A. E. McGILL.

FOLDING PERAMBULATOR OR GO-CART.

APPLICATION FILED DEC. 11, 1906. RENEWED FEB. 27, 1911.

1,006,493.

Patented Oct. 24, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

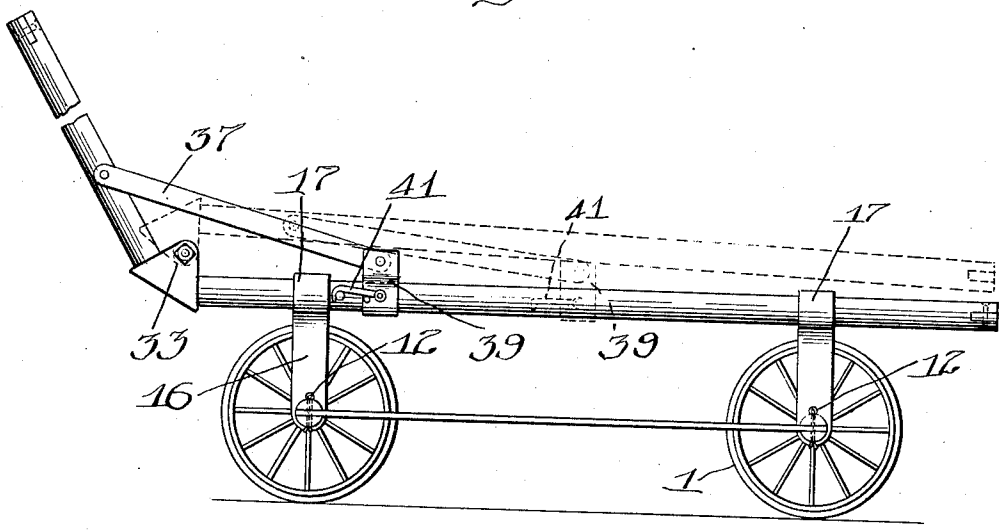

Fig. 2.

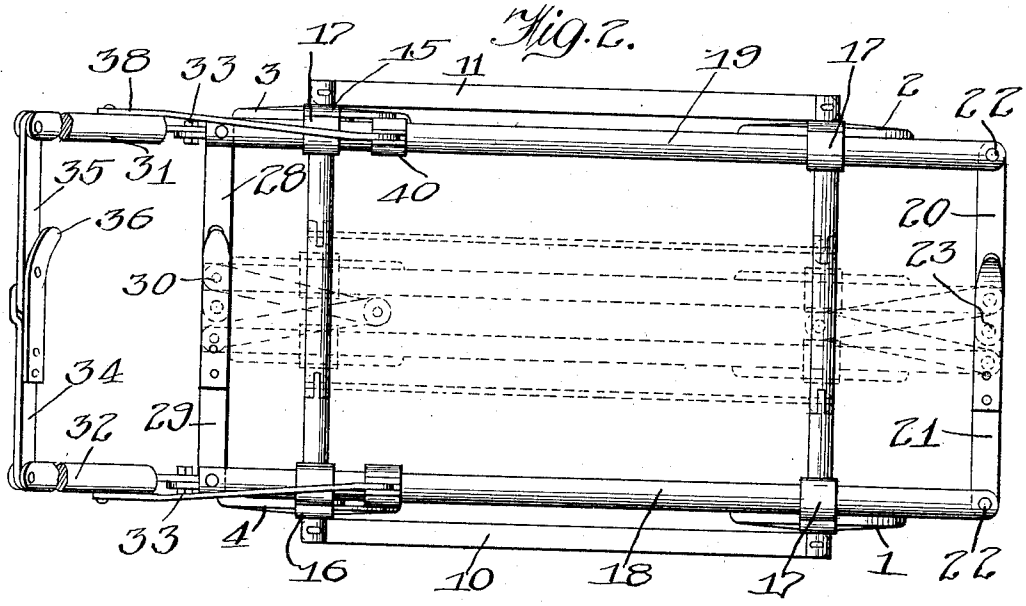

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Fig. 3.

