Sept. 6, 1966 I. A. CLEMENTS 3,270,734

TOY CATAPULT WITH PELLET MAGAZINE

Filed July 18, 1963

Fig. 1

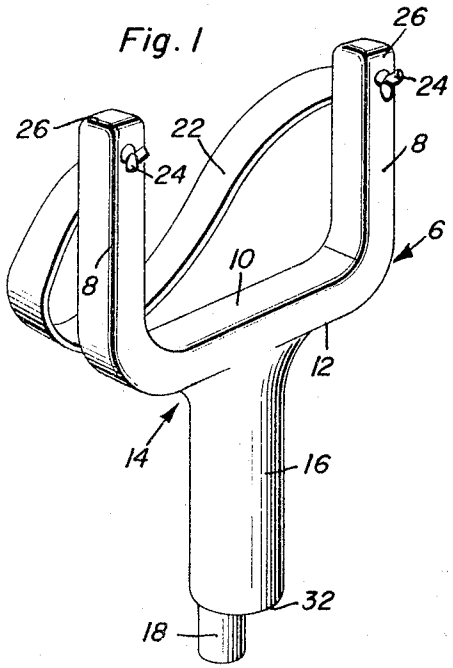


Fig. 3

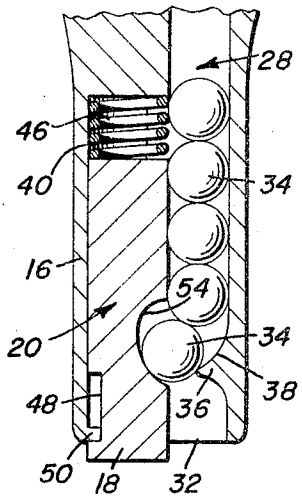


Fig. 2

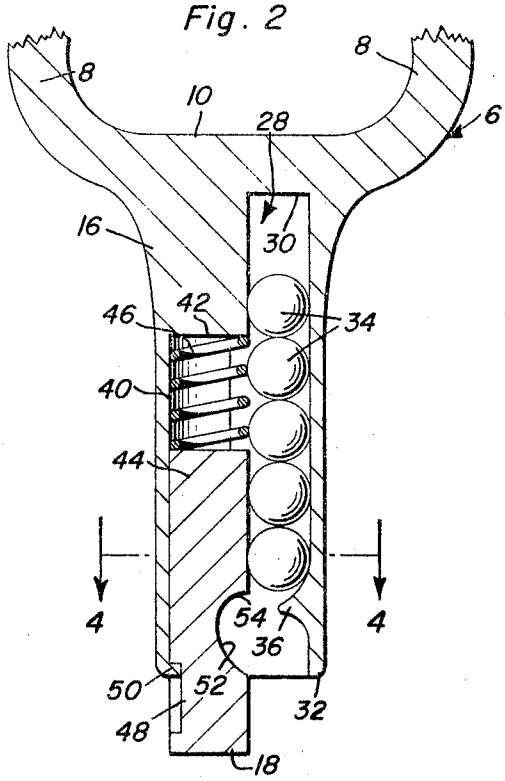
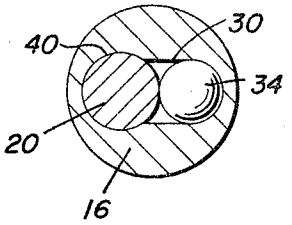


Fig. 4



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TOY CATAPULT WITH PELLET MAGAZINE

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The present invention relates to a toy-type catapult which, compared to the conventional handle-equipped fork, features an added improvement, namely, incorporates a pellet-dispensing magazine in the handle.

