July 30, 1957 J. J. STAREK 2,800,890

SLINGSHOT

Filed March 7, 1956

Fig. 1

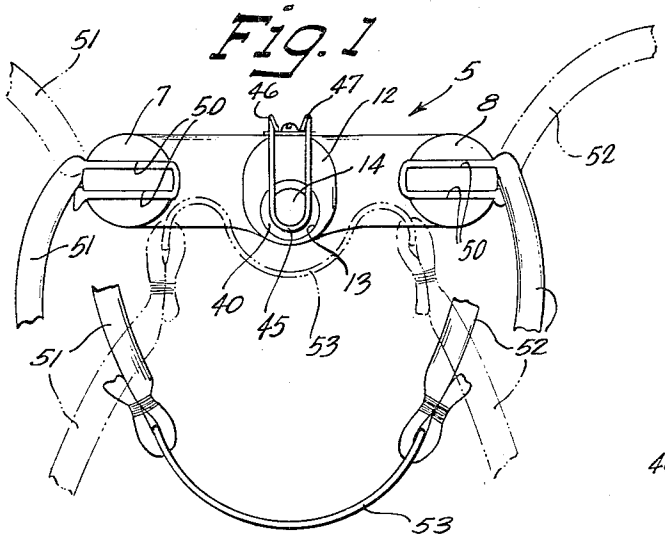


Fig. 2

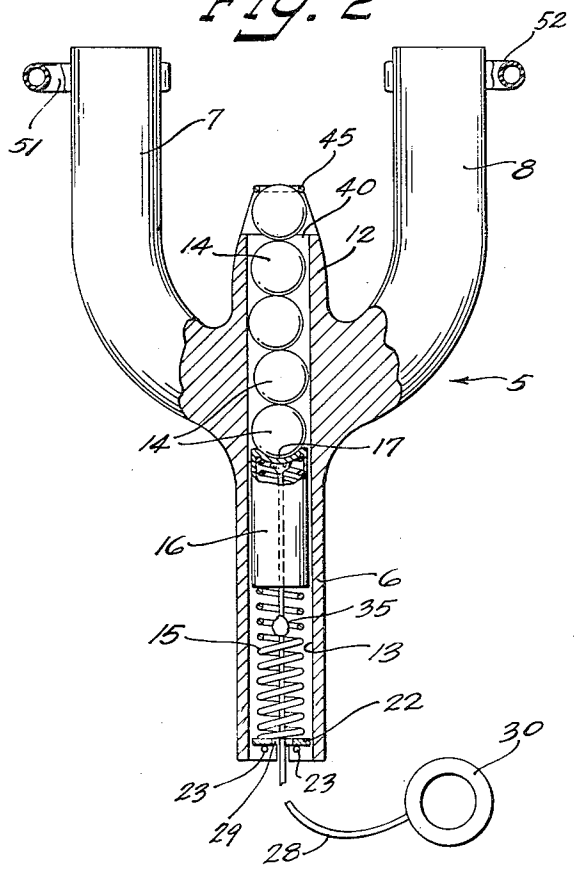
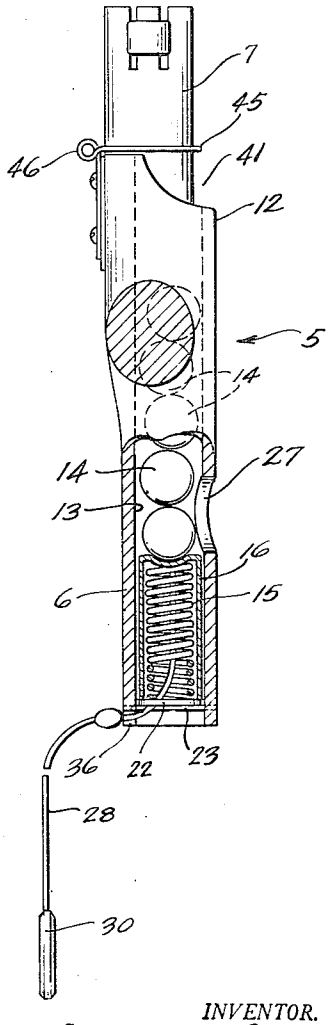


Fig. 3



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SLINGSHOT

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9 Claims. (Cl. 124—20)

This invention relates generally to slingshots, and more particularly to an improved slingshot with a pellet chamber and an automatic feed for feeding the pellets from the chamber to a convenient position.