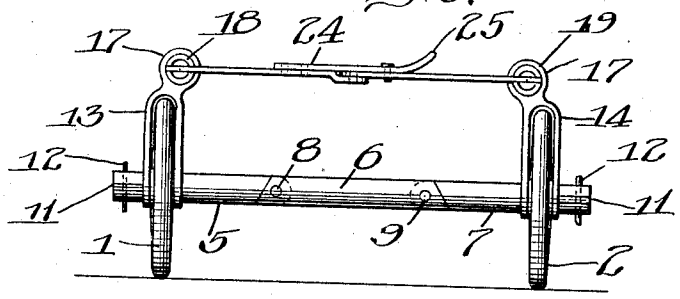


Fig. 4.

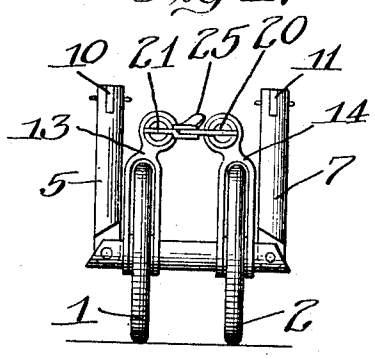


Fig. 5.

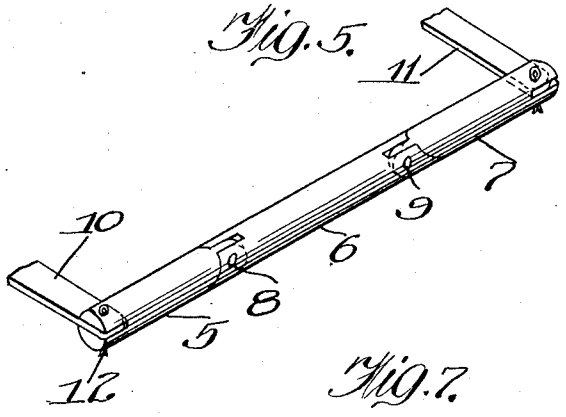


Fig. 6.

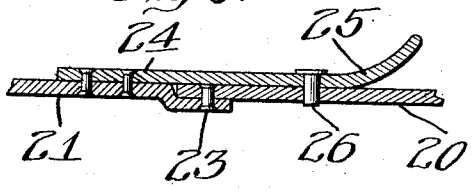


Fig. 7.

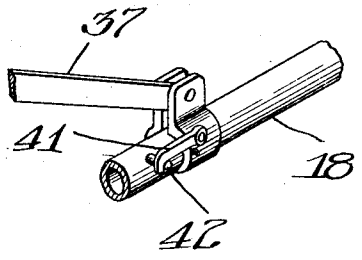
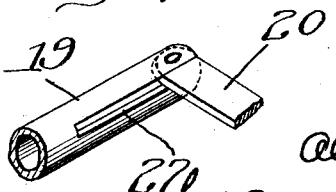


Fig. 8.



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3 SHEETS—SHEET 3.

