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Linehan

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[54] **SHELL CATCHING ACCESSORY FOR FIREARMS**

[75] Inventor: **John Henry Linehan,** Fort Worth, Tex.

[73] Assignee: **James C. Fails,** Fort Worth, Tex.; a part interest

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[52] **U.S. Cl.** ..... **42/1 R**

[51] **Int. Cl.** **F41c 27/00**

[58] **Field of Search** ..... 42/1 R; 89/33 F

[56] **References Cited**

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Primary Examiner—Benjamin A. Borchelt
Assistant Examiner—C. T. Jordan
Attorney—Wm. T. Wofford et al.

[57] **ABSTRACT**

A shell catcher for a gun having a shell ejector port for discharging shells outwardly from its barrel characterized by a catcher comprising a flexible, lightweight, downwardly depending sack that contains the ejected shells therewithin and that has its entry end maintained adjacent the shell ejector port by a frame of a first portion of an attaching means for removably attaching it to the gun. A significant aspect of a particular embodiment is the provision of an elongate sack in the form of a chute that is at least three feet long and that has a quick opening means adjacent its bottom end for dumping collected shells without having to remove the entry end from its connection with the gun. The elongate sack has a fastener for connecting its lower portion with the wearing apparel of a hunter for bearing a major portion of the weight of the collected shells. Also disclosed are the specific structural embodiments enabling removably attaching the entry end of the catcher to the first portion.