The use of a slingshot for hunting small game has been gaining in popularity and is extensively used for this purpose. It can be readily appreciated that when such game is sighted, it is imperative that the hunter be able to fire a number of pellets in rapid succession in order to bag the game. If this is not possible, the bird or animal will move out of range before a second pellet can be propelled so that if it is not killed or seriously wounded on the first shot it will escape. Slingshots that are adapted for hunting purposes require a substantial amount of strength to operate, and the pellets that are employed with them are relatively large so that it is not feasible to carry a supply of pellets in the hand while operating them. Even if additional pellets could be carried in the hand, considerable time elapses before a pellet can be placed in the pouch of the slingshot and the latter can be raised into operating position. Several slingshots are available with pellet chambers in the handle but these have been found to be generally unsatisfactory for hunting game because they are not adaptable for the large pellets utilized for this purpose. Furthermore, they are arranged to feed the pellets to the bottom of the handle and are provided with a mechanism which must be manipulated to release the pellet for reception into the pouch of the slingshot. The operation of such mechanism and movement of the pouch to the bottom of the handle consumes valuable time to limit the rapidity with which the pellets may be successively propelled. In addition, the movements to effect such operation naturally result in a substantial displacement of the slingshot from the aimed position to further detract from its efficiency.

It is therefore a general object of the present invention to provide an improved slingshot especially adapted for hunting small game.

Another object of the present invention is to provide an improved slingshot especially adapted for accurately propelling a number of pellets in rapid succession.

Another object of the present invention is to provide an improved slingshot with a chamber for retaining the pellets that are to be propelled by it and render them readily accessible to the operator.

Another object is to provide an improved slingshot with a feeding mechanism for automatically feeding the pellets from a chamber to a position where they are readily accessible to the operator for placement in the pouch of the slingshot.

Another object is to provide a slingshot with improved elastic members for propelling the pellets and which are especially adapted to function with the feeding mechanism of the present invention.

A further object is to provide an improved slingshot which is sturdy and efficient in operation but of simple and inexpensive construction.

According to the present invention the improved slingshot includes the usual forked body comprising a handle and two arms extending therefrom in spaced relationship. The two elastic members for producing the propelling force are of tubular construction especially adapted to function with the feeding mechanism of the present invention, and are attached to the upper extremities of the two arms by means of parallel slots formed in the exposed ends of the arms. The opposite ends of the elastic members are secured to a pouch into which the pellets that are to be propelled are placed. The handle of the forked body is provided with a cylindrical opening that serves as a chamber for receiving a supply of pellets. A closure is secured to the lower end of the chamber and serves as a seat for a coil spring disposed within the chamber. The spring functions to yieldably urge a plunger upwardly in the chamber toward an upper discharge opening located between the two arms of the forked body. A U-shaped stop is positioned directly above the discharge opening of the chamber and the spring urged plunger functions to force the pellets against this stop and between the two legs of the U which operate to retain the pellets in position above the discharge opening of the chamber. Since this opening is directly between the two arms of the forked body, the operator may readily grasp them with the pouch of the slingshot and immediately draw the pouch back into firing position and the pellet with it from the yieldable grip of the U-shaped stop in a minimum amount of time and effort.

The foregoing and other objects of the invention, which will become apparent from the following detailed specification, may be achieved by means of the apparatus described in connection with the accompanying drawings in which:

Figure 1 is plan view of a slingshot constructed in accordance with the teachings of the present invention with portions of the elastic members broken away, and with portions of the elastic members and the pouch shown in broken lines to indicate the method of grasping the pellets from the discharge opening of the pellet retaining chamber;

Figure 2 is a view in front elevation of the forked body of the slingshot shown in Figure 1 with portions of the handle broken away to illustrate the pellet feeding mechanism; and

Figure 3 is a view of the forked body partially in side elevation and partially in vertical section, illustrating the plunger retained in its fully depressed position.

Reference is now made more particularly to the drawings illustrating a slingshot incorporating the various features of the present invention. It includes the usual forked body generally identified by the reference numeral 5, and which comprises a handle 6 with two arms 7 and 8 extending upwardly therefrom in spaced relationship. The handle 6 is provided with an upward extension 12 which extends from the juncture of the handle with the arms 7 and 8 upwardly between the arms 7 and 8 approximately one half of their height.

