A loader for a slingshot is disclosed, having a tubular magazine for holding pellets, the magazine having a reloading end and a dispensing end with an opening, an end cap for closing the magazine at the reloading end, a dispensing mechanism at the dispensing end for dispensing pellets into a pouch, the dispensing mechanism comprising two or more resilient fingers spaced around the opening for retaining and selectively releasing pellets, the fingers flexible from a closed to an open position by application of force, and apertures defined by the space between the fingers for accessing pellets wherein the pellets are gravity-fed within the magazine. A method of using the loader is also described.
SLINGSHOT LOADER AND METHOD OF USE

FIELD OF THE INVENTION

[0001] This application claims the benefit of Canadian Application No. 2795126, filed Nov. 8, 2012, the substance of which is incorporated herein in its entirety. The invention relates to a gravity-fed loader for a slingshot and method of use therefore.

BACKGROUND OF THE INVENTION

[0002] Slingshots launch small round pellet ammunition, similar to ball bearings. Traditionally, a slingshot user wishing to take multiple shots would engage in the cumbersome process of removing a second pellet from a pouch after having shot the first, and position the pellet within the slingshot pouch, before pulling the pouch back and aiming. This time-consuming and awkward process often enabled the quarry being hunted to escape after the first shot. Many attempts to find a solution to this problem have been suggested over the years.

[0003] In U.S. Pat. No. 3,407,798, a spring-biased loading device is contained within the slingshot handle, such that pellet is available below the handle as a result of movement of a pellet retainer in a direction against the biasing force of the spring. The bottom of the handle is an awkward location for a pellet magazine since the pouch must then be drawn back and aimed, once a pellet is received in the pouch. This takes time and risks the pellet falling out.

[0004] In U.S. Pat. No. 4,307,699, the handle has a chamber for pellet storage. The chamber has a frictional plug fit within to hold the pellets in the chamber, and this plug must be removed to access the chamber. Removing the plug is time-consuming and awkward in the field. Additionally, there is the danger of all pellets falling out once the plug is removed since there is nothing to retain the pellets within the chamber.

[0005] In U.S. Pat. No. 4,583,513, the hand grip stores and dispenses ammunition, held closed by a pivoting closure. The closure swivels to dispense ammunition stored within the hand grip. Again, we have a pellet dispenser having the awkward location of the bottom of the handle, having the same problems of the awkward movement to the dispenser and the risk of dropping the ammunition on the way to the aiming position. In addition, the closure cap mechanism must be manipulated separately from the pouch, requiring two hands to operate.

[0006] Therefore there is a need in the art for a slingshot and magazine loader that is conveniently positioned for loading the pouch of the slingshot, and permitting rapid reloading. Further, the loader should only dispense a single pellet at a time to prevent loss and wastage of ammunition, and pellets should be loadable directly into the pouch to reduce time-consuming fumbling with the pellet. The loader must be durable enough for survival in the field.

SUMMARY OF THE INVENTION

[0007] Disclosed is a loader for a slingshot, comprising a tubular magazine for holding pellets, the magazine having a reloading end and a dispensing end with an opening, an end cap for closing the magazine at the reloading end, a dispensing mechanism at the dispensing end for dispensing pellets into a pouch, the dispensing mechanism comprising two or more resilient fingers spaced around the opening for retaining and selectively releasing pellets, the fingers flexible from a closed to an open position by application of force, and apertures defined by the space between the fingers for accessing pellets wherein the pellets are gravity-fed within the magazine.

[0008] In further embodiments, the loader may further comprise a resilient retaining pin for retaining pellets, wherein the pin extends into the opening and is flexible on the application of force, or an adjustable mount for allowing the fingers to access the pellets in the pouch. The loader may further comprise one or more O-rings for holding the fingers to the dispensing end, or one or more O-rings for holding the retaining pin to the dispensing end. In another embodiment, the loader may further comprise one or more sleeves for holding the fingers to the dispensing end or one or more sleeves for holding the retaining pin to the dispensing end.

[0009] A method of reloading a slingshot using the loader is also disclosed, comprising the steps of inclining the loader so a reloading end of the loader is higher than a dispensing end, while pinching a slingshot pouch between fingertips, manipulating the pouch over a dispensing end of the loader, applying pressure to the pouch to frictionally engage a pellet within an opening of the loader, and pulling the pellet from the dispensing end of the loader.

BRIEF DESCRIPTION OF THE FIGURES

[0010] FIG. 1a is an elevation view of the slingshot and loader.

[0011] FIG. 1b is a detail view of the loader.

[0012] FIG. 2a is an elevation view of the loader and loader showing the component parts of the loader.

[0013] FIG. 2b is an exploded view of the loader.

[0014] FIG. 3a is a view showing the slingshot in a reloading position.

