United States Patent [19]

Walkerow

[11] **3,733,086**

[45] **May 15, 1973**

[54] **GOLF CART BALL DISPENSING HANDLE CONSTRUCTION**

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[22] Filed: **July 26, 1971**

[21] Appl. No.: **166,026**

[52] **U.S. Cl.** .....**280/47.17,** 221/298, 224/29 B, 280/DIG. 6

[51] **Int. Cl.**.....**B62b 5/06,** B62b 11/00

[58] **Field of Search**.....280/47.17, 47.19, 280/DIG. 6; 224/29 B; 221/226, 238, 297, 298, 299; 273/32 D

[56] **References Cited**

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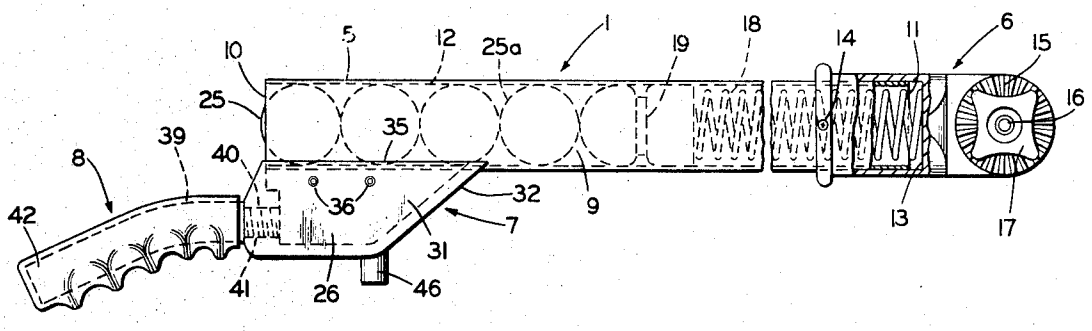
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Primary Examiner—Kenneth H. Betts
Assistant Examiner—Leslie J. Paperner
Attorney—John H. Bishop et al.

[57] **ABSTRACT**

A handle construction for attachment to a usual golf cart having a ball dispensing mechanism mounted thereon. A spring biased plunger is located within a tube and moves golf balls stored within the tube out through an open end of the tube. A stop rod and an actuator button are pivotally mounted, each on opposite ends of a pivotally mounted cam. A spring biased retainer rod engages the cam holding it in an at rest position which extends the stop rod into the open tube end blocking movement of balls through the open end. Depression of the actuator button pivots the cam and simultaneously retracts the stop rod from the open tube end dispensing the outermost stored golf ball, and projects the retainer rod into the tube preventing ejection of the remaining balls until the actuator button is released, whereby the stop rod again blocks the open tube end.