A continuous bore 13 is formed through the handle 6 and its extension 12 to serve as a chamber for a plurality of pellets 14 which are to be propelled by the slingshot. The pellets 14 are urged upwardly in the chamber 13 by a coil spring 15 acting through a cylindrical plunger 16 having one closed end 17 which engages the lowermost pellet 14 in the chamber 13, and preferably, presents a concave surface to form a seat for the pellet. The spring 15 extends into the bore of the cylindrical plunger 16 to bear against its closed end 17 and the opposite end of the spring 15 is seated on a disc 22 located at the bottom of the chamber 13 and retained therein by a pair of pins 23.

The location of the spring 15 within the plunger 16 serves to conserve space in the chamber 13 by reason of

the fact that the spring is fully enclosed by the cylindrical plunger 16 when the plunger is drawn downwardly to its lower limit of movement against the force of the spring 15 as illustrated in Figure 3. Thus, the pellet capacity of the chamber 13 is increased because the spring does not occupy the space it would if it were not contained within the bore of the plunger 16.

The pins 23 are snugly engaged in openings formed in the walls of the chamber 13 and extend across the chamber 13 to prevent the disc 22 from escaping therefrom. Various means for securing the disc 22 in the chamber 13 may be employed, but the use of the pins 23 has been found to be particularly advantageous in that they may be moved axially out of the holes with which they are in engagement to permit the disc 22 as well as its associated spring 15 and plunger 16 to drop out of the chamber 13 when it is desired to disassemble the mechanism.

The pellets 14 are admitted into the chamber 13 through an opening 27 formed in the side of the handle 6. It is apparent that in order to admit the pellet 14 into the chamber 13 through the opening 27, it is necessary to locate the plunger 16 so that its upper end 17 is beneath the opening 27. It is pulled downwardly into such position by means of a cord or wire 28 which is attached at one end to the interior surface of the closed end 17 of the plunger 16. The wire 28 extends downwardly from the closed end 17 through the bore of the plunger 16, the center of the spring 15, and a concentric opening 29 formed in the disc 22, so that its exterior end is always accessible to the operator.

A ring 30 is secured to the exposed end of the wire 28 to serve as a grip when pulling the plunger 16 to its lowermost position in the chamber 13. In addition, the ring 30 serves as a gauge for checking the diameter of the pellets 14 to insure that pellets of a size beyond the capacity of the chamber 13 are not forced therein through the opening 27. To this end, the inner diameter of the ring 30 is slightly smaller than the diameter of the chamber 13, and as a precaution, the pellets 14 are passed through the opening of the ring 30 before insertion into the chamber 13 to avoid accidentally jamming the chamber. The glass spherical marbles that are manufactured for children to play with have been found to be particularly well suited to serve as pellets in a slingshot of this type. However, such marbles are not of a uniform size, and when they are used as pellets for the slingshot, the use of the gauge 30 is particularly important to insure that they will pass through the chamber 13.

In order to retain the plunger 16 in its lowermost position while inserting the pellets 14 in the chamber 13, a nodule 35 is formed on the wire 28 at a point below the plunger 16 and of sufficient size so that it will not pass through a slot 36 formed in the wall of the handle 6. The slot 36 is wide enough to permit the passage of the wire 28 but small enough to prevent the nodule 35 from passing through it. Therefore, to retain the plunger 16 in its lower position in the chamber 13, it is only necessary to insert the wire 28 through the slot 36 with the nodule 35 disposed on the exterior of the handle 6 as illustrated in Figure 3. The spring 15 will then function to urge the nodule 35 against the exterior of the slot 36 to retain it in that position and thereby prevent the upward movement of the plunger 16 while the pellets 14 are being placed in the chamber 13. After the chamber 13 is loaded, the wire 28 is removed from the slot 36, and the nodule 35 will then pass freely through the opening 29 in the disc 22 and the center of the spring 15.