Fig. 9

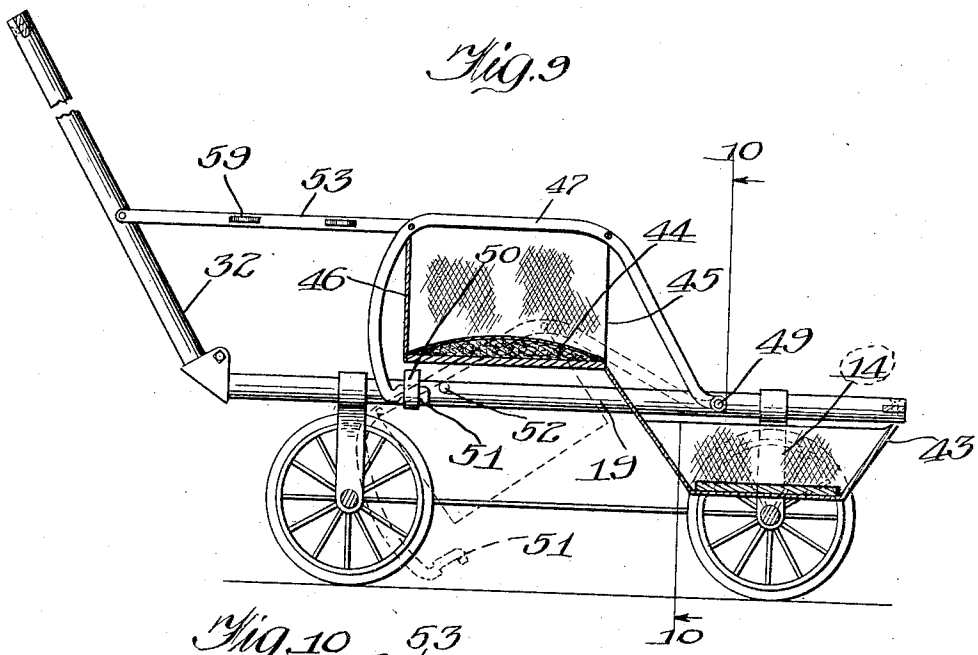


Fig. 10

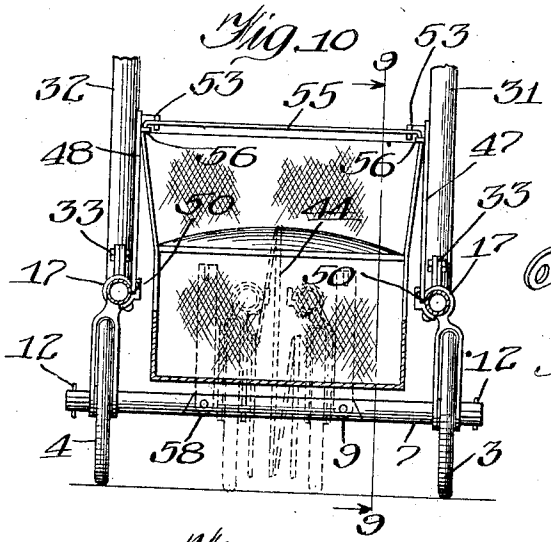


Fig. 11.

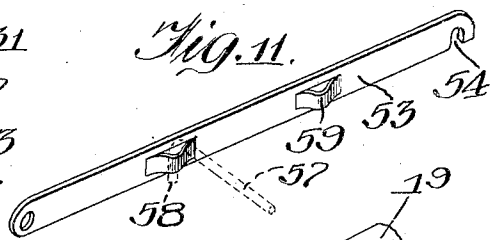


Fig. 13.

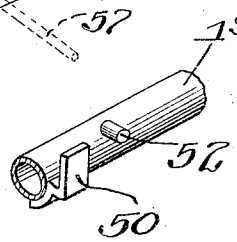


Fig. 12.

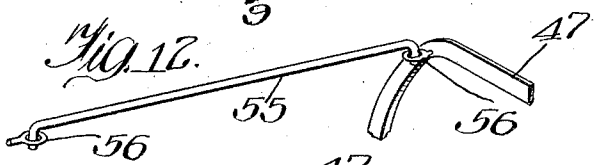
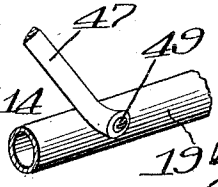


Fig. 14



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UNITED STATES PATENT OFFICE.

ALBERT E. McGILL, OF CHICAGO, ILLINOIS, ASSIGNOR TO ALWIN MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FOLDING PERAMBULATOR OR GO-CART.

1,006,493. Specification of Letters Patent. Patented Oct. 24, 1911.

Application filed December 11, 1906, Serial No. 347,258. Renewed February 27, 1911. Serial No. 611,237.

To all whom it may concern:

Be it known that I, ALBERT E. McGILL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Perambulators or Go-Carts, of which the following is a full, clear, and exact specification.