5 Claims, 8 Drawing Figures



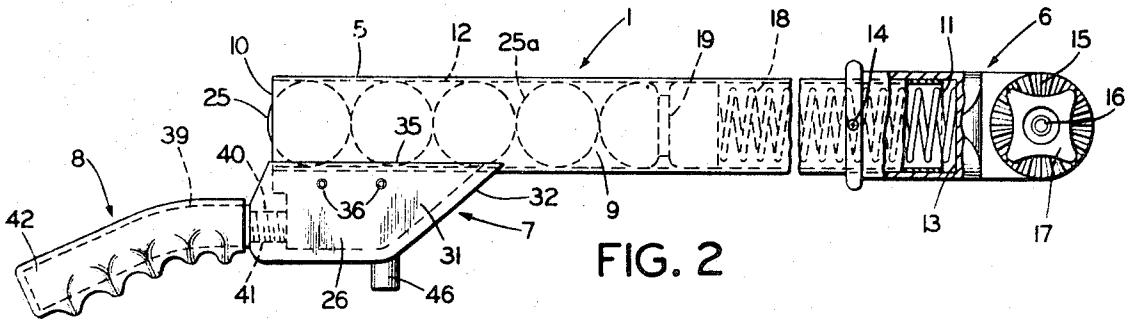


FIG. 2

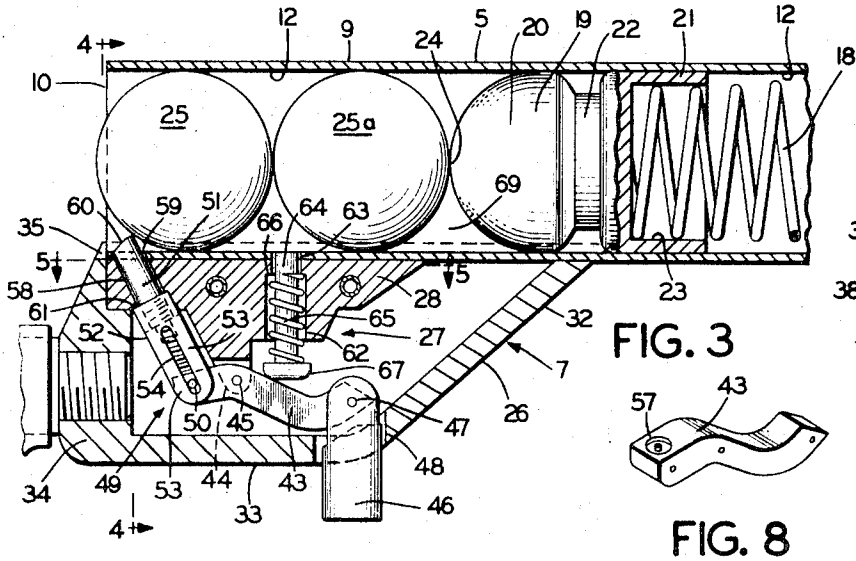


FIG. 3

FIG. 8

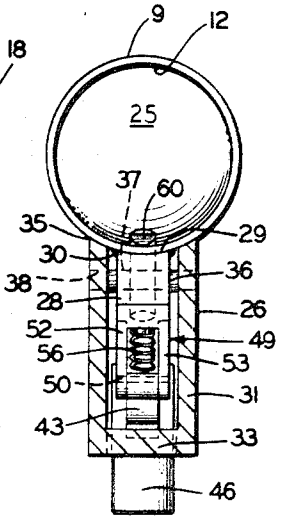


FIG. 4

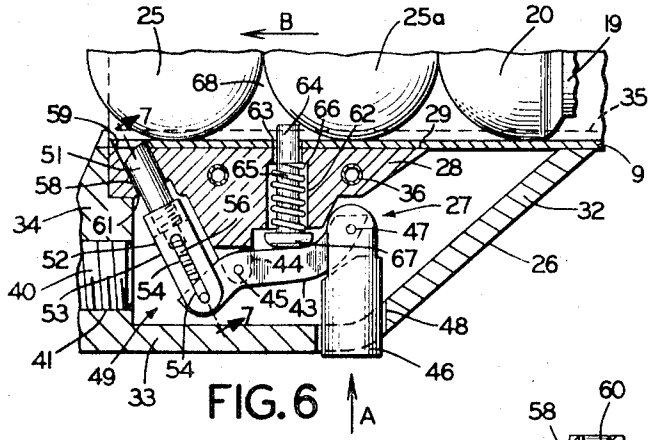


FIG. 6

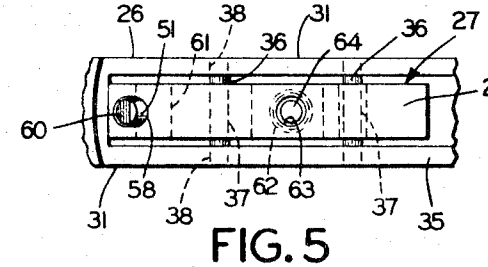


FIG. 5

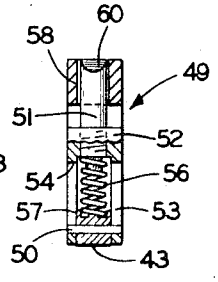


FIG. 7

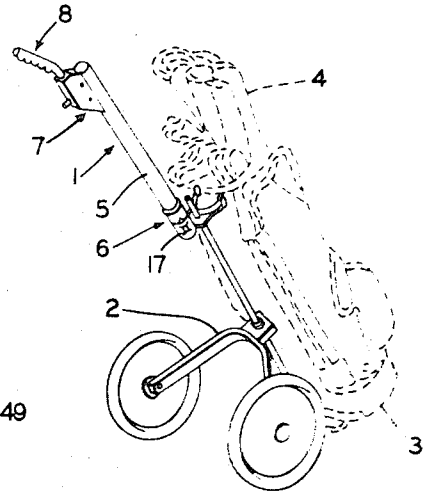


FIG. 1

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GOLF CART BALL DISPENSING HANDLE CONSTRUCTION

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to golf carts and particularly to golf cart handles. More particularly the invention relates to a golf cart handle construction for attachment to a usual golf cart which enables a quantity of golf balls to be stored within the handle for individual dispensing therefrom by simple operation of a trigger mechanism mounted on the handle.

2. Description of the Prior Art

Most golfers today drive an electrically powered golf cart or pull a two-wheeled golf cart upon which a golf bag is mounted providing easy accessibility to the golf clubs. The golf bag usually contains one or more pockets which store a number of golf balls along with golf tees, ball markers and miscellaneous items.

Golfers use several different golf balls while playing, such as a different ball for driving, putting or near a water hazard. This requires the inconvenience of carrying the extra balls in their pant's pockets or searching through the golf bag ball pockets each time a different ball is desired for play.

A number of golf carts have ball storage and dispensing means incorporated into the carts to alleviate this problem. Examples of some of these constructions are shown in U.S. Pat. Nos. 2,480,597, 2,662,776, 2,806,711, 3,172,681, and 3,459,434.

Such constructions consist of tubes, some of which are flexible to retain the balls within the tube and others are provided with springs biasing the ball against a stop adjacent an opening. Other dispensing constructions consist of various housings having openings for removal of the stored golf balls.

All of these constructions require manual removal of the balls from storage by grasping the ball and pulling it from its tube or housing.

Problems have been encountered in the use of these ball storage and dispensing means. The means used to retain the balls in their storage must be of sufficient strength to prevent accidental loss of the balls as the cart is jerked and bumped about, yet permit easy removal of the ball or balls by the golfer.

