Feb. 10, 1925. 1,526,004

E. C. MEAD

COLLAPSIBLE GOCART

Filed March 2, 1922 3 Sheets-Sheet 1

Fig. 1.

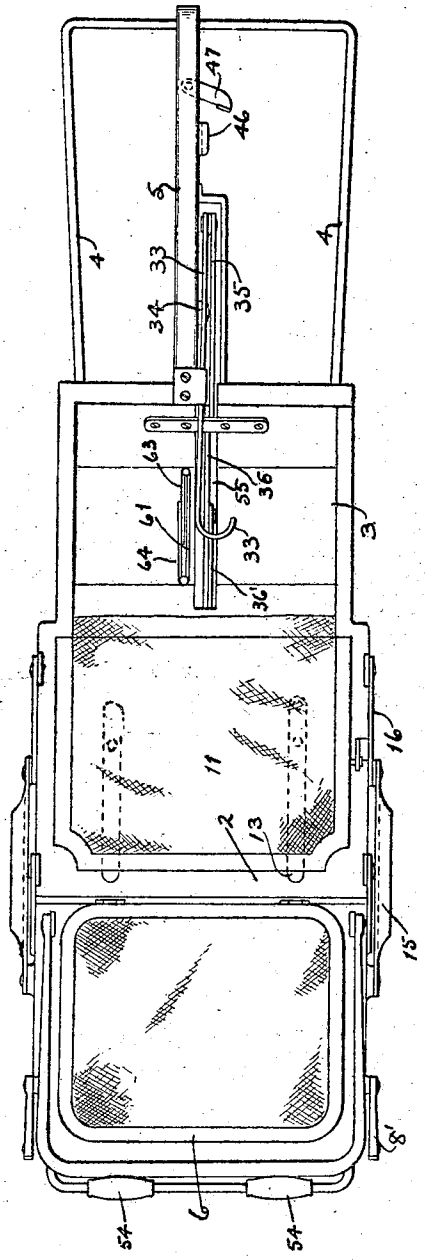
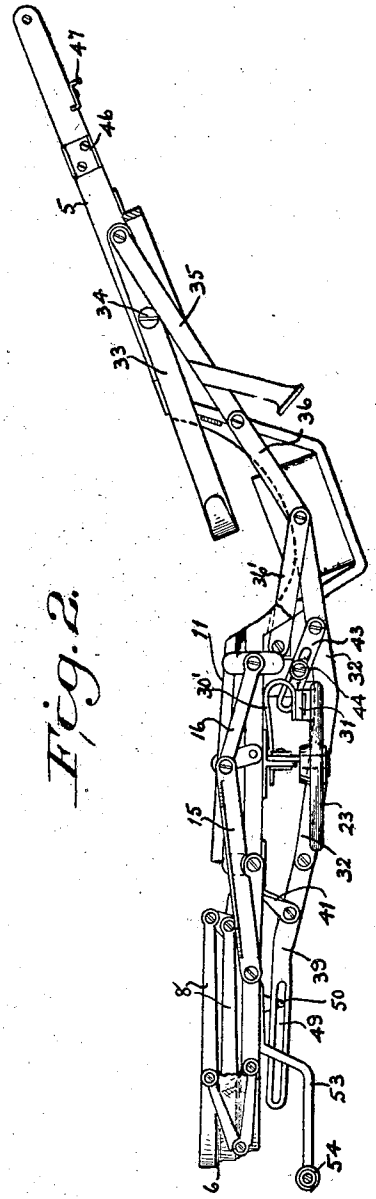



Fig. 2.




Inventor.
Edward C. Mead
By Louis C. Vanderlip.
Attorney.

Feb. 10, 1925. 1,526,004

E. C. MEAD

COLLAPSIBLE GOCART

Filed March 2, 1922 3 Sheets-Sheet 2

Fig. 3.

