June 17, 1952 W. O. FERNSEL 2,600,524

SLINGSHOT WITH AUTOMATIC SIGHT

Filed April 10, 1950

Fig. 1.

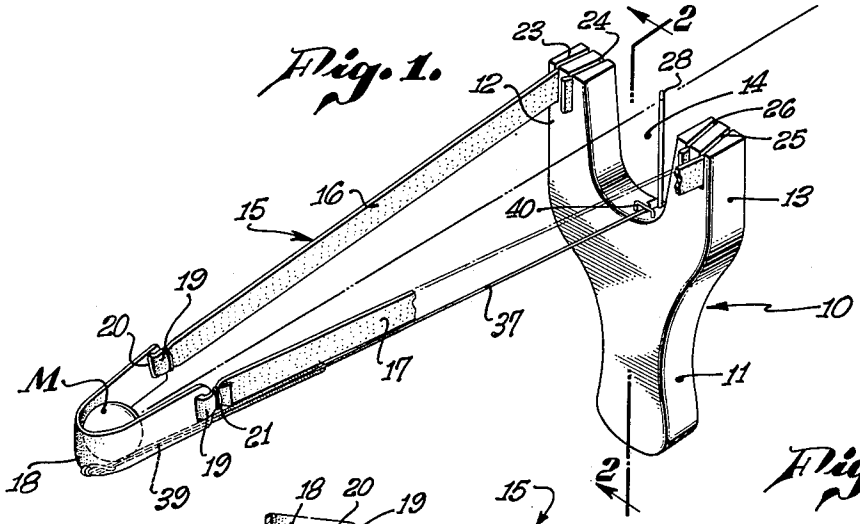


Fig. 2.

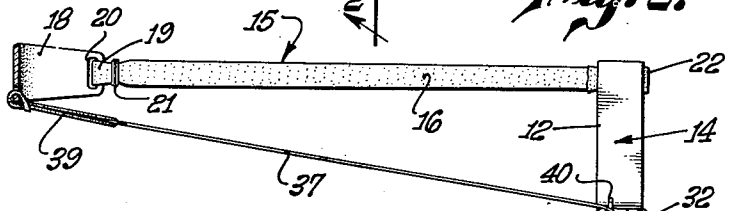


Fig. 3.

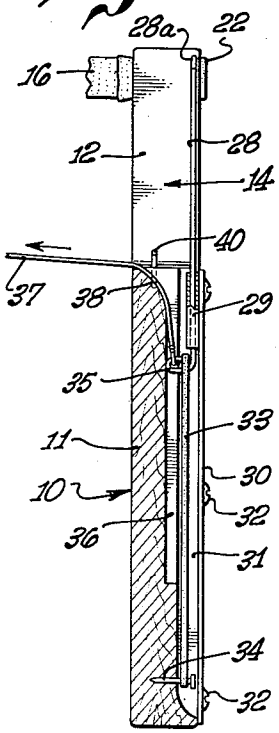
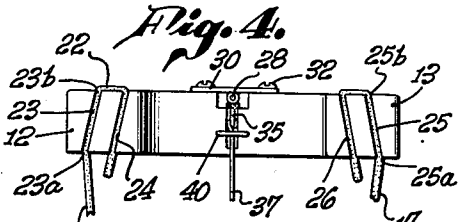


Fig. 4.



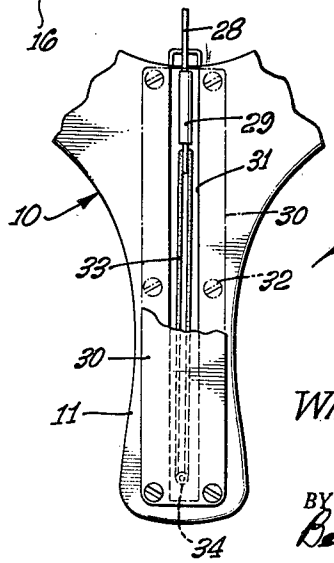


Fig. 5.

WILLIS O. FERNSEL,
INVENTOR.

BY Bernard Kriegel

ATTORNEY.

Patented June 17, 1952 2,600,524

UNITED STATES PATENT OFFICE

2,600,524

SLINGSHOT WITH AUTOMATIC SIGHT

Willis O. Fernsel, Los Angeles, Calif.

Application April 10, 1950, Serial No. 155,033

6 Claims. (Cl. 124—20)

1

The present invention relates to catapult devices, and more particularly to a sling shot adapted to be held in the hand for projecting missiles toward the desired target.

An object of the present invention is to provide a sling shot which can be used with relatively greater accuracy in aiming at a target.

Another object of the invention is to provide a sling shot having an aiming sight which does not interfere with the projection of the pellet or missile at the target.