Manual removal of the balls may be difficult when the golfer is wearing a golf glove or his hands are perspiring. Likewise, it may be time consuming to remove all or a number of the stored balls when at the end of play or if one ball in particular is sought by the golfer.

Another construction provides a lifting lever to raise golf galls stored in a vertical tube which requires just the proper amount of lift to prevent too many golf balls from being removed.

These prior constructions require separate components to be mounted on the golf cart for storage of the balls and do not modify an existing golf cart component thereby reducing weight and the number of cart components.

No prior golf cart ball storage and dispensing means of which I am aware has eliminated these problems by incorporation of a ball storage chamber in the handle of a golf cart, and which is provided with a trigger mechanism for retention of the balls within the handle and for individual ejection of the topmost ball therefrom.

SUMMARY OF THE INVENTION

Objectives of the invention include providing a golf cart ball dispensing handle construction which is attached to a usual golf cart in lieu of a usual golf cart handle and which provides for storage of a plurality of golf balls within the handle; providing a trigger mechanism on the handle construction which retains the stored golf balls within the handle and which ejects only the topmost golf ball upon depression of the trigger actuator button; providing a golf cart ball dispensing handle construction which spring biases the stored balls toward the ejection opening and into engagement with the trigger mechanism; providing a golf cart ball dispensing handle construction which enables a golf ball to be pushed into the ejection opening automatically depressing the ball retaining means until passage of the golf ball without separate manipulation of any retention or release mechanism; and providing a golf cart ball dispensing handle construction which is inexpensive to manufacture, sturdy and durable in use, simple to operate, and which eliminates difficulties heretofore encountered, achieves the objectives indicated, and solves problems and satisfies needs existing in the art.