7 Claims, 5 Drawing Figures

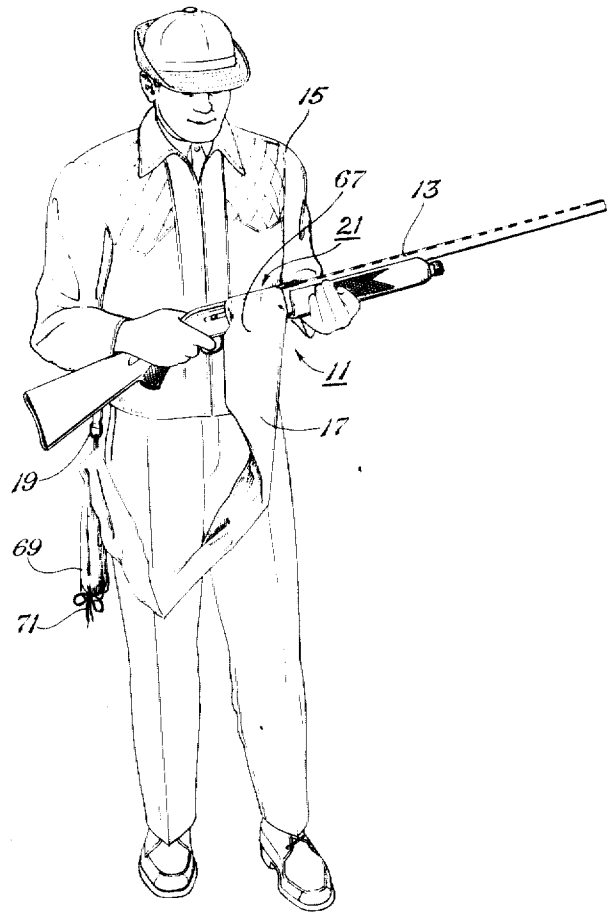


Fig. 1

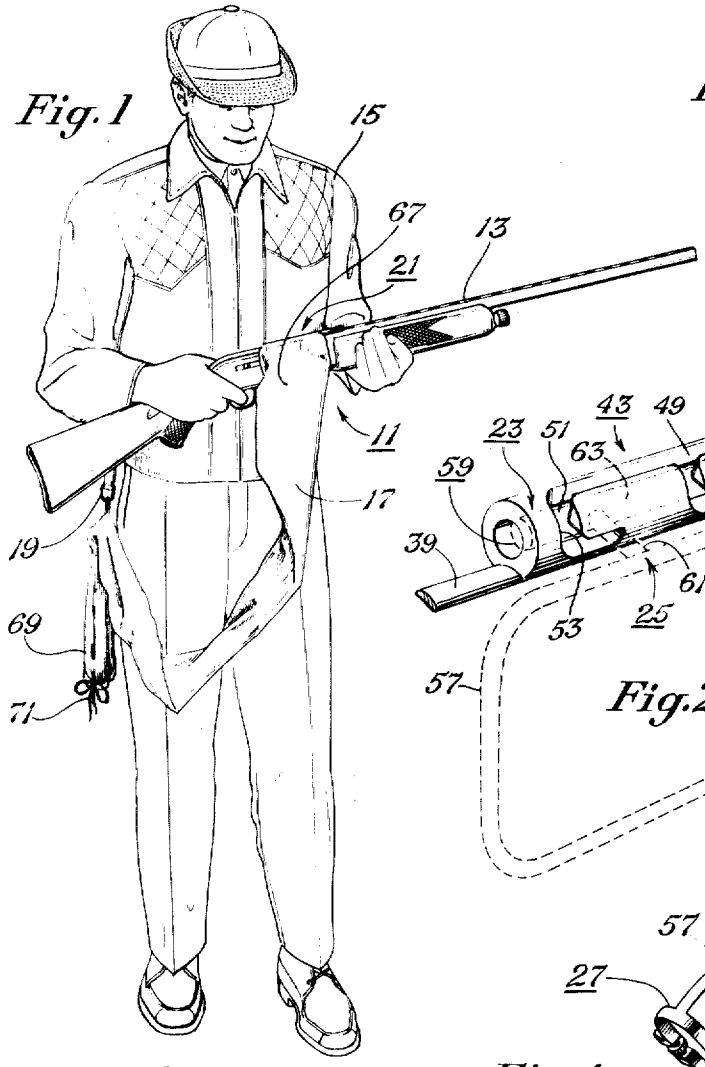
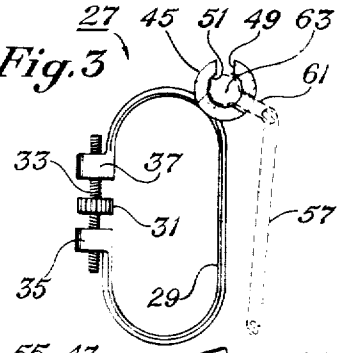