[0015] FIG. 3b is a view showing the slingshot in a shooting position.

DETAILED DESCRIPTION OF THE INVENTION

[0016] While this invention is susceptible of embodiment in many different forms, there are shown in the drawings, and will be described herein in detail, specific embodiments thereof with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the specific embodiments illustrated.

[0017] With reference to FIG. 1a, the loader 5 is shown attached to the brace 6 of slingshot 8 having a pouch 7 and a handle 9. It consists of a tubular shaped magazine 10 having a reloading end 2 with an end cap 12, and a dispensing end 3 with a dispensing mechanism 14 having an opening 18 there through, the opening 18 slightly wider than a pellet 19. The reloading end 2 is higher than the dispensing end 3 so that within the magazine the pellets are gravity-fed to the dispensing mechanism. The tubular shaped magazine 10 is of a diameter slightly larger than that of popular ammunition, and it may be made in different sizes to accommodate different sized pellets. The magazine 10 is of a rigid material that is resistant to cracking or bending, to withstand abuse in the field. It may be an aluminum tube, formed of another material, or plastic. Other materials known to be rigid and robust may be substituted by one skilled in the art without deviating
from the scope of the invention. The end cap 12 may be rubber or plastic, and is fitted with a friction fit within the rear of the loader 5.

[0018] The slingshot may be held in a reloading position, wherein the loader is declined towards the dispensing mechanism 14, such that gravity feeds pellets 19 downward along the length of the magazine 10, or in a shooting position, wherein the loader is declined towards the reloading end, such that the pellets 19 are pulled by gravity to the reloading end. The loader 5 is mounted to the brace 6 so as to facilitate these two positions.

[0019] With reference to FIG. 16, the dispensing mechanism 14 is shown in detail. The magazine 10 terminates in a pair of gripping fingers 16, 17 around the dispensing end 3, which oppose one another, and are spaced around an opening 18, that is made slightly narrower than the diameter of a pellet 19 due to the encroachment of the resilient fingers 16, 17. In other embodiments more than two fingers 16, 17 may be spaced around the opening 18. Each of the gripping fingers 16, 17 taper as they extend from the dispensing end 3. The fingers are resilient as well, so that they may be flexed with the application of force, to an open position, and then return to a closed position for retaining the pellets within the magazine. As each gripping finger 16, 17 tapers, an aperture 20 defined by the space between the fingers 16, 17 opens up, the aperture 20 large enough for the side of a pellet 19 to protrude through and for the side to be reached by a user's fingertips. Therefore, as the fingers 16, 17 taper away from the dispensing end 3 of the magazine, a pellet within the opening 18 are more and more accessible through the side apertures 20 (only one shown). The fingers 16, 17 are capable of dispensing one pellet at a time, by flexing apart to permit the pellet to be extracted from the opening 18 by the user's force, and then resiliently returning to their closed position retaining the next pellet between the fingers 16, 17 awaiting forcible removal therefrom. While the fingers 16, 17 are in a closed position the pellet cannot fall out or bounce out despite significant movement, and the fingers 16, 17 hold the pellet.

[0020] In some embodiments a retaining pin 22 is present alongside the fingers 16, 17, to further retain pellets 19 within the opening 18, until pulled past the pin. The pin 22 is resilient and gives an application of force, springing back immediately once the force is released and the pellet 19 removed. For example, a pellet may be pulled past the pin 22, which will give and allow a single pellet 19 to be removed, however quickly returns to the previous position to retain the next pellet within the opening. Although the fingers are capable on their own of dispensing only one pellet at a time due to their resilience and narrow opening, as described above, the pin 22 assists in ensuring only one pellet is released at a time. The pin 22 may be gently curved, or in the present embodiment, bent in one place, so that the end of the pin 22 restricts the opening 18 and the resists the passing of the pellet 19 therefrom.

[0021] The end of the fingers 16, 17 and/or retaining pin 22 may be magnetized so as to hold the pellet nearest the opening 8 while the slingshot is in a shooting position (i.e. not declined towards the dispensing end 3). Therefore, the shooter can remove a pellet 19 normally, shoot the pellet, and remaining in shooting position immediately reach for another pellet with the pouch 7, which is retained and ready for use by the magnetized fingers 16, 17 and/or retaining pin 22.

[0022] The fingers 16, 17 are held to the dispensing end 3 by several O-rings 23. If the embodiment uses a retaining pin 22, the retaining pin is also held on to the dispensing end 3 by O-rings 23. Once the O-rings 23 are holding the fingers 16, 17 and pin 22, a tight-fitting sleeve 24 is fit over top of the O-rings to hold the dispensing mechanism 14 together.

