June 11, 1963 E. L. SISSON 3,093,402

COMBINATION CANE AND RETRIEVER

Filed Dec. 29, 1960

Fig. 1.

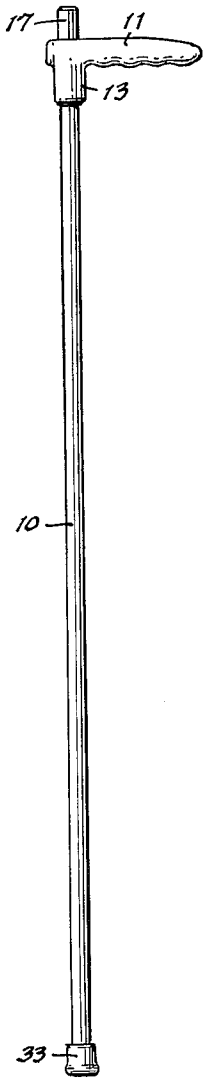


Fig. 2.

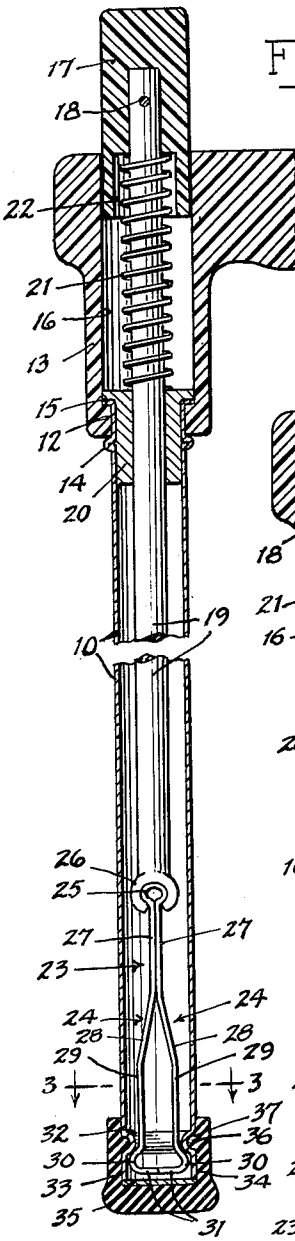


Fig. 3.

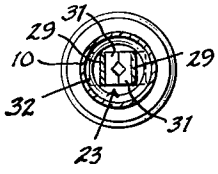


Fig. 4.

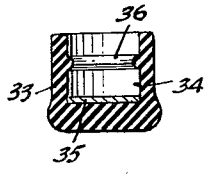


Fig. 5.

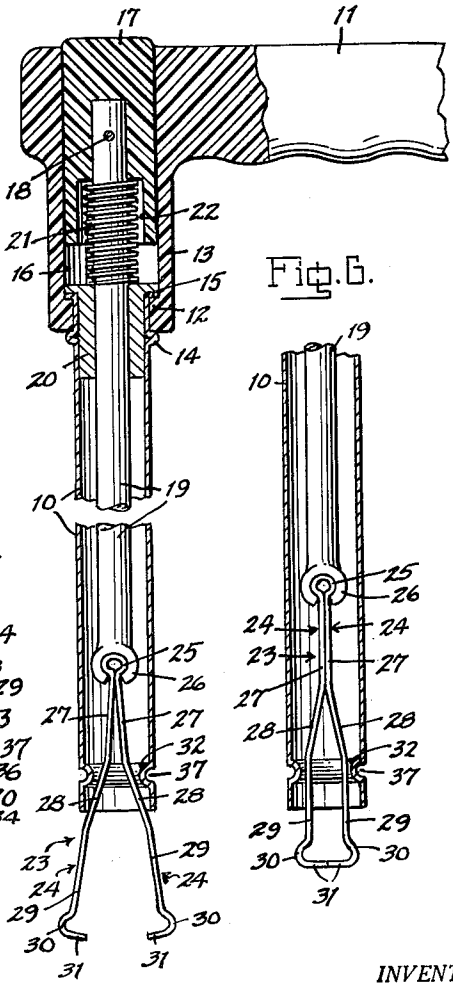


Fig. 6.

INVENTOR.

EARL L. SISSON

BY

Earl L. Sisson

ATTORNEY.