Fig. 3



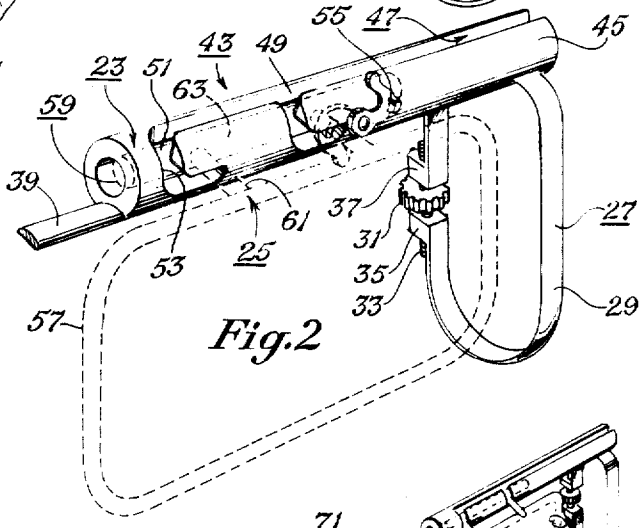


Fig. 2

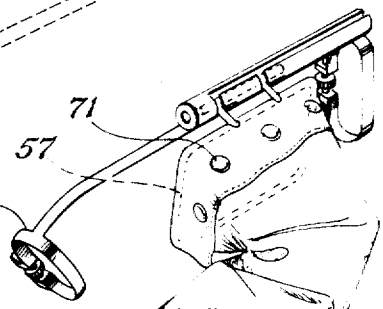


Fig. 4

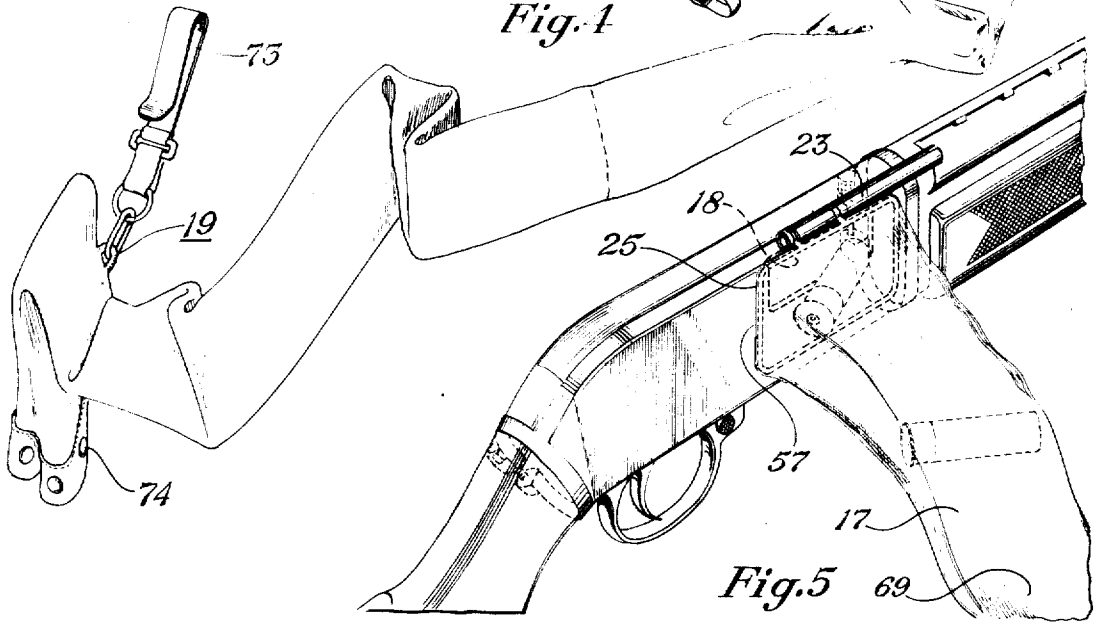


Fig. 5

SHELL CATCHING ACCESSORY FOR FIREARMS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to firearms and, more particularly, to an accessory for catching empty shells ejected from the firearm. While not necessarily limited thereto, the accessory has particular advantage for use with shotguns of the semi-automatic type.

2. Description of the Prior Art

Typical of the operation of semi-automatic and automatic firearms which eject shells is that of the semi-automatic shotgun. When a semi-automatic shotgun is fired, the empty shell is automatically ejected from its barrel after the firing of each shot. The empty shell is ordinarily ejected in a sidewise direction through a shell ejector port provided for that purpose. The ejected shells do not present a hazard to the shooter, or hunter, but may provide a hazard for any person standing close thereby, as in trap shooting. The throwing of shells upon a farmer's land is a form of pollution and damages the ecology. In addition, cows or other animals may eat the shells, so frequently the farmers require the ejected shells to be picked up from their land to avoid any potential damage to livestock. In any event, a hunter or shooter will frequently desire the cases for reloading, since the reloading is an economical hobby providing a considerable reduction in cost compared with purchasing new shells.

The shell catchers of the prior art have been divided mainly into two types. The first type comprises a rigid structure that is connected onto the firearm. These types are illustrated by U.S. Pats. Nos. 2,354,277 and 3,156,991. The other types of prior art shell catchers comprise individual pieces such as ramrods, gate-like structures, or wire frames for catching individual shells such that the shooter may thereafter reach up and pull the shell from the catcher and put it in a knap sack or the like in which he stores the shells. The latter type shell catchers are exemplified by U.S. Pats. Nos. 3,087,387; 3,603,015 and 3,609,900. It is apparent that the former types interfere with sighting and handling of the gun and are distracting. Similarly, the latter type require the shooter to reach up and pluck the empty shell from the retainer and prevents rapid shooting of the firearm.

