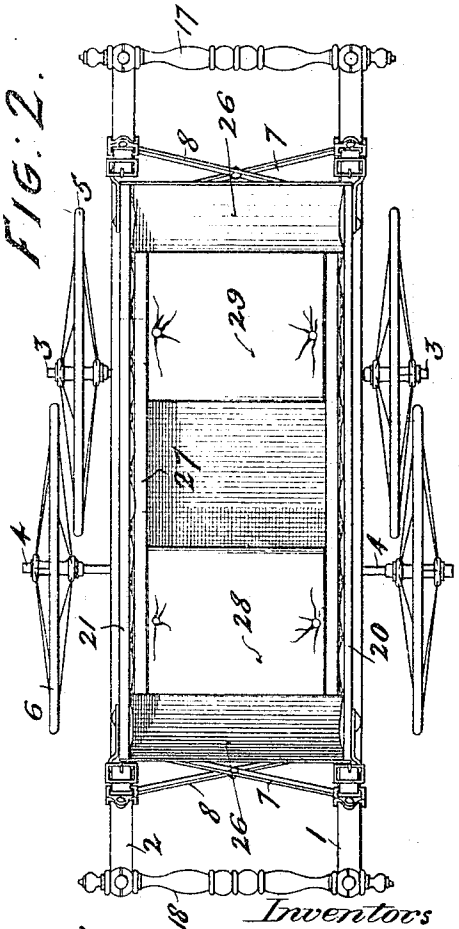


FIG. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

FIG. 6.

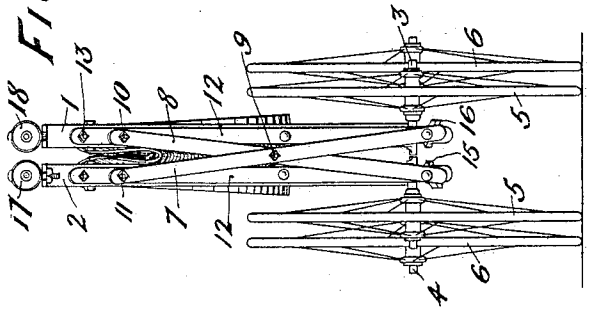


FIG. 7.

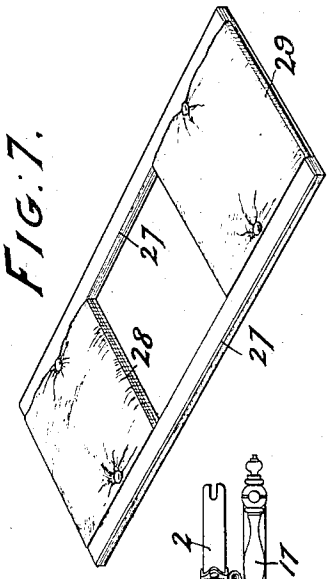


FIG. 4.

