Aug. 21, 1962 E. L. LOVE 3,050,046

PISTOL BOW

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Fig.1

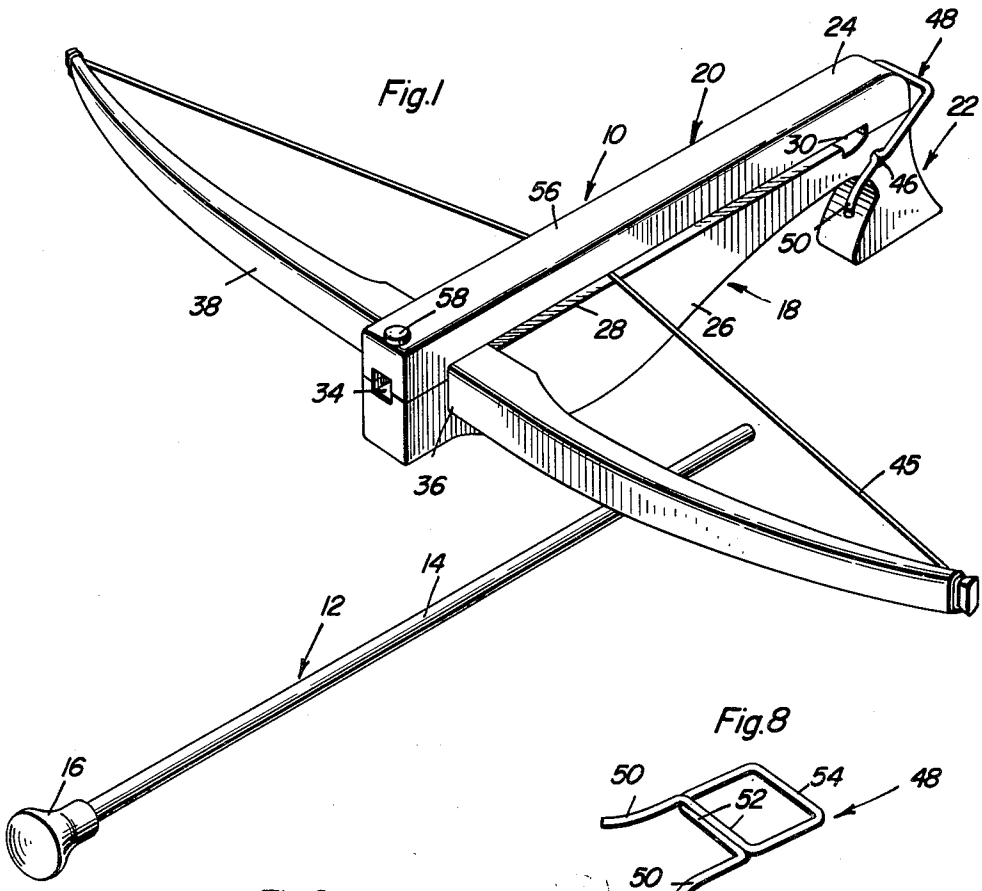


Fig.8

Fig.6

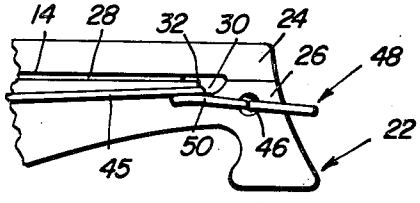


Fig.5

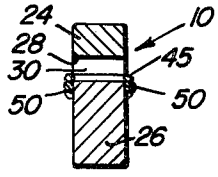
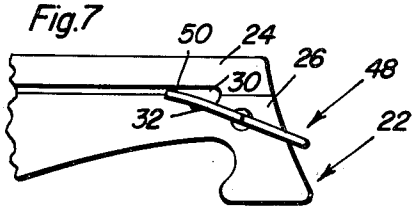