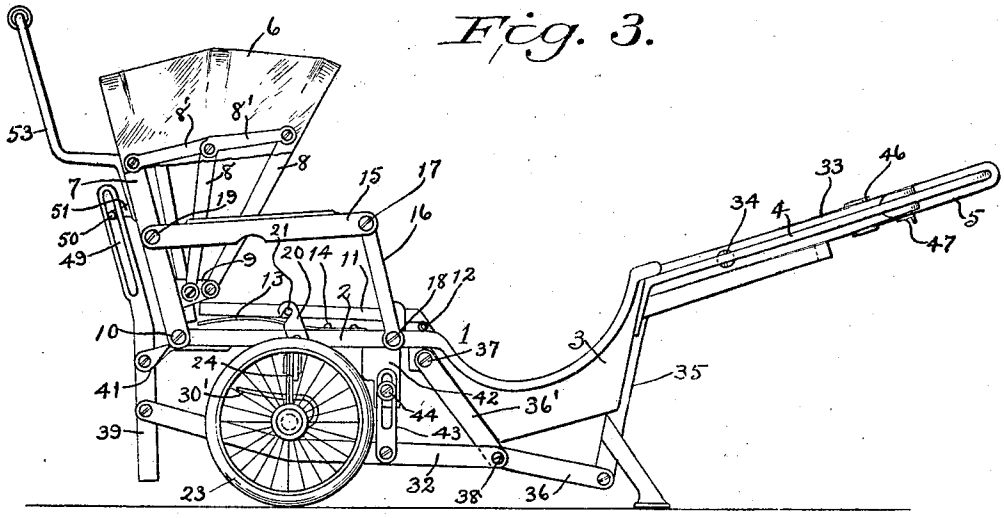



Fig. 4.

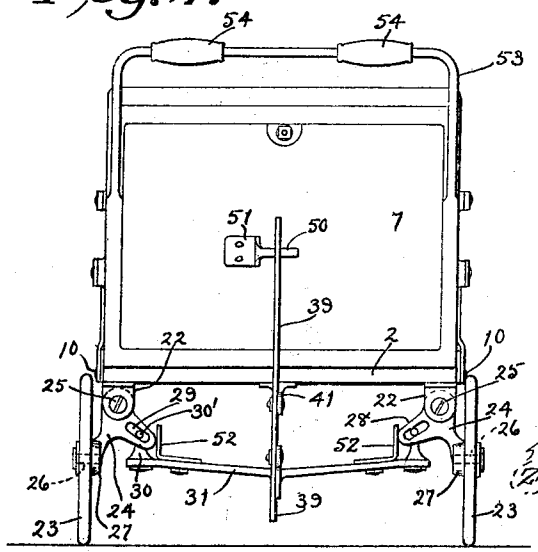



Fig. 5.

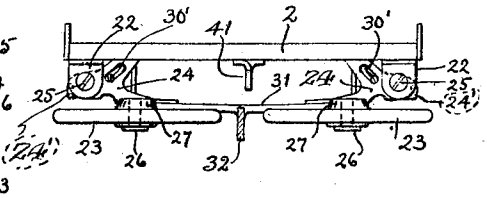



Fig. 10.

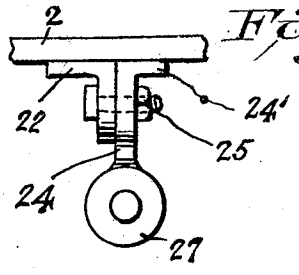
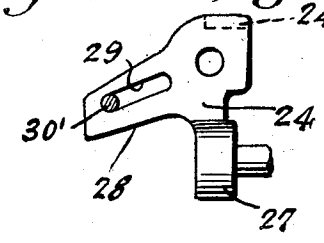



Fig. 11.




Inventor.
Edward C. Mead
By Louis C. Vanderlip.
Attorney.

Feb. 10, 1925. 1,526,004

E. C. MEAD

COLLAPSIBLE GOCART

Filed March 2, 1922 3 Sheets-Sheet 3

Fig. 6.