The upper opening of the chamber 13 serves as a discharge opening 40 through which the pellets 14 are discharged from the chamber 13 by the action of the spring urged plunger 16. The extension 12 extends above the discharge opening 40 but its top forward portion is cut away to form a recess 41 directly above the discharge opening 40 to furnish clearance for removing the pellet. The upper portion of the extension 12 adjacent to the recess 41 serves to guide the pellet 14 from the discharge opening 40 against a stop 45 which is disposed above the discharge opening 40 and over the recess 41. The stop 45 cooperates with the spring urged plunger 16 to retain the pellets 14 within the recess 41 where they may be readily grasped by the operator. To this end, the stop 45 is formed of wire bent in the shape of a U with the closed end of the U being located at the forward portion of the extension 12 above the recess 41 as clearly shown in Figure 1. As the pellet 14 leaves the discharge opening 40, it is guided by the top of the extension 12 into engagement with the stop 45 so that it is disposed in the recess 41. The spring urged plunger 16 forces the spherical pellet 14 against the two legs of the U shaped stop 45 while the closed end of the U serves to prevent the pellets 14 from moving forwardy out of the recess 41. Movement of the pellets 14 in the opposite direction, of course, is limited by the top of the extension 12.

The stop 45 is fabricated of spring steel wire which is secured to the back of the extension 12 with the two strands of wire being looped to form two coils 46 and 47 in a manner to form a 90° bend and direct the stop 45 over the top of the extension 12 and recess 41 as described. With the wire thus coiled at 46 and 47, and the stop 45 fabricated of spring steel wire, the stop 45 will yield slightly so that the pellets 14 may be easily extracted from its grasp by a slight pull to pass the pellets 14 through the large forward portion of the recess 41. The yieldable characteristic of the stop 45 serves the further purpose of preventing its fatigue failure from the sharp impact of the pellets 14 as they are moved against it when the top one of the pellets 14 in the recess 41 is removed therefrom by the operator. If the stop 45 were rigidly secured over the recess 41, these repeated impacts would have the tendency after considerable use to cause its fatigue failure. By rendering the stop 45 slightly yieldable the occurrence of such fatigue failure is minimized and the movement of the pellet 14 from the recess 41 is facilitated.

The arms 7 and 8 are each provided with two parallel slots 50 along their upper ends as illustrated in Figure 1. The slots 50 in the end of the arm 7 serve to receive one end of an elastic member 51 to secure the latter in operating position. In like manner, the slots 50 formed in the ends of the arm 8 are provided to receive one end of an elastic member 52 to secure it therein, the elastic members 51 and 52 being provided to furnish the force for propelling the pellet. The opposite ends of the elastic members 51 and 52 are both attached to a pouch 53 as clearly depicted in Figure 1, the pouch 53 serving to receive the pellets 14 for propelling them in the usual manner.

The slingshot is employed in the usual manner whereby the operator grasps the handle 6 with one hand, and the pouch 53 with the fingers of the other hand to propel a pellet. With the slingshot handled in this manner, it is a simple matter for the operator to hold the pouch 53 between the fingers of one hand and move it forwardly toward the pellet 14 located in the recess 41. The pellet 14 is grasped with the pouch 53 and extracted from the grip of the stop 45 so that it is immediately located in the pouch 53 ready to be propelled. It is then only necessary to draw the pouch 53 with the pellet 14 contained therein backwardly a sufficient amount to stretch the elastic members 51 and 52, and then release the pouch 53 to propel the pellet between the arms 7 and 8 above the stop 45.

It has been found that if ordinary elastic is employed for fabricating the elastic members 51 and 52, it frequently folds inwardly as the pouch 53 is being moved toward the pellet 14 in the recess 41 and locates itself in the path of movement of the pouch 53 to interfere with this operation. In order to avoid such interference, the elastic members 51 and 52 are fabricated of elastic tubing which is supplied on a coil. Elastic tubing which

has been thus coiled by the manufacturer has a tendency to assume an arcuate shape and this fact is taken advantage of by placing the tubing in the slots **50** so that the elastic members **51** and **52** arc outwardly from the arms **7** and **8**. With the tubing placed in this manner on the arms **7** and **8**, it will always arc outwardly when the pouch **53** is moved towards the recess **41** as indicated by the broken lines in Figure 1. This construction eliminates the inward movement of the elastic members **51** and **52**, in the path of the pouch **53**, as the latter is being moved toward the recess **41** to prevent any interference with the obtaining of the pellets **14** in the recess **41**.