A further object of the invention is to provide a sling shot possessing a sight that is in the flight path of the missile to be catapulted during aiming at the target, but which sight is automatically removed from such path upon release of the missile.

Yet another object of the invention is to provide an improved manner of fastening the catapulting elastic band or sling of a sling shot to the forked body of the device, in order to enhance the accuracy with which the device can be used, and to obtain a more reliable attachment of the band to the body.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of a form in which it may be embodied. This form is shown in the drawings accompanying and forming part of the present specification. It will now be described in detail, for the purpose of illustrating the general principles of the invention; but it is to be understood that such detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is an isometric view, with parts broken away, of the sling shot device, with the parts in the relative position they occupy when sighting on an object;

Fig. 2 is a section taken generally along the line 2—2 on Fig. 1, but with the sight in retracted position;

Fig. 3 is an enlarged section, similar to Fig. 2, with the sight of the device in elevated position;

Fig. 4 is a top plan view of a portion of the device;

Fig. 5 is a front elevation of a portion of the device.

A catapult device is disclosed in the drawings in the form of a sling shot having the generally U-shaped or forked body 10, including a depending handle 11 and upwardly extending arms 12, 13 between which a substantial space 14 exists.

2

An elastic sling 15 is secured to the upper ends of the arms 12, 13. This sling includes side band portions 16, 17 made of a suitable elastic material, such as rubber, connected to a pouch 18, that may be made of leather. The rearward end 19 of each elastic portion 16, 17 may be secured to the ends of the pouch 18 as by threading the end of the band through slots 20 in the pouch, and then tying the adjacent band portions together by the aid of string or cord 21. The forward ends 22 of each elastic band 16, 17 are received within parallel slots 23, 24 or 25, 26 cut into the upper ends of each arm 12, 13. Each slot is of slightly lesser width than the thickness of the side band 16, 17 when unrestrained. Upon stretching the band, as the band 16, its forward portion 22 may be slipped into an outer slot, as 23, its direction being reversed around the stock of the arm for passage through the inner slot, as the slot 24. When the tension in the band is released, the band tends to assume its original thickness and binds itself within the slots 23, 24. The other elastic band 17 is fastened in the slots 25, 26 in the same manner.

Upon pulling on the pouch 18 to stretch the bands 16, 17, the band portions in the outer slots 23, 25 may thin in section. However, this pulling action is not transmitted materially to the portions of the bands in the inner slots 24, 26, so that the latter remains locked therewithin.

A missile M may be placed in the pouch 18 and the latter grasped between the thumb and forefinger of one hand in the usual manner, while the other hand holds the body 10 of the sling shot device. A pull is then taken on the pouch to elongate the sling 15. When a sufficient pull has been taken, the device may be aimed at the target or object and the pouch 18 released, which catapults the missile M through the space 14 between the arms 12, 13 toward the target.

In order to increase the aiming accuracy of the device; the slots 23, 24 and 25, 26 in the arms converge toward one another forwardly of the device; so as to place the rearward portions 23*a*, 25*a* of the slots 23, 25 in the arms 12, 13 further apart than the forward ends 23*b*, 25*b* of these slots. By increasing the distance between the rear portions 23*a*, 25*a* of the outer slots, the sides 16, 17 of the elastic sling, where they are attached to the body 10, are spaced apart by a greater distance. The greater the distance apart that the bands 16, 17 are disposed at their point of attachment to the body member, the greater is the accuracy of the device This is accomplished by

inclining the slots 23, 25 with respect to each other in a direction forwardly of the device. The inclination has a further advantage of causing the elastic band portions 16, 17 to bend around the rearward edges of the slots 23, 25 when the bands are tensioned, and thereby reduces the tendencey of the bands to thin in cross-section within the slots, during their streaching.

An automatic sight is provided for insuring accurate aiming of the pellet M at the target. This sight extends between the arms 12, 13 when aim is being taken, but automatically retracts from the space 14 upon release of the pellet or missile, to avoid interference with its flight path.

As shown in the drawings, the sighting device includes a sight rod 28 disposed centrally of the forked body member 10. This sight rod is slidable through a tubular guide 29 secured to the upper end of a closure member or cover plate 30 mounted over a generally vertical central groove 31 extending downwardly through the forked body and into its handle portion 11. The cover plate is secured to the body in any suitable manner, as through use of screws 32, and closes the groove 31, into which the sight rod 28 is retractible. Such retracting action is caused by a retracting element 33, that may be in the form of an elastic band, whose lower end is disposed around a suitable anchor pin 34 attached to the handle 11 and extending laterally into the groove, the upper end of the band 33 being mounted over the lower, inner loop or eye portion 35 of the sight rod. This eye 35 is movable vertically in a narrow, inner grooved portion 36 in the body 10 opening into the outer groove 31.