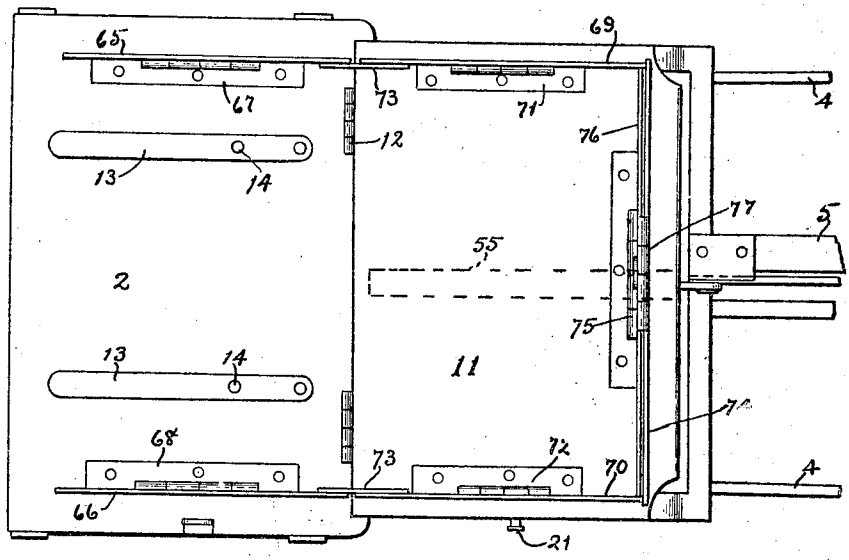



Fig. 7.

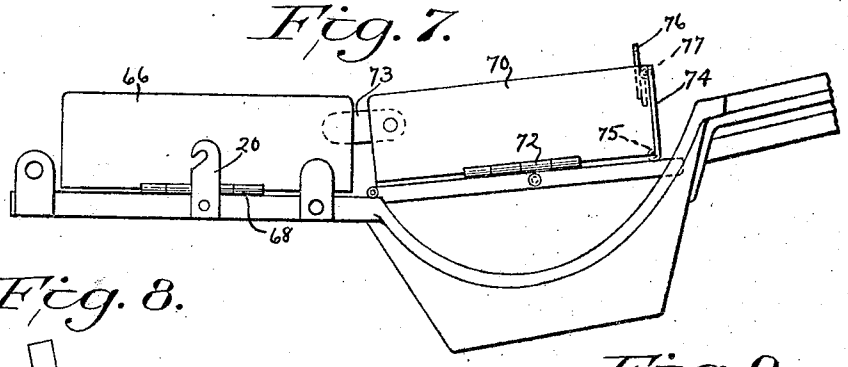



Fig. 8.

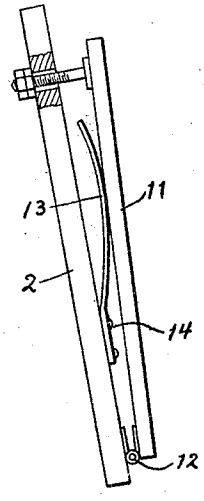
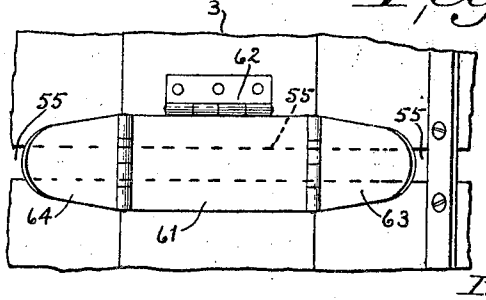



Fig. 9.




Inventor:
Edward C. Mead
By Louis C. Vanderlip
Attorney.

Patented Feb. 10, 1925.

1,526,004

# UNITED STATES PATENT OFFICE.

EDWARD C. MEAD, OF ELKHART, INDIANA.

## COLLAPSIBLE GOCART.

Application filed March 2, 1922. Serial No. 540,483.

*To all whom it may concern:*

Be it known that I, EDWARD C. MEAD, a citizen of the United States, and a resident of the city of Elkhart, county of Elkhart, Indiana, have invented certain new and useful Improvements in Collapsible Gocarts, of which the following is a specification.

This invention relates to improvements in collapsible go-carts.

It is an object of the invention to provide a vehicle of this kind with a means through the movement of which the vehicle may be folded from operative position by pivotal movement of several vehicle parts relatively to other parts of the same.

It is furthermore an object to effect the folding movement from operative position, or to operative position through a single element interposed between a main operating member and the various parts whose position relatively to each other is to be altered.

It is furthermore an object of the invention to provide a go-cart of this kind in which the back of the seat may be placed substantially into the plane of the seat upon folding the go-cart, and in which a cover or top portion for the back may be simultaneously collapsed into a relatively compact space.

The invention also has the object of providing a collapsible go-cart in which through the movement of a single operating member the wheels of the vehicle may be folded to inoperative position towards each other underneath that seat portion under which they are arranged when in operative position, and to limit the inward or folding movement of the wheels as well as their movement outwardly into vertical position.

The invention furthermore contemplates the provision of means whereby the go-cart may readily be converted from a go-cart for use in the warm season to a go-cart in which the seat portion as well as the pit is provided with walls. The invention furthermore includes means for retaining the walls in their upright position so as to receive blankets, covers and the like, during the cold season.