These objects and advantages are obtained by the golf cart ball dispensing handle construction of the invention, the general nature of which may be stated as including tube means having at least one open end; attachment means for attaching the tube means to a golf cart; plunger means slidably located within the tube means having spring means biasing the plunger means toward the tube means open end; trigger means mounted on the tube means adjacent the tube means open end for individually dispensing golf balls stored within the tube means; the trigger means including cam means having first and second ends and being pivotally mounted on the tube means intermediate said cam ends; stop means pivotally mounted on one end of the cam means and actuator means mounted on the cam other end; retainer means engageable with the cam means and extendable into the tube means; and spring means biasing the cam means to at rest position, whereby the stop means blocks the tube means open end and the actuator means is set to be actuated, and whereby the actuator means when actuated pivots the cam means removing the stop means from blocking the open tube end and projects the retainer means into the tube means blocking movement of a portion of the stored golf balls.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the invention — illustrative of the best mode in which applicant has contemplated applying the principles—is set forth in the following description and shown in the drawings which are particularly and distinctly pointed out and set forth in the appended claims.

FIG. 1 is a perspective view of a golf cart having the ball dispensing handle mounted thereon;

FIG. 2 is an enlarged fragmentary side elevation, with portions broken away and in section, of the ball dispensing handle;

FIG. 3 is an enlarged fragmentary sectional view of the trigger mechanism of the ball dispensing handle;

FIG. 4 is a sectional view taken on line 4—4, FIG. 3;

FIG. 5 is a fragmentary sectional view taken on line 5—5, FIG. 3;

FIG. 6 is a fragmentary sectional view similar to FIG. 3 showing the trigger mechanism in dispensing position;

FIG. 7 is a fragmentary sectional view taken on line 7—7, FIG. 6; and

FIG. 8 is a perspective view of the cam component of the trigger mechanism.

Similar numerals refer to similar parts throughout the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The novel golf cart ball dispensing handle construction is generally indicated at **1**, and is shown mounted on a usual two-wheel golf cart **2** (FIG. **1**). A golf bag **3** containing golf clubs **4** is shown in dash lines and is mounted on cart **2**.

Handle **1** usually will be in an inclined position when attached to a golf cart **2** as shown in FIG. **1**, but for purposes of illustration and description is shown in a horizontal position in FIGS. **2–6**.

Handle **1** (FIG. **2**) includes a tube **5**, an attachment base **6**, a trigger assembly **7** and a hand grip **8**.

Tube **5** is formed by cylindrical wall **9** and includes open top and bottom ends **10** and **11**, respectively. Bore **12** formed within tube **5** by wall **9**, has a diameter equal to or slightly larger than that of a golf ball. Wall **9** preferably is formed of metal and is strong enough to resist dents from being formed which would prevent passage of a golf ball through bore **12**.

The lower end of tube **5** extends into a cavity **13** formed in attachment base **6** and is secured therein by setscrews **14**. A gear ring **15** may be attached to base **6** for mounting of handle **1** on golf cart **2**. Ring **15** is clamped in conventional manner to a similar gear ring mounted on most golf carts by a bolt **16** and nut **17**.

A spring **18** extends throughout tube bore **12** and has one end seated within base cavity **13** and the opposite end engaged with a plunger **19**.

Plunger **19** is slidably mounted within bore **12** and is biased toward open end **10** of tube **5** by spring **18**. Plunger **19** preferably is shaped as shown in FIG. **3**, having a semi-spherical-shaped front head **20** and a rear cup-shaped portion **21** connected to plunger head **20** by a short cylindrical section **22**. Cup **21** is formed with a recess **23** in which spring **18** is seated.

The tip portion **24** of plunger head **20** contacts innermost golf ball **25***a* of a plurality of golf balls, shown in dash lines FIG. **2**, when stored within tube **5**, pushing the golf balls toward open tube end **10**.