Accordingly, it is an object of this invention to provide a shell catching accessory for use in connection with firearms that obviates the disadvantages of the prior art apparatus.

It is another object of this invention to provide a shell catching accessory for use with a fire-arm in which the ejected shells are collected automatically and retained in the shell catching accessory until dumped therefrom, without requiring an additional accessory such as a knap sack, and without interfering with the loading, sighting and handling of the gun.

In a specific embodiment, it is an object of this invention to provide a replaceable, economical, lightweight catcher that satisfies all of the foregoing objects.

These and further objects will become apparent from the following descriptive matter, particularly when taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric view of one embodiment of this invention being employed by a shooter, or hunter.

FIG. 2 is a partial isometric view showing the attaching means of the embodiment of FIG. 1.

FIG. 3 is a cross sectional view of the embodiment of FIG. 2.

FIG. 4 is a partial isometric view of a preferred embodiment of this invention showing the flexible, lightweight catcher and its fastener.

FIG. 5 is an isometric view of another embodiment of this invention employing a short flexible catcher.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIG. 1, the shell catching accessory 11 is being employed on a semi-automatic shotgun 13 by shooter 15. As the shooter 15 fires the shotgun 13, the empty shells are ejected into the catcher 17 automatically and cumulatively. Accordingly, the shooter 15 can continue to fire the firearm without having to reach up and pluck the shell from any holder. The major portion of the weight of the ejected shells is borne by a fastener 19 that connects the lower portion of the catcher 17 with the shooter's wearing apparel, such as his belt. The shell catching accessory 11 does not interfere with the loading, sighting or handling of the shotgun 13. As can be seen more clearly in FIG. 5, the shotgun 13 has a shell ejector port 18 for discharging a shell laterally outwardly from its barrel.

The shell catching accessory 11 comprises the catcher 17 and attaching means 21 for removably connecting the catcher 17 with the shotgun 13. The attaching means 21 includes a first portion 23, FIG. 2, and a second portion 25. The first portion 23 has at least one mounting bracket for being mounted on shotgun 13 such that the first portion 23 does not interfere with the normal loading, sighting and shooting of the gun. For example, the at least one mounting bracket may comprise a makeshift means such as tape or the like wrapped around the gun and a linear bracket 39, FIG. 2, to which the first portion 23 is connected. As illustrated, however, the first portion 23 has mounting brackets 27 at each end for temporary mounting on the gun 13 without requiring modification of the gun by a gunsmith. The brackets 27 may comprise any suitable bracket. As illustrated, each bracket 27 comprises an encircling band 29 having a thumb tightenable knurled knob 31 driving a two-way threaded shaft 33 for tightening or loosening the band 29 by way of nuts 35 and 37. The two ends of the two-way threaded shaft 33 are threaded in opposite directions, just as the nuts 35 and 37 are oppositely threaded to effect either tightening or loosening of band 29 responsive to the respective direction of rotation of the knurled knob 31 and threaded shaft 33. The brackets 27 may include conventional screws and nuts operable by a screwdriver and disposed beneath the gun. If desired, the first portion 23 may be semi-permanently mounted on the gun 13 by screws or the like engaging tapped apertures.

The first portion 23 has a receiving means 43 for disconnectably connecting with second portion 25. Specifically, the receiving means 43 comprises a member 45 that is carried by the mounting bracket. The member 45 has a longitudinally extending slot 47 having an external portion 49 and an internal passageway 51. The external portion 49 of the slot is open at one end for slidably receiving a dual dimensioned member of the second portion 25. The slot 47 is closed at its other end. Disposed intermediate its open and closed ends is at least one dead end slot 53. As illustrated, there are two

dead end slots 53 that extend laterally and peripherally from an intersection with the slot 47 for receiving the dual dimensioned member for slidably retaining the second portion 25 in place for receiving ejected shells. The dead end slots 53 extend laterally and then longitudinally of the member 45 in an L-shape to ensure retention of the second portion 25 in place.