The elastic retracting band 33 normally urges the sight rod 28 to a downward position, with its upper end 28a substantially fully retracted from the space 14 between the arms 12, 13 of the device. The sight rod 28 is elevated as a result of pulling on the pouch 18 and elastic sling bands 16, 17, whenever the device is to be aimed. Such elevating movement is provided by an extensible cord 37 passing over a rounded upper corner 38 of the inner groove, a forward end of the cord 37 being tied to the eye portion 35 of the sight rod 28. The extensible cord 37 has an outer elastic portion 39 that may be constituted by an elastic or rubber band suitably tied to it, the other end of the bend 39 being attached to the lower central portion of the sling pouch 18.

It is apparent that the exertion of a tensile pull on the pouch 18 to stretch the bands 16, 17 also moves the extensible cord 37 rearwardly, and causes the latter to shift the sight rod 28 upwardly within the groove 31 and its tubular guide 29. The sight rod can be elevated to an extent limited by engagement of its eye portion 35 with the lower end of the guide 29. Any further rearward pulling on the sling 15 and its pouch 18 merely elongates the elastic portion 39 of the cord 37 and cannot further raise the sight rod. The extent of elevation of the sight rod 28 is such that its upper end 28a perferably lies at substantially the same elevation as the upper ends of the elastic bands 16, 17 where they are secured to the arms 12, 13.

Upon taking a rearward pull on the sling 15, and by sighting on the target by the aid of the upper end 28a of the sight rod, assurance is had that the missile M, when released, will strike the target with reasonable accuracy. When the missile is relased, the pull on the elevating cord 37 is also discontinued, which allows the elastic retracting band 33 to pull the sight rod 28 downwardly substantially entirely within the confines of the body 10 of the device, or out of the flight path of the missile. The retracting band 33 retracts the sight rod 28 from the space 14 between the arms 12, 13 before the missile reaches this space, thereby avoiding interference with movement of the missile.

To prevent entanglement of the sight elevating cord 37 with the sight rod 28, a retaining element in the form of a staple 40 may be secured to the body 10 across the cord 37 where it passes about the rounded corner 38. When the pouch 18 is released, the retainer 40 prevents the cord jumping forwardly and over the sight rod 28.

It is apparent that a sling shot device has been provided that has a sight useful in aiming the missile accurately at the desired target. The sight is automatically elevated to a predetermined height upon stretching the catapulting bands or straps 16, 17, and the sight is automatically lowered or removed from the flight path of the missile when the pouch and bands are released to fire the missile at the target. Despite the elevation of the sight rod to a predetermined point, there is still no interference with the ability of the person to stretch the bands to the extent he desires, inasmuch as the elastic portion 39 of the elevating cord 37 merely stretches or yields to a further extent without effecting movement of the sight rod.

The inventor claims:

1. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arms; a sighting device movably mounted on said body; means interconnecting said sling and sighting device and responsive to stretching of said sling for shifting said device from a non-sighting to a sighting position; and means connected to said device for returning said device from a sighting to a non-sighting position upon release of said sling.

2. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arms; a sight rod slidably mounted on said body; elastic means engaging said rod to urge said rod toward a lower retracted position; and elastic means connecting said rod to said sling for elevating said rod between said arms upon stretching of said sling.

3. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arms and having a pouch portion for holding ammunition; a sight rod slidably mounted on said body; elastic means engaging said rod to urge said rod toward a lower retracted position; and elastic means connecting said rod to said pouch portion for elevating said rod between said arms upon movement of said pouch portion away from said arms.

4. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arms; said body having a generally vertical groove therein; a sight rod in said groove; means in said groove slidably guiding said rod for linear movement; elastic means in said groove engaging said rod to urge said rod toward a lower retracted position; and elastic means connecting said rod to said sling for elevating said rod upon stretching of said sling.

5. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arms; said body having a generally vertical groove therein; a sight rod in said groove; means in said groove slidably guiding said rod for linear movement; an elastic band secured to

said rod and body to urge said rod toward a lower retracted position; and an elastic cord connecting said rod to said sling for elevating said rod upon stretching of said sling.

6. In a sling shot: a body having a pair of upwardly extending arms; an elastic sling secured to said arm; said body having a generally vertical groove therein; a cover plate secured to said body to close said groove; a guide in said groove secured to said cover plate; a sight rod slidable in said guide; an elastic band in said groove secured to said rod and to said body to urge said rod toward a lower retracted position; and an elastic cord connecting said rod to said sling for elevating said rod between said arms upon stretching of said sling.

WILLIS O. FERNSEL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
516,852	Trumble	Mar. 20, 1894
1,375,776	Buys	Apr. 26, 1921
1,699,416	Wheeler, Jr.	Jan. 15, 1929