Trigger assembly **7** which individually dispenses the stored golf balls, has an outer housing **26** which conceals and protects a trigger mechanism, indicated at **27**, located within housing **26**. Trigger mechanism **27** includes an irregularly shaped metal mounting block **28** formed with a concave top edge **29** into which tube **5** is seated and welded thereto at **30** (FIG. **4**).

Outer housing **26** has an elongated, irregular box-shape formed by parallel side walls **31**, sloped front wall **32**, bottom wall **33** and thickened back wall **34**. The top edges **35** of side walls **31** are curved slightly inwardly so as to seat tightly against tube **5** (FIG. **4**).

Housing **26** is attached to mounting block **28** by pins **36** which extend through aligned holes **37** and **38** formed in block **28** and in housing side walls **31**, respectively, (FIG. **5**).

Hand grip **8** (FIG. **2**) consists of a tubular shaft **39** bent slightly downwardly. One end **40** of shaft **39** is threaded and is engaged in an opening **41** formed in outer housing back wall **34**. A plastic or rubberized grip **42** is slip-fitted over shaft **39** to be grasped by a golfer to move cart **2** in a conventional manner as when a usual golf cart handle is attached to cart **2**.

Trigger mechanism **27** includes a cam **43** (FIG. **8**) which is pivotally mounted between a pair of flanges **44** on a pin **45**. Flanges **44** extend downwardly from the bottom of block **28** and may be formed integral therewith (FIGS. **3** and **6**).

An actuator button **46** is pivotally mounted on one end of cam **43** by a pin **47** and extends through an opening **48** formed in housing bottom wall **33**. A yoke assembly **49** is pivotally mounted on the other end of cam **43** by a pin **50** to provide the stop means for retaining stored golf balls within tube **5** until trigger mechanism **27** is actuated.

Yoke assembly **49** has stop rod **51** threadably engaged in the upper end of a yoke **52**. The spaced arms **53** of yoke **52** are formed with slots **54** by which pin **50** pivotally and slidably mounts yoke **52** on cam **43**.

A spring **56** is located between arms **53** and has one end seated in an annular recess **57** (FIGS. **7** and **8**) formed in cam **43**. Spring **56** biases yoke assembly **49** away from cam **43**, locating pivot pine **50** at the bottom of arm slots **54**. Rod **51** extends into bore **12** through a slanted opening **58** formed in block **28** and an aligned opening **59** formed in tube wall **9**.

The outer end **60** of rod **51** is beveled with respect to tube wall **9** when extending through tube wall opening **59**. A shoulder **61** is formed on block **28** and is engaged by yoke **52** when in extended position (FIG. **3**) to limit the amount of projection of rod **51** into bore **12** through opening **59**.

A vertical opening **62** is formed in mounting block **28**, spaced from slanted opening **58**, and aligns with an opening **63** formed in tube wall **9**. A retainer rod **64** is located in opening **62** and is biased by a spring **65** away from projection into tube **5** and into engagement with cam **43**.

Spring **65** preferably surrounds rod **64** and is maintained thereon by engagement with an annular shoulder **66** formed within opening **62** and with an enlarged head **67** on rod **64**.

The operation of the golf cart ball dispensing handle **1** is shown in FIGS. **3** and **6**.

In the at rest position of FIG. **3**, tube spring **18** biases plunger **19** and stored golf balls **25** and **25***a* toward open tube end **10**.

Spring **65** biases retainer rod **64** out of engagement in tube **5** and forces head **67** against cam **43**. Cam **43** is biased in a clockwise direction about pin **45** extending actuator button **46** through housing bottom wall opening **48** and extending stop rod **51** through mounting block opening **58** and tube wall opening **59** into tube bore **12**. Rod **51** thus retains the stored golf balls within tube **5** by blocking passage of outermost ball **25**.

A golfer merely depresses actuator button **46** in an upwardly direction indicated by arrow A, FIG. **6**, to release outermost golf ball **25**.