With these and other objects in view, an embodiment of the invention is described in the following specification, in which reference is made to the accompanying drawings.

In the drawings:

Fig. 1 is a top plan view of the device, folded;

Fig. 2 shows the go-cart in side elevation in collapsed condition;

Fig. 3 shows the vehicle in side elevation in operative position;

Fig. 4 is a rear view of the vehicle in operative position;

Figure 5 is an end view of the wheel support and wheels, showing the latter in folded or collapsed condition;

Fig. 6 is a top plan view of the seat and pit portion of the vehicle ready for winter use;

Fig. 7 is a side elevation of the portions illustrated in Fig. 6;

Fig. 8 is an edge view of the seat and its yielding support, and

Fig. 9 shows a combination of elements for closing a slot in a portion of the go-cart when the latter is intended for winter use.

Fig. 10 illustrates an end view of the wheel bracket 24 mounted upon its support 22 in operative position as viewed from the side of the vehicle.

Fig. 11 is a view of the wheel bracket 24 at right angles to the illustration in Fig. 10.

The frame 1 of the vehicle as illustrated in Figs. 1 and 3, comprises a seat section 2, a pit or foot section 3 and a bail-shaped handle section 4, which latter is reinforced by a handle bar 5 secured to the front end of the pit section and also extending to the transverse member of the bail-shaped handle section 4. The back portion 7, pivotally mounted in seat section 2 at 10 which also forms a part of the frame of the vehicle, is surmounted by a flexible and collapsible top 6, adapted to be held in operative position indicated in Fig. 3, by a plurality of bows 8. The bows 8 are pivotally secured to a bracket 9 on the back portion 7, the sides or legs of the bows interconnected by links 8′ which are pivotally secured to the intermediate bow and to the outer bows.

The seat section 2 serves as support for a seat plate 11 which is hingedly connected to the section 2 at 12, (Figs. 3 and 8) and which in operative position is supported yieldingly on the seat section 2 by one or more springs 13 (Figs. 3 and 8), each having one end secured at 14 (Fig. 6) to the seat section.

In pivotal connection with the seat sec-

tion 2 and the back section 7 the vehicle also is provided with a pair of arm rests, comprising the links 15 and 16, which are pivotally interconnected at 17. The member 16 which supports the horizontal rest bar or link 15 is hinged to the seat section at 18, while the bar 15 is secured pivotally to the back rest at 19.

In order to retain the seat plate 11 in operative position, as shown in Fig. 3, and to lock it against movement about the hinge 12, a catch 20 is provided on each side of the seat section having a hook-shaped end to engage a pin 21, which projects from the sides of the seat plate 11.

The body of the cart consisting of the back section, the seat section, and the pit section, is supported on wheels 23. They are supported by means of axle pins 26 on hub shaped lugs 27 at the ends of arms 24 which are pivotally secured to brackets 22 on the lower surface of the seat section. The wheel carrying members 24 are attached to the brackets 22 by means of pivot pins 25, as shown in Figs. 4 and 5, whereby these wheels may be folded from operative or upright position, shown in Fig. 4, to the collapsed position, illustrated in Fig. 5, the plane of the wheels being then approximately parallel to the plane of the seat section. In order to guide the wheel carrying members 24 in their movement from the position shown in Fig. 4 to the position shown in Fig. 5, members 24 are provided with extensions 28 having slots 29 into which project the fingers 30′ of bracket 30,—which are secured to a transverse bar 31. The latter extends transversely of the vehicle at a distance from the lower surface of the seat section between the two wheels. The brackets 30, as illustrated particularly in Fig. 4, are mounted near the ends of the transverse bar 31 and have the shape of hooks provided with relatively long fingers 30′ to maintain the guiding engagement with the inclined slots 29 of the wheel carriers 24 even if, during the collapsing movement of the wheels, the bar is shifted longitudinally of the vehicle.

The transverse bar 31 is rigidly secured to the longitudinal bar 32 intermediate its extremities, and said bar 31 is equipped with a pair of angle stops 52 which are adapted to frictionally engage the inner ends of the extensions 28 of brackets 24 when the latter are in the operative position (Fig. 4), whereby the stops 52 cooperate with the fingers 30′ to maintain the juxtaposition of the wheel brackets 24 at a point at which the planes of the wheels are substantially vertical. Outward movement of the wheels 23 and brackets 24 is prevented by a laterally projecting stop element 24′, which is rigid with bracket 24 and which is adapted to engage the bottom plate 2 of the frame when the wheels are unfolded for cart operation.