In addition to the L-shaped dead end slots 53, a latch 55 is provided for latching over the shaft 61 of the dual dimensioned member, described in more detail hereinafter, to further ensure retention of the second portion 25 in place until the latch is released.

The internal passageway 51 has a cross sectional dimension, such as a diameter, larger than the external portion 49 of the slot 47 for retaining therewithin an enlarged head portion of the dual dimensioned member.

The second portion 25 is disconnectably connected with the first portion 23. The second portion 25 includes a frame 57, FIGS. 2–5, that is disposed opposite the shell ejector port such that the shells ejected from the shell ejector port will pass through the frame 57 and into the catcher 17. The second portion 25 includes a dual dimensioned member 59 that is connected with the frame 57. The dual dimensioned member 59 has at least one shaft 61 and has an enlarged head portion 63, FIGS. 2 and 3. The shaft 61 has a cross sectional dimension, such as a diameter, less than the cross sectional dimension of the external portion 49 of the slot 47 so as to slide therewithin. The enlarged head portion 63 has a cross sectional dimension greater than the cross sectional dimension of the external portion 49 and less than the cross sectional dimension of the internal passageway 51 of the slot 47 so as to be slidingly retained within the internal passageway 51 by the external portion 49 of the slot 47. The dead end slots 53 have substantially the same cross sectional dimension as does the external portion 49 such that they will receive the shafts 61 to keep the second portion 25 from inadvertently sliding out of engagement with the first portion 23. As illustrated, there are two shafts 61 which are connected with the enlarged head portion 63 to form the dual dimensioned member 59 in the form of a T-shape at each end, the enlarged head portion 63 forming the cross bar of the T. In fact, when the two T-shaped portions are put together, the dual dimensioned member comprises a π-shaped member. The shafts 61 of the π-shaped member are spaced apart the same distance as are the dead end slots 53 such that the enlarged head portion 63 can be slid down the internal passageway 51 and the shafts 61 pivoted into the dead end slots 53 to easily connect the second portion 25 with the first portion. Yet, the second portion 25 is easily disengaged, or disconnected, from the first portion 23 by the simple expedient of pivoting the shafts 61 out of engagement with the dead end slots 53 and sliding the dual dimensioned member out the open end of slot 47.

The catcher 17 comprises a flexible lightweight sack having an entry end 67 that is maintained open to receive ejected shells and a bottom end 69 that is at least closable to retain the ejected shells within the catcher 17. The catcher 17 is at least six inches long. Preferably, it is in the form of a chute that is at least three feet long such that it can be worn across the body of the hunter with its lower portion connected with the wearing apparel of the hunter for bearing the major portion of the weight of the ejected shells. I have found that, with tall shooters, the catcher 17 may be four feet or more in length and perform satisfactorily. The entry end 67 is connected with the frame 57 of the second portion 25 to ensure receipt of the ejected shells. As illustrated, the entry end 67 includes an encircling means for encircling at least a portion of the frame 57. The encircling means may comprise a portion of the sack that is looped around the frame and sewed thereabout. As illustrated in FIG. 4, the encircling means comprises a portion of the sack that contains mating snaps such that the portion may be removably looped about the frame 57 and the snaps 71 snapped together. In this way, the encircling means is removably connected with the frame 57 to facilitate emplacement of a catcher 17 and to facilitate removal and replacement of the catcher 17 when it becomes worn. The snaps 71 are conventional and ordinarily comprise male and female portions that are pushed toward each other for engagement and pulled apart for disengagement. Any other means that may readily connect the encircling means together may be employed for removably fastening the entry end to the frame 57.