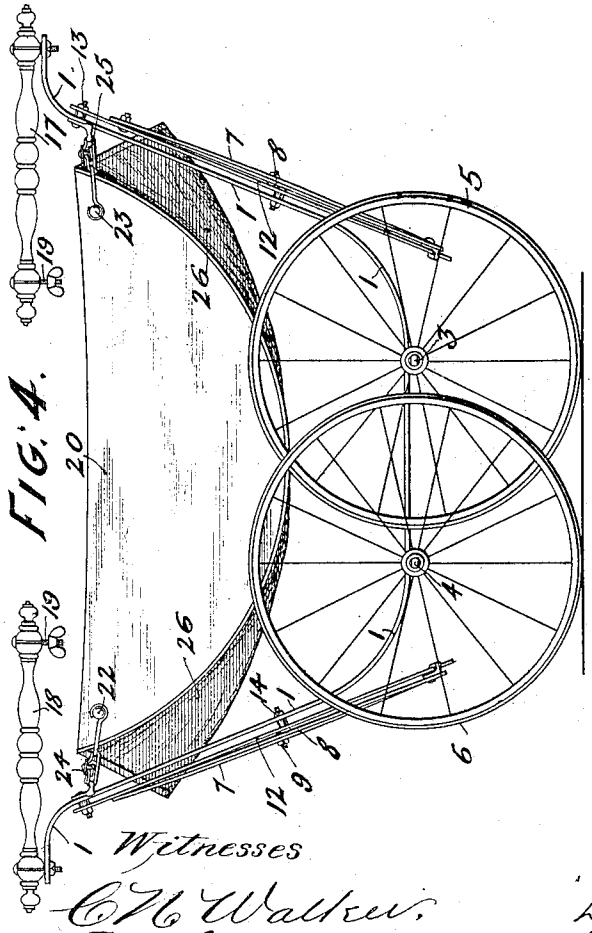
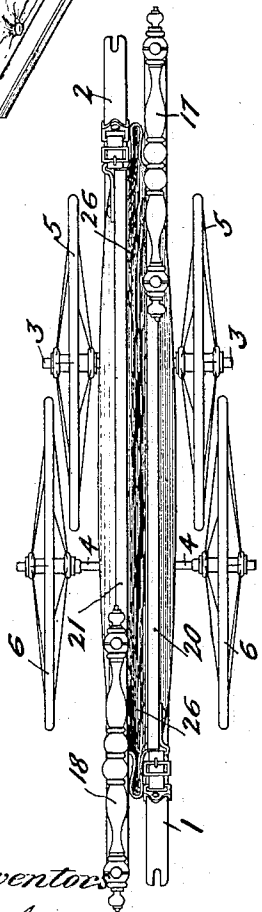


FIG. 5.



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No. 766,537. Patented August 2, 1904.

UNITED STATES PATENT OFFICE.

DAVID SIMPSON AND JOHN JAMES SIMPSON, OF LEEDS, ENGLAND.

FOLDING PERAMBULATOR.

SPECIFICATION forming part of Letters Patent No. 766,537, dated August 2, 1904.

Application filed March 7, 1904. Serial No. 196,921. (No model.)

To all whom it may concern:

Be it known that we, DAVID SIMPSON and JOHN JAMES SIMPSON, of the firm of Simpson, Fawcett and Company, subjects of the King of Great Britain, residing at Leeds, in the county of York, England, have invented certain new and useful Improvements in Folding Perambulators, of which the following is a specification.

This invention refers to a type of perambulator which may be called a "hammock" perambulator, the body thereof being suspended by its ends from the upper ends of a U-shaped frame, the said frame extending beneath the body and being carried by the wheel-axles, while the upper ends of the frame carry the handles by which the vehicle is propelled and controlled. Such a U-shaped frame when constructed of elastic metal forms a spring by which the body is carried in suspension. This type of perambulator is known, it having formed the subject of a British patent granted to J. Simpson and S. T. Fawcett, No. 56 of 1887.

Now the present invention relates to improvements upon the aforesaid type of perambulator by which it can be made to fold and its normal width thereby very considerably reduced, facilitating the convenient storage of the vehicle when not required for use.

In carrying out our invention we employ two of the U-shaped frames before mentioned, placed parallel to each other, the upwardly-extending parts of the said frames being connected together at each end by jointed links—that is, by links which are pivoted together and to the frame in such a manner that the two frames can be brought together or separated in a horizontal plane while remaining parallel to each other. The lower part of each frame is fitted with axle-studs to carry the wheels, and the body is suspended from at or near its ends between the upper ends of the parallel U-shaped frames, which latter when the vehicle is in use are fixed and held distanced apart by means of the handles. The body is composed of two side cheeks connected together by suitable end and base parts which are capable of being folded or collapsed to allow the said cheeks to be brought close together when the vehicle is folded. Thus the body is conveniently composed of two rigid side cheeks connected together by some flexible material which forms the ends and base, so that the cheeks may be brought together or distanced apart, and when expanded for use the said side cheeks are held apart by a removable distancing-frame, and the shape of the base of the body is then governed by the shape of the side cheeks.

The perambulator constructed according to our invention is illustrated in the accompanying drawings.

Figure 1 is a side elevation, a portion of the side of the body being broken away. Fig. 2 is a plan, and Fig. 3 an end, view showing the improved perambulator expanded and ready for use. Figs. 4, 5, and 6 are similar views showing the vehicle contracted in width by folding; and Fig. 7 shows in perspective the structure or frame removed, by which the two cheeks are to be held apart.