It is apparent therefore, that the pellets **14** are always available in the most convenient position for immediate placement in the pouch **53**, with a minimum of manipulation, so that a number of pellets **14** may be accurately propelled toward the target in rapid succession. When a pellet **14** is being removed from the recess **41** with the pouch **53** about it, the pouch **53** is being moved directly into operating position so that no time is lost in bringing it into position. As a pellet **14** is removed from the recess **41** in this manner, the spring urged plunger **16** forces the succeeding pellet **14** in the chamber **13** against the stop **45** for retention thereby in the recess **41** where it is readily available to the operator when he repeats the operation described above.

From the foregoing detailed description of the construction and mode of operation of the illustrative embodiment of the present invention, it will be apparent that a new and improved slingshot has been provided which is particularly suitable for hunting small game in that it is especially adapted to propel a plurality of pellets in rapid succession by reason of the fact that the pellets are automatically contained by the slingshot chamber and fed into a position where it is most convenient for the operator to grasp them individually preparatory to propelling them in the usual manner.

Although the illustrative embodiment of the invention has been described in considerable detail for the purpose of making a full disclosure of a practical construction by means of which the invention may be practised, it is to be understood that various novel features of the invention may be incorporated in other arrangements without departing from the spirit and scope of the invention as defined in the subjoined claims.

The principles of the invention having now been fully explained in connection with the foregoing description of the illustrative embodiment, the invention is hereby claimed as follows:

1. In a slingshot, a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle and a lateral opening through which pellets may be inserted into said chamber; a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop secured in position to extend above said discharge opening to be engaged by the pellets emerging from said discharge opening; a cylindrical plunger slidably disposed in said chamber and having a seat at its upper end for bearing against the lowermost pellet in the chamber; a compression spring located in said chamber and extending into said plunger to engage the interior side of said seat for the purpose of exerting a yieldable upward force on said plunger to urge the pellets above the plunger out of the chamber through said discharge opening against said stop and yieldably retain them against the stop so that they may be withdrawn therefrom individually by the operator; a cord connected at one end to said plunger with its free end extending outwardly of said handle so that it may draw said plunger downwardly against the force of the spring to locate the plunger beneath the location of said lateral opening to enable the pellets to be inserted into said chamber through the lateral opening; locking means connected to selectively lock the cord in its drawn position to retain the plunger against the force of the spring in its depressed position beneath the lateral opening; a pull on the free end of said cord, said pull having an opening to serve as a gauge through which the pellets may be passed to establish that they are small enough to be inserted into the chamber; and propelling means attached to said arms for propelling the pellets when actuated; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said plunger and retained individually in a position where they will be conveniently available to the operator successively for placement in said propelling means.

2. In a slingshot, a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle, a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop secured in position to extend above said discharge opening to be engaged by the pellets emerging from said discharge opening; a compression spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening against said stop and yieldably retain them against the stop so that they may be withdrawn therefrom individually by the operator; a cord connected at one end to said spring with its free end extending outwardly of said handle so that it may be drawn against the force of the spring to compress the spring so that it will not interfere with the loading of the pellets into the chamber; a pull on the free end of said cord, said pull having an opening to serve as a gauge through which the pellets may be passed to establish that they are not too large for insertion into the chamber; and propelling means attached to said arms for propelling the pellets when actuated; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained individually in a position where they will be conveniently available to the operator successively for placement in said propelling means.

3. In a slingshot; a handle having a concentric bore and a lateral opening through which pellets may be inserted into said bore; a pair of arms extending upwardly from the upper end of said handle in spaced relationship; an upward extension extending from the juncture of said handle with said arms to a point between said arms, said extension having a bore that is a continuation of the bore in the handle; a closure at the handle end of said bore; a stop mounted to extend above the end of the bore in said upward extension; a plunger slidably disposed within the continuous bore in said handle and said extension; a compression spring located in said bore with one end seated on said plunger and the opposite end seated on said closure at the handle end of said bore; and propelling means attached to said arms and operative to propel the pellets when actuated; whereby the pellets may be inserted into said bore through its lateral opening above said plunger and the spring will operate against the plunger to urge the pellets upwardly in the bore against said stop where they will be conveniently available to the operator above the extension end of the bore.