The catcher 17 preferably has a quick opening means adjacent its bottom end for dumping collected shells without requiring removal of the catcher 17 from the gun 13. Specifically, the bottom end 69 may comprise quick opening means; such as, a drawstring, or snaps 74, FIG. 4, similar to the aforementioned snaps 71. As illustrated in FIG. 1, the bottom end 69 has a drawstring 71 for closing it. If desired, the catcher 17 may comprise a short sack that is closed at its bottom end 69, since the entry end is so readily removed by simply pivoting the second portion 25 and sliding it out of engagement with the first portion 23.

Where the more elongate sacks are employed as the catcher 17, it is preferable that a fastener 19 be connected with the lower portion of the catcher 17 for connecting with the hunter's wearing apparel as indicated hereinbefore. For example, as illustrated in FIG. 4, the fastener 19 may comprise a conventional holder having a loop 73 for encircling the belt of the wearer. Numerous other conventional fasteners can be employed to sustain a major portion of the weight of the collected shells and transfer it onto the wearing apparel of the shooter 15.

The sack serving as the catcher 17 may comprise a lightweight, strong material, such as nylon or nylon netting. The mesh of the material need not be particularly closely woven, although it should have openings smaller than the minimum cross sectional dimension of the shells that will be ejected thereinto. The sack has a cross sectional dimension, such as diameter, in the fully open position that will be sufficient to receive the ejected shells freely. Ordinarily, this is a relatively small dimension ranging from only an inch or so to no more than six inches.

In operation, the first portion 23 will be emplaced on the gun 13 by either the temporary or permanent mounting brackets, such as brackets 27 and lineal bracket 39. The catcher 17 will be connected with the frame 57 of the second portion 25. The second portion 25 is connected with the first portion 23 by sliding the enlarged head portion 63 of the dual dimensioned member 59 down internal passageway 51 and the external portion 49 of the slot 47, and then pivoting the shafts 61 into the dead end slots 53. Thus, the second

portion is retained in place and its inadvertently sliding from engagement with the first portion **23** is prevented. If a latch **55** is employed, it is looped around at least one of the shafts **61** to further ensure retention of the second portion **25** in place, with the frame **57** and entry end **67** of the catcher **17** disposed opposite the shell ejector port of the gun **13**. Thereafter, as can be seen in FIG. **5**, as the shells are ejected from the port following each shot, they pass through the frame **57** and into the catcher **17**. When the shooter **15** returns to his car or the like he dumps the shells from the catcher **17** and continues his hunting or shooting. The dumping may be by simply releasing the drawstring **71** and shaking the shells from the catcher **17**. On the other hand, it may be snapping open snaps **74** in the embodiment of FIG. **4**, or even the removal of a short catcher **17** by sliding the second portion **25** from engagement with the first portion **23** and dumping the shells from the entry end of the catcher **17**, where it has a closed bottom end. When the day's shooting is finished, the second portion **25** may be detached from the first portion **23** and the fastener **19** disconnected from the wearing apparel of the shooter **15**. The gun **13** may be stored in its normal storage place with the first portion **23** mounted thereon. The second portion **25** and the catcher **17** may be suitably stored in their storage space. Since the catcher **17** comprises the flexible lightweight sack, it will take up very little storage space.

Thus, it can be seen that this invention provides all of the objects delineated hereinbefore and obviates the disadvantages of the prior art shell catching devices. In particular, it provides a lightweight shell catcher that does not interfere with loading, sighting and handling of the gun, yet enables the shooter to shoot rapidly without having to reach up and remove individual shells after each shot.

Although this invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of this invention.

What is claimed is:

1. A shell catching accessory for a gun having a shell ejector port for discharging a shell outwardly from its barrel comprising:

a. attaching means for removably connecting a catcher with said gun; said attaching means having:
   i. a first portion having at least one mounting bracket for being mounted on said gun such that said first portion does not interfere with normal loading, sighting and shooting of said gun; and
   ii. a second portion that is disconnectably connected with said first portion; said second portion including a frame disposable opposite said shell ejector port such that shells ejected from said shell ejector port will pass through said second portion; and

b. a catcher comprising a flexible, lightweight sack that is at least three feet long; said sack having:
   i. an entry end connected to said second portion such that said entry end is maintained open to receive said shells;
   ii. a bottom end pendent from said entry end, said bottom end being adapted to retain ejected shells therewithin and having a quick opening means adjacent its bottom end for dumping collected shells without removing said catcher from said gun; and
   iii. a fastener carried on the lower portion of said sack for fastening it to the wearing apparel of a shooter for sustaining a major portion of the weight of the collected shells without hampering the handling of the gun.

