

C140/UCollapsible Golf Cart

This invention relates to a collapsible golf cart.

Nowadays, the golfer population is growing rapidly and golf carts are widely used in the golf courses.

A known golf cart, as shown in Figure 1, mainly has an upright frame member 11 of rectangular configuration. The lower end of the frame member 11 terminates with a support member 18 which upraises from the frame member 11 for supporting a golf bag at bottom. A pair of bag cradles 16, 17 having respective cradle straps for tightening the golf bag thereon, are spacedly secured to the frame member 11.

A bracket means 15 is secured to the frame member 11 at a mid portion thereof. The bracket means 15 has lateral wings pivotally connecting two side beams 13 to the ends of which axles (not shown) are mounted along a fixed transverse axis. Ground supporting wheels 14 are mounted to the axles for rotation about the fixed axis. A rectangular bracket means 19 is secured to the frame member 11 at an upper end and provided with a transverse pin across two opposed side walls extending rearwardly thereof.

A pull bar 10 has an upper end terminating with a handle 101 and a lower portion pivotally mounted on the transverse pin of the bracket means 19 so that the pull bar 10 can be swung between a pull position, as shown in

Figure 1, wherein the pull bar 10 can further be locked in position by means of a slide lock 100, and a folded position under the frame member 11. The slide lock 100 can be a slide body which is slidably mounted on the upper end of the frame member 11 and adapted to slide through grooves in the lower end of the pull bar 10 so as to lock the pull bar in pull position.

It is found disadvantageous that the known golf cart can only be folded that is not compact enough as the distance between the spaced bag cradles 16, 17 of the frame member 11 should be long enough to stably retain the golf bag and the cart is not adjustable in height to fit the user's preference.

It is, therefore, an aim of this invention to provide a collapsible golf cart which is compact in collapsed condition for facilitating package or storage.

It is another aim of this invention to provide a collapsible golf cart which is adjustable in height for user's preference.

With these aims in view, a collapsible golf cart according to this invention comprises a longitudinal frame member, ground supporting wheels, and means attached to the frame member and supporting the ground wheels on opposite sides of said frame member, wherein the longitudinal frame member comprises upper, intermediate and lower sections, the lower and the intermediate sections respectively carry upper and lower means for supporting a golf bag and are pivotally interconnected to one another by hinge means so as to foldable between a collapsed and side-by-side condition for storage and an unfolded and substantially aligned condition for use, and

the upper section is telescopically collapsible relatively to the intermediate member for storage and is extendable therefrom for use.

It is a common demand of golfers to have a golf cart which can be folded into compact size and stored in a tiny locker, closet, trunk of a car or hooked in a closet, garage, house, or even conveniently carried along holiday trips by air. The present invention provides such a golf cart.

An embodiment of the invention is described, by way of example only, with reference to the accompanying drawings, in which:-

Figure 1 is a perspective view of a known golf cart;

Figure 2 is a side elevational view of a preferred embodiment according to this invention which is in extended condition;

Figure 3 is a top elevational view of the golf cart shown in Figure 2;

Figure 4 is an enlarged cross-sectional view along line A - A shown in Figure 2;

Figure 5 is an enlarged side elevational view of a hinge means of the present invention which is in connected and locked condition;

Figure 6 is an enlarged top elevational view of the hinge means shown in Figure 5;

Figure 7 is an enlarged side elevational view of the engaging means which is in disconnected and folded condition;

Figure 8 is a side elevational view of the golf cart of this invention which is in telescoped and collapsed condition; and

Figure 9 is a diagrammatic view of the golf cart which is telescoped, folded and further hooked for storage.

Referring to Figures 2 and 3, a golf cart, which is generally indicated at 2, has a frame member which is divided into three sections 21, 22, 23. A lower section 21 has a lower end terminating with a curved supporter 211 for ground support and an upper end connected with a lower end of an intermediate section 22 through a hinge means 30. A lower bag cradle 27 having cradle straps is secured to the lower section 21 at a lower end portion next to the ground supporter 211. A base plate has a lower end pivotally mounted on the ground supporter 211 so that the base plate 28 can be swung between an extended position, as shown in Figure 2, perpendicular to the frame member for supporting a golf bag at a bottom thereof and a folded position, as shown in Figure 8.

A bracket means 25 is secured to the upper section 21 at an upper end portion next to the hinge means 30. The bracket means 25 has lateral wings pivotally connecting two side beams 243 to the ends of which axles (not shown) are mounted along a fixed transverse axis. Ground supporting wheels 241 are mounted to the axles for rotation about the fixed axis. A pair of links 242

pivotally interconnect the hinge means 30 at the intermediate section 22 and respective beams 243 at mid portions thereof.

The intermediate section 22 has a hollow inner space through the length thereof and a screw lock 40 mounted on the upper end. An upper bag cradle 26 having cradle straps and spaced from the first bag cradle 27 is secured to the intermediate section 22 at an upper end portion next to the screw lock 40.

The upper section 23 terminates with a handle 231 and is adapted to telescope within the intermediate section 22. In addition, the upper section 23 can be locked at any selected distance with respect to the intermediate section 22 by means of the screw lock 40.

Referring to Figure 4, the screw lock 40 includes a casing 41 secured to the upper end of the intermediate section 22 by means of rivets 42, an interior threaded hole formed in a side wall of the casing 41 beyond the upper end of the intermediate section 22, a T-head bolt 43 having a thread adapted to be engaged with the interior thread of the hole so that the T-head bolt can be screwed inwardly through the hole, and a slider 44 connected to the lower end of the upper section 23 by means of a rivet 45, sliding within the intermediate section 22 in conjunction with the upper section 23, which is positionable at various heights for user's preference in usage by screwing inwardly the T-head bolt 43, of which a flat end abuts against the upper section 23.