Upon depression of button **46**, cam **43** is pivoted in a counterclockwise direction about pin **45**. Cam **43** simultaneously withdraws stop rod **51** from within bore

12 and extends retainer rod 64 through tube wall opening 63 into an unoccupied area 68 of bore 12 formed between balls 25 and 25*a*.

Ball 25*a* moves forward (arrow B) a short distance from its at rest position of FIG. 3 until stopped by retainer rod 64. This forward movement of ball 25*a* moves outermost ball 25 a sufficient distance along tube 5 and through open end 10 to permit a golfer to withdraw ball 25 from within tube 5.

After removal of ball 25, button 46 is released and retainer rod 64 through the force of compressed spring 65, pivots cam 43 to its at rest position. Pivoting cam 43, simultaneously withdraws retainer rod 64 from within bore 12 and projects stop rod 51 into bore 12.

Adjacent stored ball 25a then moves forward by the action of plunger 19 until stopped by rod 51. Ball 25a then remains in the outermost position against rod 51 until button 46 is next depressed to individually eject another stored ball.

A golfer need not withdraw ball 25 when in the position of FIG. 6, which may be difficult if the golfer's hand is perspiring or is gloved. Ball 25 will "pop out" upon release of button 46 due to the forward movement of adjacent ball 25*a* to its outermost position against stop rod 51.

Plunger head 20 preferably is shaped similar to a portion of a golf ball so as to provide a space 69 between it and the innermost ball, similar to space 68 between balls 25 and 25*a* into which space retainer rod 64 projects to temporarily retain the remaining stored golf balls upon ejection of the outermost golf ball.

After ejection of the last stored golf ball, plunger 19 moves forward and is retained within tube 5 by stop rod 51. Cup portion 21 of plunger 19 preferably extends diametrically across bore 12 and slidably engages wall 9 and is long enough so as to block tube wall opening 63. Thus, retainer rod 64 is blocked from movement into bore 12 through opening 63 by plunger cup portion 21. Therefore, button 46 cannot be depressed and prevents stop rod 51 from being withdrawn from bore 12 which would result in the ejection of plunger 19 from tube 5 with possible damage to spring 18.

The particular construction of yoke assembly 49 permits golf balls to be inserted easily into tube 5 as well as to retain the golf balls within tube 5.

A golf ball inserted into open end 10 of tube 5 contacts an outermost stored golf ball, or plunger head 20 if tube 5 is empty of golf balls, and compresses spring 18.

The inserted golf ball contacts beveled end 60 of stop rod 51, and moves rod 51 and yoke 52 downwardly into housing 26. Cam 43 remains stationary due to the blocking of retainer rod 64 by the adjacent ball within tube 5, or plunger 19 if tube 5 is empty.

Arms 53 of yoke 52 slide downwardly past cam 43 with pin 50 extending through slots 54 until complete insertion of the ball past rod 51 into tube 5. Yoke spring 56 moves yoke 52 and rod 51 upwardly, with rod 51 projecting into bore 12 through opening 59, immediately after passage of the inserted ball to prevent ejection of the ball until the trigger mechanism is actuated by button 46.

Thus, a number of golf balls can be stored easily and quickly into tube 5 by merely inserting them into open tube end 10 with enough force to compress plunger spring 18. Yoke assembly 49 retracts easily to admit the inserted golf ball and then automatically blocks tube bore 12 after passage of the inserted ball to retain the stored golf balls.

Although the ball dispensing handle construction illustrated and described above is attached to a usual two-wheel type cart, it can replace the steering handle of an electric powered golf cart. The electric cart handles generally are tubular and have a shape somewhat similar to dispensing handle 1. Thus, handle 1 may be adapted for use on an electric golf cart without departing from the concept of the invention.