The conversion of the vehicle from operative position to collapsed position, or vice versa, is effected by a member illustrated as a link or longitudinal bar 32 which is movably connected with the various elements to be shifted relatively to each other. The longitudinal bar 32 is associated with the operating lever 33 through which the movement or conversion is effected. This lever, as shown in Figs. 1, 2 and 3, is pivoted at 34 to the handle bar 5 of the vehicle. One end of this lever 33 is in pivotal connection through the link 35 (Fig. 2) with another link 36, which latter is connected with the operating bar 32. If, therefore, the lever 33 is swung from the position illustrated in Fig. 3 about its pivot 34 to the position indicated in Fig. 2, the relation of the links 36 and 35 will be changed from that angular relation, in which it is shown in Fig. 3, to a different relation, as shown in Fig. 2. The link 36 in this movement will exert a pull on the longitudinal operating member 32 to shift the same forwardly underneath the seat portion of the vehicle. In this forward movement of the operating member 32 the latter is also shifted upwardly or closer to the seat section. Another link 36′ connects the front portion of the member 32 with the front portion of the seat 2, at which this link 36′ is in pivotal connection through the pin 37. This link normally acts as a strut to maintain the toggle levers 32, 36 in the desired relation, as long as the vehicle is in operative condition, Fig. 3, the other end of the link 36′ being secured at 38 to the operating member 32 near the front end of the same. The rear end of the operating member 32 is pivotally connected with a bar 39 secured to the underface of the seat in pivotal relation thereto by means of a bracket 41. An intermediary guide for the operating member 32 is provided in the form of a slotted link 43 which is supported by means of its slot on a screw 44 inserted in the bracket 42 on the lower face of the seat.

Upon movement of the lever 33 about its pivot 34 from the position shown in Fig. 3 to that shown in Fig. 2, the member 32 therefore will be pulled forwardly, and as this member at its rear end is connected with the bar 39, the latter will be swung forward at its lower portion about the pivot in the bracket 41. This bar 39 is non-rotatably connected at its upper portion with the back section 7 of the vehicle and the back section therefore will be folded backwardly in accordance with the swinging movement of the upper portion of the bar 39. For the purpose of establishing a movable connection between the bar 39 and the rear of the seat section 7, the latter carries a bracket 51 having a projecting pin 50 which enters a

slot 49 in the upper part of the bar 39. In this movement of the back 7 towards the position indicated in Fig. 2, the arm rest member 15 and the supporting link 16 for the same also will be angularly displaced to come into approximately alining relation, as shown in Fig. 2. The foldable top 6 may then be readily flattened out by breaking the toggle joint 8′ between the bows 8, on each side of the top, an arrangement which is generally known from similar tops on other vehicles.

Means are provided for retaining the operating lever 33 in a position in which the accidental release of said lever from operative position should be prevented. The handle bar 5, therefore, carries a small bracket 46 provided with two parallel flanges, and the lever 33 enters between the two flanges of this bracket so as to be retained thereby. A bent portion at one end of the lever 33 is at the same time retained by a swinging catch 47 secured to the lower surface of the handle bar 5.

The vehicle is also equipped with a push bar 53 of well known U-shaped construction, secured to the rear section 7. The transverse part of this bail shaped structure is equipped with rubber handles 54. When the vehicle is in collapsed condition, as shown in Fig. 2 these handles 54 will serve as feet, when it is desired to place the collapsed vehicle in an upright position.

In order to accommodate the links 35, 36 and 36′, which extend from the seat section to the lever 33 and also to accommodate the lever 33, the pit section is provided with a slot 55, Fig. 1, in which these parts are movably located. This slot, however, may be closed so as to prevent a draft or cold air from entering the pit section from below. This is especially desirable when the vehicle is converted from the structure described into a vehicle for winter use.