Briefly, a one-piece or an equivalent fork is provided, the arms of the fork being also provided with the usual elastic pellet sling or band. Instead of the customary solid handle depending from the bight portion of the fork, the handle in the instant adaptation is provided with socket means closed at the upper end and opening at a lower end through a corresponding end of the handle. This socket means is such that a lengthwise half-portion thereof constitutes the pellet storing and dispensing magazine. The other half-portion is provided with a spring-loaded plunger. The discharge end of the magazine and an opposed oriented surface portion of the plunger have coacting features which provide a novel dispensing result. To this end the spring-returned plunger is pressed up into the cylinder or bore provided therefor in the handle and is provided in a side thereof with a pocket which receives and withdraws one of the pellets in such a manner that when the plunger is returned to its fully projected or normal position, the withdrawn pellet falls into the palm of the waiting hand.

An object of the invention is to structurally, functionally and in other ways improve upon valved and correspondingly constructed magazine handles and, in doing so, to provide a novel and feasible construction which, it is submitted, better fulfills the purposes for which the present improvement has been devised.

In carrying out a practical and desirable embodiment of the invention the handle is either bored or molded in a manner to accommodatingly hold the ready-to-use ball-like pellets in row alignment. The spring-loaded normally projected plunger is such in construction that it functions as a simple pellet retaining and releasing device and makes possible easy release of a single pellet at a time, the pellet dropping under the forces of gravity into the waiting palm of the user's hand.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective of a toy catapult constructed in accordance with the invention;

FIGURE 2 is a view on an enlarged scale which serves to emphasize and clearly illustrate the component parts which go to make up the improved holding and dispensing magazine;

FIGURE 3 is a view like FIGURE 2 with certain portions of the fork removed and which functions to show the manner in which the spring-biased or loaded plunger is depressed or pushed in by hand in order to trap the lowermost pellet and pave the way, when the plunger returns, for gravitation of the pellet; and

FIGURE 4 is a cross-section on the section line 4—4 of FIG. 2.

Referring now to the views of the drawing and particularly to FIG. 1 the catapult is shown as embodying a U-shaped or an equivalent fork **6** having arms **8** joined together by a bight portion **10**, said bight portion being provided on its bottom side **12** with a centralized depending handle or handgrip **14**. The handgrip is here shown as of appropriate length and illustrated as cylindrical in

cross-section as at **16**. Except for the finger-triggered lower operating end portion **18** of the plunger **20** (FIGS. 2, 3 and 4) the fork appears to be very little, if any, different from the handle-equipped fork of a conventional catapult. In fact, the elastic or equivalent catapulting band **22** is made in accordance with customary practice and the end portions **24** attached to the free end portions **26** of the fork arms.

Examining the novel magazine-type dispensing handle it will be seen that it is of hollow construction and that the hollow portion is characterized by an elongated socket **28** the upper end **30** of which is closed (FIG. 2) and the lower end **32** being open to facilitate the step of loading the socket or magazine with the ball-like pellets **34** and, alternatively, releasing and dispensing the pellets one at a time through the open mouth **32** for use. It should be noted in connection with this socket that it is provided just above the open discharge end with a substantially V-shaped detent **36** which constitutes a ball or pellet check and makes it necessary for the lowermost pellet to be shunted from right to left along the curvate surface **38** before the same is freed and released. It will be noted that this socket or pocket **28** is substantially linearly straight and its axis is located to the right of the central axis of the handle proper. Located to the left of the axis is a companion parallel bore **40** the closed upper end **42** of which is spaced downwardly below the blind or closed upper end **30** of the pellet socket **28**. For convenience this socket provides a cylinder for the slidable or reciprocable plunger. The plunger **44** is of a shape and dimension to fit slidingly in this cylinder. The lower end portion **18** is projected to the normal ready-to-press position by way of a coil expansion spring **46**. This spring is located between the upper end of the plunger and the top of the cylinder and yieldingly exerts the desired thrust action on the plunger. The operating or button portion **18** is provided on one side with a lengthwise groove **48** to accommodate an assembling and retaining lug **50**. The lug serves as a guide and also as a limit stop. The side of the plunger diametrically opposite to the groove or keyway **48** is provided with a cutout which may be described as a pellet-accommodating and withdrawing notch or, alternatively, pocket **52**. The pocket is normally diametrically opposite to the projecting detent **36**. Moreover the upper or inner end portion **54** of this pocket is of a dimension relative to the size of the pellet that it provides the clearance necessary to assist in withdrawing the pellets one at a time.