The framework is composed of two U-shaped frames 1 2, which can be constructed of metal and be sufficiently elastic to serve as spring-supports between which the body is to be carried. The frames are arranged parallel to each other, and each frame at its horizontal part has fixed thereto two axle-studs 3 4, which extend outwardly, and upon these axle-studs the wheels 5 6 of the vehicle are mounted, so as to be free to revolve thereon. The parallel frames 1 2 are connected together at each end, and the said connections at both ends being alike one only will be described, such being illustrated at Fig. 3.

There are two cross-links 7 8, pivoted together at their cross-point 9, and the link 8 is pivoted to the frame 1 at 10, while the link 7 is pivoted to the frame 2 at 11. The lower ends of the links 7 8 are arranged to slide upon the frames.

As a matter of construction, in the example shown the links 7 8 are actually pivoted at 10 11 to bars 12, Fig. 1, which are respectively fixed by distancing-bolts 13 14 to the upstanding ends of the frames 1 2, this being a convenient mode of construction, since the bars 12 may extend downward slightly below the horizontal portion of the frames 1 2, so as to

give a longer sliding surface to the slide ends 15 16 of the links 7 8. The ends 15 16 of the links 7 8 may be fitted with any suitable device, such as a pivoted loop, by which they may embrace the parts upon which they are free to slide.

The upper ends of the frames 1 2 when in their expanded condition ready for use are connected and held at the proper distance apart by handles 17 18, one end of each handle being pivoted to one of the side frames, while the opposite end is connected to the other side frame by means of a bolt and thumb-screw 19, Fig. 4, or other convenient device capable of ready connection and disconnection, as required. With such a construction of framework it is only necessary when it is required to contract same to release the attachment devices 19 at one end of each handle 17 18 to turn the handles into the plane of the length of the carriage shown at Fig. 4 and then to close the two frames 1 2 together, as has been done at Fig. 6, while the connecting end links 7 8 turn about their pivots, sliding their lower ends 15 16 down the bars 12, connected to the respective frames, and the entire framework by this simple operation is greatly reduced in width, as is illustrated at Figs. 4, 5, and 6. The handles of the vehicle thus serve a double purpose, acting as stretchers for keeping the two side frames rigidly held apart, as shown at Figs. 1, 2, and 3, and at the same time being in the proper position and serving their usual office—namely, as handles by which the vehicle is propelled and controlled. It is to be observed that the wheels being carried by stud-axles only from each frame allows the said frames, along with the wheels, to be brought very closely and compactly together.

The hammock-body of the perambulator is also made so that it can have its side parts brought closely together when the perambulator is folded, and to this end the body in the construction shown consists of side parts which are flat and rigid and which may be constructed of wood, and these flat parts or cheeks 20 21 are suspended from studs 22 23 and straps 24 25 from near the upper ends of the said frames 1 2. The cheeks 20 21 of the body are connected by such base and end parts as will permit the two cheeks to be brought closely together when the perambulator is folded, and to this end it has been found convenient to connect the two cheeks by means of flexible material 26, which readily permits the cheeks of the hammock-body to be brought close together, with the flexible material 26, composing the bed, folded between the cheek parts 20 21, and so that on expanding the framework the bed assumes its stretched position and can be so held by any suitable stretcher. The stretcher we usually employ is shown at Fig. 7 and may consist of a rectangular framework 27, having seat parts 28 29, and which when the body is expanded can be placed in position, as shown at Fig. 1, and form seats within the body. This construction of hammock-body described is admirably adapted for the purpose of its use, because such a construction enables a body to be made suitable to the requirements of any child or children by merely altering the curve or shape of the cheeks 20 21, to which the flexible connecting material 26 is attached, and so that when expanded the shape of the hammock is governed by the shape of the said cheeks.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a folding perambulator, the combination with a hammock-body having two rigid side cheeks, flexible base and end portions connecting the said cheeks to permit them to be brought together when the body is contracted, and means for holding the cheeks expanded apart when the body is required for use; of two U-shaped frames located in vertical parallel planes, stud-axles extending laterally and from the base portion of each frame, road-wheels on the axles to carry the vehicle, pivoted links connecting the U-shaped frames at each end thereof to allow them to be brought together or separated in a horizontal plane while remaining parallel to each other, means for holding the frames distanced apart when the vehicle is in use, and means for suspending the body by its ends between the upstanding ends of the U-shaped frames, substantially as set forth.