For this purpose the seat and pit sections are combined into a box-shaped structure in which blankets, cushions, or other warm supports may be placed. For the purpose of this conversion, the seat plate 11 is moved from the position shown in Figs. 1 and 3, into the position shown in Fig. 6 by swinging it 180° about its hinges 12, so that the lower side of the seat plate 11 faces upwardly. The seat section 2 on which the springs 13 are mounted, is equipped with lateral wall plates 65, 66 which are secured movably to hinged brackets 67, 68 in opposition to each other. Normally, when the seat plate 11 is folded into the position shown in Fig. 2 or 3, these lateral plates 66 are turned down and are out of the way. When the seat plate 11, however, is swung about its hinges 12 to overlie the pit section of the vehicle, Fig. 6, these lateral plates 66, 65 may be turned to vertical position. Similar wall plates 69, 70 are secured in similar positions by means of hinge brackets 71, 72 to the underface of the seat plate 11, and after this plate has been moved to overlie the pit section these lateral plates 69 and 70 also may be turned into vertical position to be substantially in alinement with the plates 65 and 66 respectively of the seat section 2. Lugs 73 are secured to the inner side of the lateral walls 69 and 70 and are adapted to engage the inner faces of the plates 65 and 66 when swung into the position shown in Fig. 7. In this relation of the parts then the wall portions 65 and 66 cannot be folded back again towards the seat section unless the other walls 69 and 70 also are folded inwardly. This collapse of the front wall portions 69 and 70 towards the under face of the seat plate 11 is, however, prevented. The plate 11, also carries on its lower face, in addition to the pivotally attached side walls 69 and 70, a transverse front wall 74 which is also hingedly secured at 75 to the lower face of the seat section, so as to be also movable to vertical position with respect to said surface. This wall carries a spacing plate 76, secured, for instance, by the hinge 77 to the free edge of the plate 74. The length of this spacing plate 76 is sufficiently large to spread the walls 69 and 70 apart and to maintain them in their upright position, when the plate 76 has been turned about its hinge so as to enter between these two lateral walls 69 and 70.

The slot 55 in the pit section may be closed by a plate 61 which is secured to the surface of the pit section 3 by a hinge bracket 62. The plate 61 is just sufficiently long to overlie, when swung into operative position, Fig. 9, the central portion of this slot. The ends of the plate 61, however, are provided with hinges for extensions 63 and 64 whereby practically the entire length of the slot 55 may be covered to prevent the cold air from entering from below against the clothing, blankets, pillows, etc., which may be placed into the box-shaped structure formed by the combined seat plate 11, the seat section 2 and the walls 65, 66, 69, 70 and 74.

I claim—

1. In a collapsible go-cart, the combination of a seat section, a back section in angular relation thereto, a longitudinal reciprocatory operating member beneath the cart, a transverse bar element rigid with said operating member intermediate the extremities thereof, a pair of wheel brackets pivoted to said seat section, a pair of wheel bracket actuating elements rigid with said transverse bar and extending laterally therefrom, said actuating elements being adapted to actuate said wheel brackets from operative to inoperative position upon movement of said

reciprocatory operating member, stop means on said transverse bar to prevent inward collapse of the wheel brackets from the operative position, and stop means to prevent the outward collapse of said wheel brackets.

2. In a collapsible go-cart, the combination of a seat section, a back section in angular relation thereto, a longitudinal reciprocatory operating member beneath the cart, a transverse bar element rigid with said operating member intermediate the extremities thereof, a pair of wheel carrying brackets pivotally mounted to the seat section, each of said brackets being provided with an operating arm adapted to swing transversely of the cart, a pair of wheel brackets actuating elements rigid with said transverse bar and extending laterally therefrom, said actuating elements being adapted to actuate said wheel brackets from operative to inoperative position upon movement of said reciprocatory operating member, link means for guiding said reciprocatory operating members, stop means on said transverse bar to prevent inward collapse of the wheel brackets from the operative position, and stop means on said wheel brackets to prevent the outward collapse thereof from the operative position.

3. In a collapsible go-cart, the combination of a seat section, wheel supporting brackets pivotally mounted to said section, wheels rotatably secured in said brackets, the brackets being provided with slots, an operating member, and elements fixedly secured to said operating member and projecting through said slots for imparting a pivotal movement to said brackets when the operating member is moved in a predetermined direction.

4. In a go-cart, the combination of a seat section, a pit section, a handle, an operating member below the seat section, connecting elements between said handle and said operating member, the pit section being provided with a slot through which said connecting elements extend, and means secured to said pit section for closing the slot.

In witness whereof I have hereunto affixed my signature this——— day of February, 1922.

EDWARD C. MEAD.