In actual practice the pellets are inserted one at a time into the socket portion **28** which constitutes the storing and dispensing magazine proper. The reverse of the loading procedure is followed by merely depressing the button-like portion **18** of the plunger **20** against the tension of the spring in order to pick up and withdraw the pellets one at a time and to allow the same to drop or gravitate into the palm of the hand for ready use (not illustrated).

It will be evident that a spring returned plunger equipped hollow handle perfected in accordance with the present invention constitutes an innovation in this line of endeavor in that it provides the user with a ready supply of "ammunition."

It is old in the art to provide a handle-equipped fork with an elastic or an equivalent sling and to utilize a hollow handle having valving and other ejecting means therein thus to provide a storing and dispensing magazine. It will be evident therefore that the present improvement constitutes an advance in the art which well serves the purposes for which it is intended.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those

skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A toy slingshot comprising, in combination, a fork equipped with a pellet casting sling and having a handle, said handle being hollow, said hollow portion closed at the upper end and open at the lower end, a portion of the wall adjacent the open lower end being provided with an enclosed inwardly projecting V-shaped projection, said projection being rigid and constituting first a pellet detent and secondly a deflector, one lengthwise portion of the hollow in the handle defining an elongated storing and dispensing magazine for pellets, a cooperating opposed parallel lengthwise portion of said hollow portion being substantially circular in cross-section and defining a plunger-accommodating cylinder, a plunger slidable in said cylinder, a coil spring confined in said cylinder, engaging a closed end of said cylinder and also a cooperating end of the plunger and normally projecting a manually actuable end of the plunger to a ready-to-use position, said plunger and a cooperating portion of the handle having coacting elements to limit the outward projection of the operable end of the plunger, and the peripheral surface portion of the plunger which normally opposite said detent having a notch defining and providing clearance pocket.

2. A toy catapult comprising, in combination, a fork having a bight portion and complemental lateral arms integrally joined by said bight portion, a projectile sling having ends connected to their respectively cooperable arms, a handle attached to and depending from a median bottom portion of the bight portion, said handle being hollow, said hollow portion providing socket means, said socket means being closed at the upper end and open at the lower end and a portion of said socket means being fashioned into and providing a pellet stacking, confining and dispensing magazine, and a plunger slidingly mounted in a portion of the socket means, said plunger having means in one side thereof cooperating with said magazine for dispensing a pellet from said magazine upon slidable movement of said plunger, and having a button-like trigger portion projecting through and normally beyond the mouth of the magazine, said plunger being spring-loaded, provided in the diametrically opposite side thereof with a groove constituting a keyway, and the cooperating portion of the handle having a lateral lug constituting a key and fitting cooperatively into said keyway.

3. The structure defined in claim 2, and wherein said plunger means comprises a pellet receiving and clearance pocket which is normally and operatively confined within the limits of said socket means.

4. A toy catapult comprising a fork provided with a handle and a cooperating sling, said handle being hollow, the hollow portion in said handle providing an elongated linearly straight pellet storing as well as dispensing magazine situated on one side of the lengthwise axis of the handle and also providing a plunger accommodating cylinder situated on the other side of said axis of the handle, a spring-biased plunger slidingly mounted in said cylinder, said plunger having a portion of one lengthwise side thereof notched out and providing a pellet-accommodating and clearance pocket, one wall of said magazine normally opposite said clearance pocket being provided with a radial projection projecting in the direction of the pocket and cooperating therewith in defining a restricted check-throat for the pellets at the mouth end of the magazine, the major portions of the magazine and cylinder being in side-by-side communicating relationship, said magazine being of a length greater than the length of said cylinder and the normal upper end portions of the magazine and cylinder being closed, the opposite lower ends thereof being constantly unobstructedly open.

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