[0023] With reference to FIG. 2a, the loader 5 is mounted to the slingshot brace 6 in such a way that, under normal usage, the loader 5 is declined towards the user's arm, or inclined towards the front of the slingshot, such that gravity feeds pellets 19 downward along the length of the magazine 10, to the dispensing mechanism 14. The loader 5 is mounted on the brace by a bracket 27, which is adjustable and permits positioning of the loader 5 where it is most convenient for the user, at the appropriate inclination to permit gravity-feeding of the ammunition. A convenient location may be where the pouch 7 is extended rearward, yet there is no pull yet from the slingshot bands 28. In other words, at a rearward point where the bands 28 are not yet biasing the pouch 7 forward. This avoids the need for the user to return the pouch 7 to the handle 9, moving the pouch 7 in a direction opposite to that used by the user when drawing the slingshot back for aiming.

[0024] To use the loader, the end cap 12 is removed, and the magazine 10 filled with ammunition such as pellets, which fit in a single file within the magazine 10 as a result of the restricted width of the magazine 10. Once the magazine 10 is filled, the end cap may be replaced. The slingshot is then held in a normal way, with the brace 6 on the forearm of the user, so that the loader is declined towards the user and the pellets advance towards the dispensing mechanism 14. The pellets are gravity-fed along the length of the magazine, and appear in the opening 18, where they are retained by the fingers 16, 17, and the retaining pin 22 if present.

[0025] With reference to FIG. 3a, the slingshot and loader is shown in a reloading position, wherein the wrist is tipped upward so the dispensing end 3 is lower than the reloading end 2, such that pellets 19 are gravity-fed towards the dispensing mechanism 14. To reload, the user pinches the pouch 7 between his or her fingers and positions the pouch around the dispensing mechanism 14. The pouch 7 is then used to pull a pellet 19 out of the opening 18 (shown with pellet 19 therein) by pinching the sides of the pellet through the side apertures 20, and pulling the pellet past the fingers 16, 17 and pin 22 (shown in FIG. 1b), so as to release the pellet 19 into the pouch, already pinched by the user.

[0026] With reference to FIG. 3b, the slingshot is shown in shooting position, wherein the magazine is not declined towards the dispensing mechanism, and the pellets 19 are collected at the reloading end 2 as a result of gravitational forces. While holding the handle 9, the user is now in a position to pull the pouch 7 back, always pinching the pellet 19 through the pouch, aim, and release the pellet. The pellet 19 is driven towards the target by the biasing bands 28.

[0027] In order to use the loader, a method is disclosed, having the steps of A method of reloading a slingshot using the loader of claim 1, comprising the steps of i) inclining the loader so a reloading end of the loader is higher than a dispensing end; ii) while pinching a slingshot pouch between fingertips, manipulating the pouch over a dispensing end of the loader; iii) applying pressure to the pouch to frictionally engage a pellet within an opening of the loader; iv) pulling the pellet from the dispensing end of the loader; and v) pulling the pouch containing the pellet away from the slingshot handle.

[0028] From the foregoing, it will be observed that numerous variations and modifications may be effected without departing from the spirit and scope of the invention. It is to be understood that no limitation with respect to the specific
The invention relates to a loader for a slingshot, comprising:

1. A loader for a slingshot, comprising:
   a. a tubular magazine for holding pellets, the magazine having a reloading end and a dispensing end with an opening;
   b. an end cap for closing the magazine at the reloading end;
   c. a dispensing mechanism at the dispensing end for dispensing pellets into a pouch, the dispensing mechanism comprising:
      i. two or more resilient fingers spaced around the opening for retaining and selectively releasing pellets, the fingers flexible from a closed to an open position by application of force; and
      ii. apertures defined by the space between the fingers for accessing pellets;
      iii. wherein the pellets are gravity-fed within the magazine.

2. The loader of claim 1 further comprising a resilient retaining pin for retaining pellets, wherein the pin extends into the opening and is flexible on the application of force.

3. The loader of claim 1 further comprising an adjustable mount for adjusting the position of the dispensing mechanism.

4. The loader of claim 1 further comprising one or more O-rings for holding the fingers to the dispensing end.

5. The loader of claim 2 further comprising one or more O-rings for holding the retaining pin to the dispensing end.

6. The loader of claim 1 further comprising one or more sleeves for holding the fingers to the dispensing end.

7. The loader of claim 2 further comprising one or more sleeves for holding the retaining pin to the dispensing end.

8. A method of reloading a slingshot using the loader of claim 1, comprising the steps of:
   a. inclining the loader so a reloading end of the loader is higher than a dispensing end;
   b. while pinching a slingshot pouch between fingertips, manipulating the pouch over a dispensing end of the loader;
   c. applying pressure to the pouch to frictionally engage a pellet within an opening of the loader; and
   d. pulling the pellet from the dispensing end of the loader.