This invention relates to folding or collapsible perambulators or go-carts, and it has for its primary object to provide an improved form of device of this character which will be durable, simple in construction, and compact and light when folded up or collapsed.

Another object of the invention is to provide an improved form of folding go-cart of this character which will be capable of folding or collapsing in a lateral direction.

With a view to the attainment of these ends, and the accomplishment of certain other objects which will hereinafter appear, the invention consists in the construction, combination and arrangement of parts which will now be described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings Figure 1 is a side elevation of a perambulator or go-cart, minus the seat, constructed according to this invention. Fig. 2 is a plan view thereof showing the running-gear frame in its folded condition in dotted lines. Fig. 3 is an end elevation of the running-gear frame, the handle being omitted. Fig. 4 is a similar view showing the running-gear frame folded or collapsed. Fig. 5 is a detail perspective view of one of the axles and the axle connecting bars. Fig. 6 is an enlarged detail longitudinal sectional view of one of the cross-connections and lock of the running-gear frame. Fig. 7 is a detail perspective view of one of the handle-brace slides and the running gear-frame bar. Fig. 8 is a detail perspective view of the upper end of one of the handle bars and a part of the cross-connection. Fig. 9 is a side elevation of a folding perambulator showing certain modifications of this invention hereinafter described. Fig. 10 is a cross-section thereof on the line 10—10, Fig. 9, showing the parts folded up in dotted lines. Fig. 11 is a detail perspective view of a brace hereinafter described. Fig. 12 is a detail perspective view of another brace and a part of one of the side members of the seat frame. Fig. 13 is a detail perspective view of the support on the running-gear frame for the seat frame. And Fig. 14 is a detail perspective view of the connection between the running gear-frame and seat frame.

According to this invention the entire vehicle is folded or collapsed in a lateral direction, or inwardly. The axles, two of which are employed for the four wheels 1, 2, 3, 4, are each composed of a plurality of sections hinged together. In this exemplification of the invention, each has three sections 5, 6, 7, connected together by hinges or pivots 8, 9, and these hinges are so formed that the sections 5 and 7 at the extremities may be folded upwardly out of line with the section 6, but cannot fold downwardly beyond such line. The wheels are mounted upon end sections 5, 7, which are cylindrical in form so that they may turn thereon as usual, and they are capable of sliding longitudinally on these sections to points inwardly beyond the joints or hinges 8, 9, and so much of the section 6 over which the wheels 1, 2, are required to slide during their collapsing movement, is also cylindrical. For convenience of construction the entire axle from end to end is made cylindrical and of uniform diameter. When the wheels are thus pushed inwardly as shown in Fig. 4, the end sections 5, 7, of the axle may be turned upwardly as shown in said figure, thus placing the wheels and axles in a compact collapsed form. The ends of the axles are connected together by bars 10, 11, which serve the twofold purpose of spacing the axles and of limiting the outward movement of the wheels. These bars may be connected to the axles in any suitable way, such,

for example, as by slotting their ends and letting the bars thereinto and then passing through the two members a cotter or pin 12. The bars 10, 11, also serve the further useful purpose of causing the front wheel to slide inwardly on its axle along with the hind wheel, when the bar on that side is grasped at an intermediate point in its length.

The wheels, 1 to 4 inclusive, may be mounted between the branches of forks 13, 14, 15, 16, of the usual or any suitable form, having hubs 17, secured to the side bars 18, 19, of the running-gear frame, whose end bars are constituted by a plurality of hinged members capable of folding together to accommodate the collapsing movement of the wheels and side bars of the frame. The front cross-bar of the running-gear frame is composed of two sections 20, 21, whose outer extremities are pivoted at 22 to the side bars 18, 19, of the running-gear frame, while their inner extremities are pivoted together as shown at 23, and at a point substantially midway between the side bars 18, 19, in such a manner that the pivot-point 23 may move directly inward along the longitudinal diameter of the running-gear frame when the side bars 18, 19, thereof are brought together. In order that these sections 20, 21, may become rigid when in operation, they are provided with a lock, such as that shown in Fig. 6, consisting of a spring or yielding plate 24, rigidly secured to the section 21, and having an elastic end 25 provided with a locking pin or stud 26 adapted to enter a suitable socket in the section 20 when the two sections 20, 21, are brought into line as shown in Fig. 6. In order that the sections 20, 21, may make this folding movement without interference from the side bars 18, 19, each of the latter is provided in its inner side with a longitudinal slot for receiving the edge of the section 20 or 21 contiguous thereto. One of these slots is illustrated at 27 in Fig. 8 in the bar 19, the one in the bar 18 being similar thereto.