4. In a slingshot; a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle; a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop secured to extend above said discharge opening to be engaged by the pellets emerging from said discharge opening; a compression spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening against said stop and yieldably retain them against the stop so that they may be withdrawn therefrom individually by the operator; a cord connected at one end to said spring with its free end extending outwardly of said handle so that it may be drawn against the force of the spring to fully compress the spring so that it will not interfere with the loading of the pellets into the cham-

ber; locking means connected to selectively lock the cord in its drawn position to retain the spring in its compressed condition; and propelling means attached to said arms for propelling the pellets when actuated; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained individually in a position where they will be conveniently available to the operator successively for placement in said propelling means.

5. In a slingshot; a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle; a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop mounted to extend above said discharge opening to yieldably retain the pellets emerging from the discharge opening so that they may be withdrawn therefrom individually by the operator; a spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening and against said stop successively as the top one of said pellets is removed from the stop; a first length of elastic attached at one end to one of said arms, said first length of elastic having a longitudinal arcuate set disposed so that it tends to follow the path of an arc outwardly from said handle; a second length of elastic attached at one end at the second arm, said second length of elastic having a longitudinal arcuate set disposed so that it tends to follow the path of an arc outwardly from said handle; and a pouch having one side attached to the free end of said first length of elastic and its opposite side attached to the free end of said second length of elastic; whereby the pellets in said chamber will be automatically discharged therefrom by the operation of said spring and retained by the stop successively in a position where they may be grasped by the operator with said pouch individually so that they are in position to be propelled, and as the pouch is moved toward the pellet at the stop the lengths of elastic will arc outwardly away from each other so as not to interfere with the movement of the pouch toward the pellet.

6. In a slingshot; a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle; a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop secured to extend above said discharge opening to yieldably retain the pellets emerging from the discharge opening so that they may be withdrawn therefrom individually by the operator; a spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening and against said stop successively as the top one of the pellets is removed from the stop; a length of elastic tubing having one end attached to the first of said arms; a second length of elastic tubing having one end attached to the second of said arms; and a pouch having one side attached to the free end of the first length of elastic tubing and its opposite side attached to the free end of said second length of elastic tubing; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained by the stop successively in a position where they may be conveniently grasped by the operator with said pouch individually so that they are in position to be propelled.

7. In a slingshot, a forked body comprising a handle portion and two arms extending upwardly from said handle in spaced relationship, said forked body having a pellet chamber formed therein with a discharge opening located between said two arms; a stop secured to said forked body to receive the pellets emerging from said discharge opening successively and yieldably retain them in position between said arms so that they may be withdrawn therefrom individually by the operator; a spring operatively connected to yieldably urge the pellets out of the chamber through said discharge opening and against said stop; and propelling means attached to said forked body for propelling the pellets when actuated; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained by the stop in a position where they will be conveniently available to the operator for placement in the propelling means.

8. In a slingshot, a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle; a pair of arms extending upwardly in spaced relationship from the upper end of said handle with each having a plurality of slots formed at its upper end; a stop secured to extend above said discharge opening to yieldably retain the pellets emerging from the discharge opening so that they may be withdrawn therefrom individually by the operator; a spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening and against said stop successively as the top one of the pellets is removed from the stop; a length of elastic tubing with a longitudinal arcuate set so that it tends to follow the path of an arc and having one end disposed in the slots of one arm so that it tends to arc outwardly from said handle; a second length of elastic tubing with a longitudinal arcuate set so that it tends to follow the path of an arc and having one end disposed in the slots of the second arm so that it tends to arc outwardly from said handle; and a pouch having one side attached to the free end of the first length of tubing and its opposite side attached to the free end of said second length of tubing; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained by the stop successively in a position where they may be conveniently grasped by the operator with said pouch individually so that they are in position to be propelled, and as the pouch is moved toward the pellet at the stop the lengths of elastic tubing will arc outwardly away from each other so as not to interfere with the movement of the pouch toward the pellet.

9. In a slingshot; a handle having a pellet chamber formed therein, said chamber having a discharge opening at the upper end of said handle; a pair of arms extending upwardly in spaced relationship from the upper end of said handle; a stop secured to extend above said discharge opening to yieldably retain the pellets emerging from the discharge opening successively so that they may be withdrawn therefrom individually by the operator; a spring located in said chamber and operative to yieldably urge the pellets out of the chamber through said discharge opening and against said stop; and propelling means attached to said arms for propelling the pellets when actuated; whereby the pellets in the chamber will be automatically discharged therefrom by the operation of said spring and retained by the stop in a position where they will be conveniently available to the operator successively for placement in said propelling means.

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