The hinge means 30, as shown in Figures 4, 5, 6 and 7, includes a first bracket 32 secured to the upper end of

the lower section 21 by means of rivets or bolt and nut assemblies 320, one of which fixes a female coupler 39, a second bracket 31 secured to the lower end of the intermediate section 22 by means of rivet and/or bolt and nut assembly 310, which fixes a male coupler 38 which, in turn, serves as a stopper for the slider 44, and a lock member generally indicated at 35. The first bracket 32 is integrally formed with a first projection 321 and a second projection 322 which are located on opposite sides thereof and extend laterally. The second bracket 31 is integrally formed with a side clevis 311 that is formed by a pair of parallel plates. A pin 33 pivotally connects the side clevis 311 of the second bracket 31 to the first projection 321 of the first bracket 32 for pivotal movement about a horizontal axis over an angle of at least 180 degrees.

The lock member 35 includes an arm 34 with one end pivotally connected to the second projection 322 by means of a pin 331 and a catch frame 36 made of wire with a lower cross beam pivotally and transversely secured in the arm 34 and spaced from the pin 331. A hook 37 is formed in a side wall of the second bracket 31 opposed to the side clevis 311.

In operation, the lower section 21 and the intermediate section 22 can be located in aligned position through engagement of the male and female couplers 38, 39 and further locked in this position by means of the lock member 35, in which the upper cross beam of the catch frame 36 is inserted in the hook 37 and the arm 34 is swung in a clockwise direction about the pin 331 to draw the catch frame 36 downwardly. On the other hand, the arm 34 can be swung counterclockwise to release the catch

frame 36 out of the hook 37, which allows the intermediate section 22 to be swung counterclockwise into a position side by side the lower section 21, as shown in Figure 7.

In folding operation of the golf cart 2, the upper section 23 of the frame member can firstly be telescoped into the intermediate section 22 with the handle 231 protruding therefrom. The intermediate section 22 can be folded into a position parallel to the lower section 21 while the wheels 241 are moved by the links 242 via the beams 243 simultaneously towards the lower portion of the lower section 21 and towards each other. Finally, the base plate 28 can be folded down towards the lower section 21 and further retained by the straps of the lower bag cradle 27 into a shape shown in Figure 8. It will be noted that the telescoped and folded golf cart can be hooked by means of the catch frame 36, as shown in Figure 9.

Various changes and modifications can be made in the above-described and illustrated construction without departing from the scope of the invention defined in the appended claims.



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Claims

1. A collapsible golf cart comprising a longitudinal frame member, ground supporting wheels, and means attached to the frame member and supporting the ground wheels on opposite sides of said frame member, wherein the longitudinal frame member comprises upper, intermediate and lower sections, the lower and the intermediate sections respectively carry upper and lower means for supporting a golf bag and are pivotally interconnected to one another by hinge means so as to be foldable between a collapsed and side-by-side condition for storage and an unfolded and substantially aligned condition for use, and the upper section is telescopically collapsible relatively to the intermediate member for storage and is extendable therefrom for use.
2. A collapsible golf cart according to claim 1, wherein the ground wheels are hingedly attached to the lower section of the frame member.
3. A collapsible golf cart as claimed in claim 1 or claim 2, wherein a lock means for the upper telescopic section includes a casing secured to the upper end of the intermediate section, an inner threaded hole formed in a side wall of the casing beyond the upper end of the intermediate section, and a T-head bolt having a thread adapted to be engaged with an interior thread of the hole.
4. A collapsible golf cart as claimed in claim 1 or claim 2 or claim 3, wherein a hinge means pivotally



interconnecting the lower and intermediate sections includes a first bracket member secured to the upper end of the lower section and laterally formed with a first projection and a second projection located in opposite sides thereof, a second bracket member secured to the lower end of the intermediate section and formed with a pair of parallel plates and a hook located on opposite sides thereof, a pin member pivotally connecting the plates of the second bracket member to the first projection of the first bracket member and a locking means pivotally connected to the second projection of the first bracket member.

5. A collapsible golf cart as claimed in claim 4, wherein the locking means for the hinge means includes an arm with one end pivotally connected to the second projection and a catch frame with a lower cross beam pivotally secured to the arm in spaced relation to the pivotal connection of the arm, and an upper cross beam adapted to be caught in the hook.

6. A collapsible golf cart as claimed in any of claims 1 to 5, wherein the upper section is shaped at the upper end to form an integral handle.

7. A collapsible golf cart according to any of claims 1 to 6, wherein a lower golf bag cradle is carried by the lower section of the longitudinal frame and an upper golf bag cradle by the intermediate section.

8. A collapsible golf cart according to claim 7, wherein, below the lower golf bag cradle, the lower section has a supporting plate for the bottom end of a golf bag.

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9. A collapsible golf cart according to claim 8, wherein the golf bag supporting plate is hinged to fold back against the lower section when not in use.
10. A collapsible golf cart according to claim 9, in which the bottom end of the lower section carries a ground supporter, and the golf bag supporting plate is hinged to the ground supporter.
11. A collapsible golf cart as claimed in any of claims 1 to 10, wherein the ground wheels are carried by foldable beams on opposite sides of the lower section, and hinged links connect between the beams and the intermediate section so that when the intermediate section is folded into collapsed condition relative to the lower section the wheel-carrying beams are folded towards one another.
12. A collapsible golf cart substantially as hereinbefore described with reference to Figures 2 to 9 of the accompanying drawings.
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