The cross-bar of the running-gear frame at the rear end is similar in construction to the cross-bar at the forward end, consisting of two sections 28, 29, and a locking plate 30, corresponding in construction and operation to the parts 20, 21, 24 and 25, and their coöperating adjuncts already described, and adapted to permit the sections 28, 29, to fold inwardly like the sections 20, 21.

A collapsible running-gear frame as thus constructed may, if desired, be also provided with a collapsible or folding handle. The one illustrated in Figs. 1 and 2 is constructed upon the principle of the folding running-gear frame, and preferably consists of two side handle bars 31, 32, which are hinged at their lower ends by means of hinges 33 to the rear extremities of the side bars 18, 19, and at their upper ends are connected together by a cross-connection consisting of folding sections 34, 35, which are pivoted at their outer extremities to the bars 31, 32, and are pivoted together at their inner extremities similarly to the sections 20, 21, in such a manner that the two sections 34, 35, may fold inwardly with the intermediate pivotal point thereof following along the medial diametric line of the running-gear frame. When in operative position these sections 34, 35, are held in alinement with each other and rigidly connected by a lock 36, which is similar in construction and operation to the lock shown in Fig. 6 of the drawing, and which latter may be regarded as a section of this lock as well as of the locks for the cross-connections of the running-gear frame. The hinges 33 permit the handle bars 31 and 32 to be turned downwardly in a forward direction, as shown in dotted lines in Fig. 1, so as to overlie, and be substantially coterminous with, the running-gear frame, in a compact form. In order to render the handle bars rigid and effective in their function of pushing the vehicle, they are provided with braces 37, 38, which are pivoted at their upper ends to the handle bars 31, 32, and at their lower ends to slides 39, 40, suitably mounted and sliding upon the side bars 18, 19, of the running-gear frame, and having hooks, latches, or other suitable locking means, 41, see Fig. 7, for holding them against forward movement when the handle is in its operative position, 42 being a lug or pin on each of the bars 18, 19, for coöperating with the latch 41 in accomplishing this result.

In the form of the invention shown in Figs. 9 to 14 inclusive, the device is provided with a collapsible seat and foot-rest. The foot-rest, which is here shown as of a box-like formation 43 composed of fabric or other suitable flexible material, is supported at its forward side from the cross-connections 20, 21, and at its rear side from the forward edge of the seat 44, and the seat, which is here shown as of a box-like construction, may be formed of any suitable cushion and flexible sides 45 and back 46, the sides being suspended from side bars 47, 48, constituting a seat-supporting frame. These bars 47, 48, are pivoted at their forward ends to the side bars 18, 19, of the running-gear frame, as shown at 49, in such a way that they may be folded downwardly, or in planes parallel with each other, and substantially at right-angles to the axles, in the manner shown in dotted lines in Fig. 9, when their rear ends are lifted out of their supports 50 on the running-gear frame. These supports consist of hook-like members secured to the side bars 18, 19, with which engage hook-like extremities 51 of the bars 47, 48, and when the bars 47, 48, are in