2. A shell catching accessory for a gun having a shell ejector port for discharging a shell outwardly from its barrel comprising:

a. attaching means for removably connecting a catcher with said gun; said attaching means having:
   i. a first portion having at least one mounting bracket for being mounted on said gun such that said first portion does not interfere with normal loading, sighting and shooting of said gun; said first portion including a first member having a longitudinally extending slot having an external portion that is open at one end for insertion of at least one dual dimensioned member and that has its other end closed; said first member having at least one laterally extending dead end slot for receiving said dual dimensioned member; said dead end slot intersecting said external portion of said slot near its closed end; said slot also having an internal passageway of cross sectional dimension larger than the cross sectional dimension of said external portion; and
   ii. a second portion that is disconnectably connected with said first portion; said second portion including a frame disposable opposite said shell ejector port such that shells ejected from said shell ejector port will pass through said second portion; said second portion including at least one dual dimensioned member connected with said frame; said dual dimensioned member having a shaft of a cross sectional dimension less than the cross sectional dimension of said external portion of said slot so as to slide therewithin and having an enlarged head portion of cross sectional dimension greater than the cross sectional dimension of said external portion of said slot and less than the cross sectional dimension of said internal passageway of said slot so as to be slidably retained within said internal passageway by way of said external portion of said slot; said laterally extending dead end slot being adapted to receive said shaft and keep said second portion from inadvertently sliding out of engagement with said first portion; and

b. a catcher comprising a flexible, lightweight sack; said sack having:
   i. an entry end connected to said second portion such that said entry end is maintained open to receive said shells; and
   ii. a bottom end pendent from said entry end, said bottom end being adapted to retain ejected shells therewithin;

whereby ejected shells are directed by said second portion into and collected within said catcher.

3. The shell catching accessory of claim **2** wherein said dead end slot extends laterally and then longitudinally and wherein a latch is provided adjacent said dead end slot for latching said shaft when it is slid into said dead end slot to ensure retention of said second portion in place until said latch is released.

4. The shell catching accessory of claim 2 wherein said dual dimensioned member comprises at least one T-shaped member, the cross bar portion of the T comprising the enlarged head portion thereof.

5. The shell catching accessory of claim 2 wherein said dual dimensioned member comprises a π-shaped member having two shafts and, serving as the enlarged head portion thereof, a cross bar and wherein said first portion includes two laterally extending dead end slots spaced apart the same distance as said shafts for receiving the two shafts of said π-shaped member.

6. A shell catcher for use with a second portion of an attaching means for removably connecting a shell catching accessory to a gun having a shell ejector port for discharging a shell outwardly from its barrel; said second portion being removably connectable with a first portion mounted on said gun and including a frame disposed opposite said shell ejector port for directing shells into said shell catcher; comprising an elongate, flexible, lightweight sack in the form of a chute at least three feet long; said sack having an entry end with encircling means for encircling at least a portion of said frame such that said entry end will be maintained open to receive ejected shells and including releasable fasteners facilitating emplacement of the encircling means of said entry end about said frame and facilitating removal and replacement of said catcher; said sack having a bottom end that is at least closable for retaining ejected shells therewithin; and a fastener provided on the lower portion of said catcher for fastening the lower portion to the wearing apparel of a shooter for sustaining a major portion of the weight of collected shells without hampering handling of the gun with which the entry end is connected.

7. The shell catcher of claim 6 wherein said shell catcher has a quick opening means adjacent its bottom end for dumping collected shells without removing said shell catcher from said gun.

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