United States Patent Office 3,093,402 Patented June 11, 1963

3,093,402

COMBINATION CANE AND RETRIEVER

Earl L. Sisson, Stratford, Conn., assignor to Clark Metal Products Incorporated, Fairfield, Conn., a corporation of Connecticut

Filed Dec. 29, 1960, Ser. No. 79,257
3 Claims. (Cl. 294—19)

The present invention relates to a combination cane and retriever particularly for use by arthritic, lame or other incapacitated persons who are incapable of or have difficulty in bending over to pick up small articles, an object of the invention being to provide a sturdy cane which may be used in the manner of a conventional cane, and having retriever means at the tip end of the cane adapted for convenient operation by means associated with the handle of the cane, so that the thumb or the finger of the hand gripping the handle may be employed to actuate the retriever means.

A further object is to provide a combination cane and retriever having a rubber tip removably engaged upon the tip end of the cane and which has the dual purpose of providing the conventional non-slipping tip for the cane as well as a protective closure for the retriever means in its retracted inoperative position. A further object is to provide such rubber tip having novel means for retaining it in position upon the cane and which permits of its ready removal and replacement for the purpose of utilizing the retriever means.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein a satisfactory embodiment of the invention is shown. However, it will be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawings:

FIG. 1 is a side elevation of a combination cane and retriever according to the invention;

FIG. 2 is a sectional view on an enlarged scale and partially broken away showing the combination cane and retriever in its normal inoperative position with the rubber tip in place;

FIG. 3 is a horizontal sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is a sectional view of the rubber tip removed from the cane;

FIG. 5 is a sectional view showing the retriever means in its projected open position; and

FIG. 6 is a sectional view of the tip end of the cane showing the retriever means in partially retracted closed position.

Referring to the drawings, the combination cane and retriever according to the invention comprises a tubular shaft **10**, preferably of steel, provided upon its upper end with a laterally extending handle **11**, preferably of molded plastic material, secured to the shaft by engaging the upper end of the shaft in the opening of an annular internal flange **12** at the lower end of the hub portion **13** of the handle, the shaft being provided with a crimped bead **14** engaging the lower side of the flange **12** and a retaining flange **15** bent outwardly at its upper edge upon the upper side of the flange **12**. The hub portion **13** is provided with a cylindrical pocket **16** in axial alignment with the shaft in which there is slidably fitted a push button **17** secured by a cross-pin **18** upon the upper end of a push rod **19** extending downwardly in the shaft through a flanged bearing bushing **20** seated within the upper end of the shaft. A helical expansion spring **21** is engaged about the rod between the bushing **20** and

the lower end of the push button **17**, the latter having a recess **22** in its lower end in which the upper end of the spring is seated. The spring exerts pressure upon the button to normally draw the rod upwardly within the shaft to retract the retriever member **23** connected to its lower end, as seen in FIG. 2.

The retriever member **23** is formed of a band of spring tempered metal, preferably spring steel, having a generally hair pin shape and consisting of a pair of side legs **24—24** joined at their upper ends by a knob like bight **25** engaged in the notched lower end **26** of the rod **19** and secured by swaging the sides of the notched ends inwardly beneath the knob like bight. The upper portions **27** of the side legs are straight and are normally pressed against each other in parallel relation, as seen in FIG. 2, the intermediate portions **28** are inclined and diverge downwardly, and the lower portions **29** are straight and normally disposed in parallel spaced relation, being provided at their lower terminal ends with outwardly bent shoulder portions **30** and inwardly bent finger portions **31** which are normally in opposed contacting relation with each other.

In upwardly spaced relation to the lower end of the shaft **10** there is provided an inwardly embossed annular rib **32** defining a restricted opening within the shaft and which is normally engaged by the lower end portions **29** of the retriever member to retain its side legs in closed position, the shoulder portions **30** in this closed position being disposed beneath the rib and thus acting as stops to limit the upward movement of the rod **19** under the pressure of the spring **21**. The rib **32** also defines a pocket in the lower end of the shaft of greater depth than the height of the shoulder portions **30** above the finger portions **31**, so that in the fully retracted position the finger portions are entirely within the pocket.

The rubber tip **33** is provided with a pocket **34** having a metal disk **35** seated against its base and which normally provides a rigid cover for the lower end of the rod **19** to protect the retracted retriever, the latter being slightly spaced upwardly from the disk in the retracted position, as seen in FIG. 2. An internal annular rib **36** is provided upon the wall of the pocket **34** which snaps into the external annular groove **37** provided by the inwardly embossed annular rib **32** of the shaft, so that while the tip is normally effectually retained in place it may be readily removed or re-engaged by virtue of the flexibility of its side wall enabling the rib **36** to be snapped into and out of the groove **37**. It will be noted that the annular rib **32** serves a three-fold purpose: one, it provides a stop means to limit the retracted position of the retriever; two, it provides the external groove **37** for retaining the rubber tip; and three, it functions as a cam to draw the projected open retriever into closed position during its retraction, as will presently more fully appear.