their lowered positions they are supported and held in place by stops 52 on the inner sides of the bars 18, 19. As the side bars 47, 48, descend, one side of the seat 44 is elevated to a perpendicular, or substantially perpendicular, plane, so as to cause it to lie in a compact form between the side bars 18, 19, as shown in dotted lines in Fig. 10, the foot-rest being similarly arranged. In this form of the invention, the braces for connecting the handle bars 31, 32, with the running-gear frame, instead of connecting at their lower ends to slides like 39, are pivoted to the side bars 47, 48. These braces are shown at 53, and one of them is illustrated in detail in Fig. 11. Their rear ends are pivotally connected with the bars 31, 32, and their forward ends have notches or hooks 54, which are adapted to engage with a cross-brace 55, serving to connect the rear ends of the side bars 47, 48, together, the bars 47, 48, having suitable eyes 56 for receiving the down-turned extremities of the brace 55, and the braces 53, if desired, may also be connected together by cross-braces 57 having down-turned extremities 58, engaging in loops or eyes 59 struck out from the inner sides of the braces 53.

In order that the invention may be understood by those skilled in the art, the details of this embodiment thereof have been thus specifically described, but

What I claim as new therein and desire to secure by Letters Patent is:

1. In a device of the character described, the combination of a sectional axle, wheels mounted thereon and one of said wheels being adapted to slide inwardly on the axle beyond the intersection of the sections, and a frame connecting the wheels together.

2. In a device of the character described, the combination of a sectional axle, the sections of which are adapted to move with respect to each other for rendering the axle more compact, wheels mounted upon the axle and one of which is adapted to slide inwardly on the axle beyond the intersection of the sections, and a frame connecting the wheels together.

3. In a device of the character described, the combination of sectional axles, wheels mounted thereon and adapted to slide inwardly beyond the intersection of the sections, and a frame connecting the wheels together.

4. In a device of the character described, the combination of a sectional cylindrical axle, wheels mounted thereon and adapted to slide toward each other beyond the intersection of the sections, and a frame connecting the axles together.

5. In a device of the character described, the combination of sectional axles, the sections of which are adapted to be moved relatively for placing the axle in a more compact form, wheels mounted thereon, forks operatively related to the wheels and to said axles and adapted to slide with the wheels beyond the intersection of said sections, and a collapsible frame connecting said forks together.

6. In a device of the character described, the combination of sectional axles, bars connecting the extremities of said axles together, wheels mounted upon the axles and adapted to slide thereon inwardly beyond the intersection of said sections.

7. In a device of the character described, the combination of axles, hinges connecting the sections of the axles together upon horizontal axes, whereby the extremities of the axles may be turned in a substantially perpendicular position, wheels mounted upon the axles and adapted to slide inwardly beyond the intersection of the sections, and a frame connecting the axles together.

8. In a device of the character described, the combination of axles, hinges connecting the sections of the axles together upon horizontal axes, whereby the extremities of the axles may be turned in a substantially perpendicular position, said hinges being adapted to prevent movement of the extremities of the axles from a horizontal position in the opposite direction, and wheels mounted upon the axles and adapted to slide inwardly beyond the intersection of the sections.

9. In a device of the character described, the combination of a laterally collapsible running-gear frame, a seat support mounted thereon and movable in a plane perpendicular to the running-gear frame and also laterally with the running-gear frame, and a seat collapsible in the said support.

10. In a device of the character described, the combination of a collapsible running-gear frame, a seat support mounted thereon and comprising side members movable in planes perpendicular to the running-gear frame and also toward each other in a lateral direction with the running-gear frame, and a seat mounted upon said side members and collapsible between them.

11. In a device of the character described, the combination of a laterally collapsible running-gear frame, a seat support comprising side members mounted upon the running-gear frame and movable perpendicularly with respect thereto and also inwardly with the collapsing movement of the running-gear frame, a handle operatively connected with the running-gear frame, and braces connecting the handle with the side members of the seat support.

12. In a device of the character described, the combination of a laterally collapsible running gear frame, a seat support mounted thereon and comprising side members movable perpendicularly with respect to said

frame and also laterally with the frame, a handle hinged to the running-gear frame, side braces connected to the handle and to said side members, and cross-braces for holding said side members apart.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 28th day of November, A. D. 1906.

ALBERT E. McGILL.

Witnesses:
FRANCIS A. HOPKINS,
CHAS. H. SEEM.