Accordingly, the golf cart ball dispensing handle construction provides for the convenient storage of a number of golf balls within a handle attached to a usual golf cart; enables golf balls stored within the handle to be dispensed individually by movement of an actuating button and in which a dispensed golf ball can be made to "pop out" of the handle eliminating the heretofore manually pulling or lifting of a golf ball from storage; provides for easy placement of the golf balls within the tube handle; provides means for retaining the plunger mechanism within the handle and for preventing accidental release of the plunger mechanism if the actuator button is depressed; and provides such a construction which is effective, inexpensive, and simple in assembly, operation and use and which achieves all the enumerated objectives, provides for eliminating difficulties encountered with prior devices, and solves problems and attains new results in the art.

In the foregoing description, certain terms have been used for brevity, clearness and understanding but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such terms are used for descriptive purposes and are intended to be broadly construed.

Moreover, the description and illustration of the invention is by way of example, and the scope of the invention is not limited to the exact details of the construction shown or described.

Having now described the features, discoveries and principles of the invention, the manner in which the golf cart ball dispensing handle construction is constructed, assembled and operated, the characteristics of the new construction, and the advantageous, new and useful results obtained; the new and useful structures, devices, elements, arrangements, parts, and combinations are set forth in the appended claims.

I claim:

1. A golf cart ball dispensing handle construction including an upright tubular handle open at its upper end, means for attaching the tubular handle to a golf cart, trigger means mounted on said tubular handle adjacent the open upper end thereof for individually dispensing golf balls stored within the tubular handle, stop means for stopping the uppermost ball and retainer means for retaining the next to the uppermost ball in the tubular handle, said stop means and retainer means being operatively associated with the trigger means, spring means normally biasing the stop means into the tubular handle and normally biasing the retainer means away from the tubular handle, means causing the stop means to be withdrawn from the tubular handle and the retainer means to be projected therein when the trigger means is actuated, a plunger having front and rear portions slidably located within the tubular handle for forcing golf balls when stored within the handle towards the handle open end, plunger spring means biasing the plunger toward the tubular handle open upper end, and

the plunger rear portion blocking movement of the retainer means into the tubular handle when the front portion is stopped within the tubular handle by the stop means to prevent ejection of the plunger from the handle open end.

2. The handle construction defined in claim **1** in which the plunger means front portion is rounded, in which the plunger means rear portion is cup-shaped, and in which the plunger spring means has one end seated within said cup-shaped rear portion.

3. A golf cart ball dispensing handle construction including an upright tubular handle open at its upper end; means for attaching the tubular handle to a golf cart; a plunger slidably located within the tubular handle; plunger spring means biasing the plunger towards the tubular handle open upper end; trigger means including cam means having first and second ends pivotally mounted intermediate said cam ends on the tubular handle adjacent the open upper end thereof for individually dispensing golf balls stored within the tubular handle; stop means slidably mounted on the first end of the cam means for stopping the uppermost ball in the tubular handle and actuator button means mounted on the second cam end; retainer means engageable with the cam means for retaining the next to the uppermost ball in the tubular handle; the stop means including a stop rod, yoke means slidably mounting the stop rod on the cam means, and yoke spring means biasing said stop rod toward the tubular handle and away from the cam means; cam spring means normally biasing the stop means toward the tubular handle and normally biasing the retainer means away from the tubular handle whereby when the trigger means is actuated by depressing the actuator button means, the cam means causes the stop means to be withdrawn from the tubular handle and the retainer means to be projected into said handle.

4. The handle construction defined in claim **3** in which the yoke means has a pair of spaced legs formed with slots; in which the stop rod is mounted on the yoke means; in which pin means extends through the yoke legs slots slidably and pivotally mounting the yoke means on the cam means; and in which the yoke spring means bias the yoke means away from the cam means whereby the pin means are normally located at the bottom of the yoke slots.

5. The handle construction defined in claim **3** in which the stop rod has an outer end which normally extends into the tubular handle, and in which said outer end is beveled whereby a golf ball when inserted into the upper open end of the tubular handle contacts the beveled end and compresses the yoke spring means and retracts the stop rod from within the tubular handle.

* * * * *