2. In a folding perambulator, the combination with a hammock-body having two rigid cheeks, flexible base and end portions connecting the said cheeks to permit them to be brought together when the body is contracted, and means for holding the cheeks expanded apart when the body is required for use; of two U-shaped frames arranged parallel to each other, two stud-axles at distances apart fixed to and extending laterally and outwardly from the base portion of each frame, and a road-wheel on each axle to carry the vehicle, pivoted links connecting the U-shaped frames at each end thereof to allow the said frames to be brought together or separated in a horizontal plane while remaining parallel to each other, a handle at each end of the vehicle for controlling the same, means for detachably connecting the handles to the ends of the U-shaped frames to permit the handles being disconnected for the contraction of the frame, and means for suspending the body by its ends between the upstanding ends of the U-shaped frames, substantially as described.

3. In a folding perambulator, the combination with a hammock-body having two rigid side cheeks, flexible base and end portions connecting the said cheeks to permit them to be brought together when the body is contracted, and means for holding the cheeks expanded apart when the body is required for use; of two U-shaped elastic metal frames located in

vertical parallel planes, two stud-axles extending laterally and outwardly from the base portion of each frame, road-wheels on the axles to carry the vehicle, a pair of crossing-links at each end of the frames, pivots connecting the upper ends of each link to the upper ends of the U-shaped frames, pivots connecting each pair of links at the crossing-point, and slides at the lower ends of the links supported from the U-shaped frames to allow the frames to be brought together or separated in a horizontal plane while remaining parallel to each other, a handle at each end of the vehicle for controlling the same, means for detachably connecting the handles to the ends of the U-shaped frames to permit the handles being disconnected to allow of the contraction of the frame, and means for suspending the body by its ends between the upstanding ends of the U-shaped frames, substantially as described.

4. In a folding perambulator, the combination with a hammock-body having two rigid side cheeks, flexible base and end portions connecting the said cheeks to permit them to be brought together when the body is contracted, and means for holding the cheeks expanded apart when the body is required for use; of two U-shaped elastic metal frames located in vertical parallel planes, two stud-axles extending laterally and outwardly from the base portion of each frame, road-wheels on the axles to carry the vehicle, a pair of crossing-links at each end of the frames, pivots connecting the upper ends of each link to the upper ends of the U-shaped frames, pivots connecting each pair of links at the crossing-point, and slides at the lower ends of the links supported from the U-shaped frames to allow the frames to be brought together or separated in a horizontal plane while remaining parallel to each other, a handle at each end of the vehicle for controlling the same, means for detachably connecting the handles to the ends of the U-shaped frames to permit the handles being disconnected to allow of the contraction of the frame, and a flexible connection from each end of each cheek of the body to the upper adjacent ends of the frames for suspending the said body between the said frames, substantially as described.

5. In a folding perambulator, the combination with a hammock-body having two rigid side cheeks, flexible base and end portions connecting the said cheeks to permit them to be brought together when the body is contracted, and means for holding the cheeks extended apart when the body is required for use; of two U-shaped frames located in vertical parallel planes, stud-axles extending laterally and outwardly from the base portion of each frame, road-wheels on the axles to carry the vehicle, a straight bar secured to and at a distance from each end of each frame, a pair of cross-links at each end of the frames, pivots connecting the upper end of each link to the upper part of each bar, pivots connecting each pair of links at the crossing-points and sliding loops at the lower ends of the links embracing the lower ends of the aforesaid bars to permit the lower ends of the links sliding thereon to allow the frames to be brought together or separated in a horizontal plane, while remaining parallel to each other, a handle at each end of the vehicle for controlling the same, means for detachably connecting the handles to the ends of the U-shaped frames, and means for suspending the body between the upstanding ends of the said frames, substantially as described.

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