In operating the retriever the rubber tip is removed and thereupon the retriever is projected by depressing the button **17**, as seen in FIG. 5, the spring tension of the side legs of the retriever causing them to spring outwardly to their open position as the intermediate inclined portions **28** of the side legs come into position within the opening of the annular rib **32**. In the open position small articles, pieces of paper, or the like may be readily engaged within the open retriever and through release of the button **17** the retriever is retracted and closed as the lower portions **29** of the side legs come into the opening of the annular rib **32**, thus gripping the retrieved articles as the retriever moves to its partially retracted position as seen in FIG. 6. The retriever may be retained in this partially retracted position either by continuing pressure upon the button **17**, or by the gripped article engaging the lower end of the shaft to hold the retriever in its

partially retracted position. When the article has been raised from the floor or ground as desired it is released by again depressing the push button **17** to open the retriever member. Thereupon the spring **21** retracts the retriever member to its closed position, as seen in FIG. 2, and the rubber tip **33** is replaced to enclose and protect the retriever and enable the conventional use of the cane.

What is claimed is:

1. A combination cane and retriever, comprising a tubular shaft having an open lower end, a laterally extending handle having a vertically extending hub portion fixed upon the upper end of said shaft, said hub portion having a vertically extending pocket opening to its upper end and axially aligned with said shaft, a bearing bushing in the lower end of said pocket axially aligned with said shaft, a rod disposed longitudinally in said shaft having its upper end portion slideable in said bearing bushing and extending into said pocket, a retriever means carried upon the lower end of said rod comprising a pair of laterally opposed spring legs having a closed position retracted within said shaft and an open position projected from said open lower end thereof, a push button disposed in said pocket and secured to said rod for imparting downward movement thereto to project said retriever means, a helical expansion spring interposed on said rod between said bearing and said push button for exerting upward pressure on said rod to retract said retriever means, and an annular inwardly directed rib upon the inner wall of said shaft upwardly spaced from said open lower end defining a restricted opening in which said retriever means is movable during retracting and projecting movement and defining a pocket within said shaft below said rib, said spring legs of said retriever means having inwardly directed finger portions at their lower ends, shoulder portions spaced upwardly from said finger portions a distance less than the depth of said pocket for engaging beneath said rib to limit the retraction of said retriever means under the pressure of said spring means to a position wherein said finger portions are disposed in said pocket entirely above said open lower end of said shaft, downwardly divergent inclined portions spaced upwardly from said shoulder means, and portions intermediate said shoulder portions and said inclined portions of a length substantially greater than the depth of said pocket disposed parallel to each other in said closed position and adapted to engage said rib within said restricted opening in the fully retracted position of said retriever means and in a partially retracted position, and said inclined portions being movable into laterally opposed relation to said rib within said restricted opening as said retriever means is moved to its fully projected position to allow said legs to move to open position.

2. The invention as defined in claim 1, further characterized by a resilient tip having a base wall and an annular side wall forming a pocket in which the lower end of said shaft is removably received, and a rigid disk within said pocket upon the inner side of said base wall for engaging and closing the open lower end of said shaft.

3. The invention as defined in claim 1, wherein said annular rib is inwardly embossed from said shaft providing an annular groove in the outer wall of said shaft, and further characterized by a resilient tip having a base wall and an annular side wall forming a pocket in which the lower end of said shaft is removably received, an annular rib interiorly of said side wall engageable in said groove through the resilience of said side wall, and a rigid disk within said pocket upon the inner side of said base wall for engaging and closing the open lower end of said shaft.

References Cited in the file of this patent

UNITED STATES PATENTS

350,249	Holman	Oct. 5, 1886
465,222	Ulbricht	Dec. 15, 1891
889,035	Newsom	May 26, 1908
2,320,611	Kandle	June 1, 1943
2,320,967	Dunkelberger	June 1, 1943
2,585,098	Elliott	Feb. 12, 1952
2,690,927	Bean	Oct. 5, 1954

FOREIGN PATENTS

916,812	France	Aug. 26, 1946
951,869	France	Apr. 18, 1949