Fig.7



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Fig.2

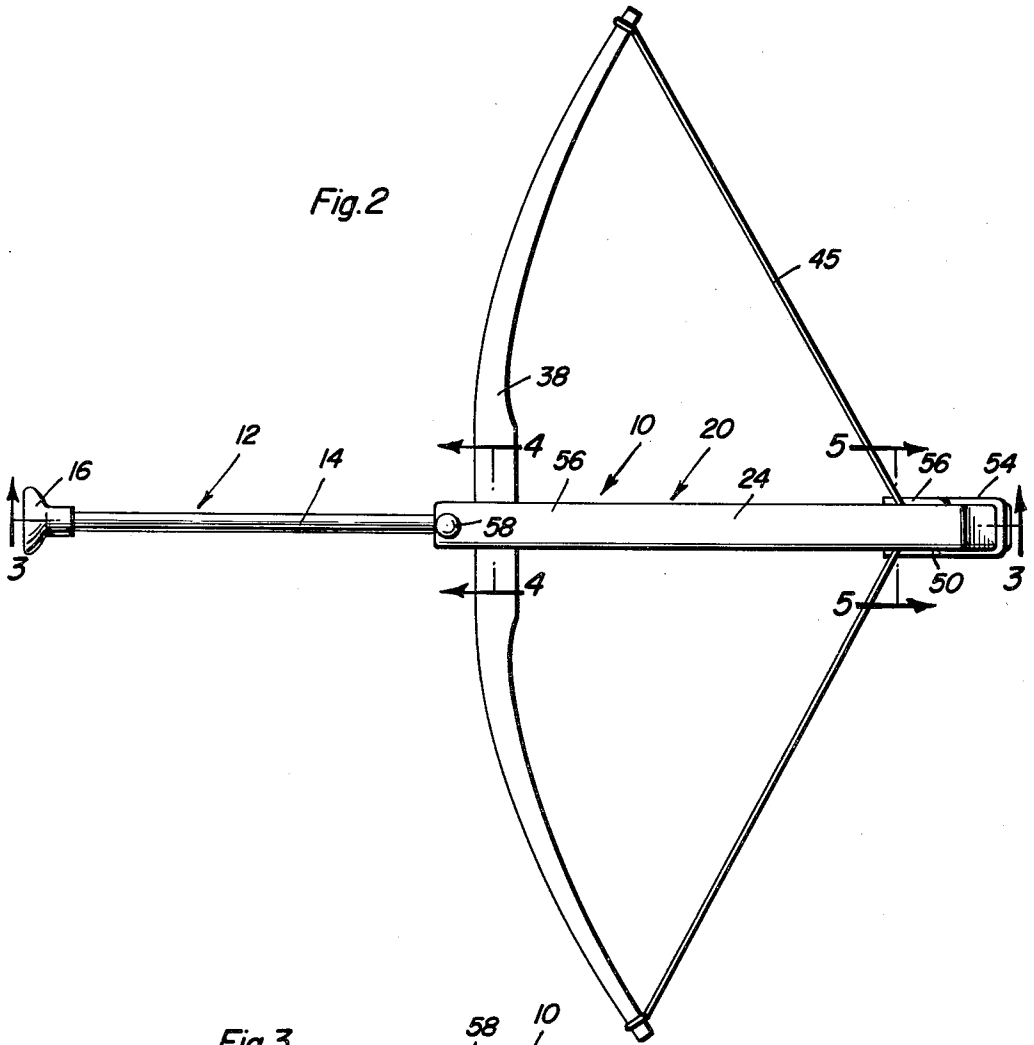


Fig.3

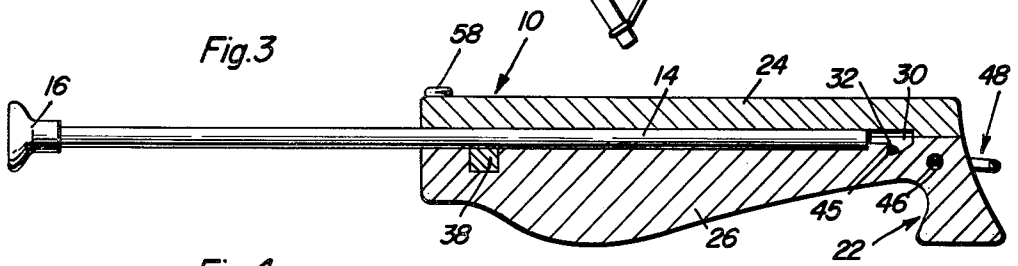
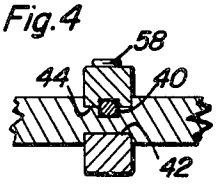


Fig.4



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PISTOL BOW

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This invention relates to a novel pistol bow, and more particularly to a pistol bow construction which may be utilized either as a toy or as a weapon depending upon the side of the bow and the projectile used in connection therewith.

The piston bow of the instant invention utilizes principles resembling those of a cross bow but is constructed in a manner whereby the pistol bow may be manufactured by the simplest methods and at an extremely low cost. The manufacture of the pistol bow at an extremely low cost makes it possible for the pistol bow to be produced as an inexpensive toy or as a weapon which may be inexpensively produced.

The pistol bow is specifically adapted for use as a hand toy or weapon although it is to be understood that it could be manufactured in proportions adapting it for use as one would use a rifle rather than a pistol.

The main object of this invention is to provide a means for projecting a projectile which may be inexpensively produced and readily adapted for use either as a toy or as a weapon.

A further object of this invention, in accordance with the preceding object, is to provide a device which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and simple in operation.

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 perspective view of a form of the pistol bow adapted for use as a toy and a form of toy arrow to be used in connection with the pistol bow;

FIGURE 2 is a top plan view of the pistol bow illustrated in FIGURE 1 of the drawings shown with the bow in a cocked position and a toy arrow mounted therein in position to be projected by the pistol bow;

FIGURE 3 is a longitudinal vertical sectional view taken substantially upon the plane indicated by the section line 3—3 of FIGURE 2;

FIGURE 4 is a fragmentary transverse vertical sectional view taken substantially upon the plane indicated by the section line 4—4 of FIGURE 2;

FIGURE 5 is a vertical transverse sectional view taken substantially upon the plane indicated by the section line 5—5 of FIGURE 2;

FIGURE 6 is a fragmentary side elevational view of a rear portion of the pistol bow showing the bow string in a cocked position and the trigger of the pistol bow in position to release the bow string from engagement with the catch with which it is engaged;

FIGURE 7 is a fragmentary side elevational view similar to that of FIGURE 6 but showing the trigger of the pistol bow in position immediately after the firing of the pistol bow; and

FIGURE 8 is a perspective view of the trigger of the pistol bow.

Referring now more specifically to the drawings the numeral 10 generally designates the pistol bow of the instant invention. A toy type arrow projectile generally designated by the reference numeral 12 is adapted to be

fired by the pistol bow 10. The arrow 12 includes an elongated cylindrical shaft portion 14 and is provided with a suction cup head 16 on its forward end.

The pistol bow 10 comprises a stock generally designated by the reference numeral 18 which includes a barrel portion generally referred to by the reference numeral 20 and a grip portion generally referred to by the reference numeral 22. The stock 18 includes an upper portion 24 and a lower portion 26 on which the grip 22 is formed. The stock 18 is provided with a transversely extending slot 28 which also extends longitudinally of the stock and terminates a spaced distance from the opposite ends thereof. The rear end of the slot 28 is provided with an enlarged portion 30 including a stop surface 32 lying in a plane extending transversely of the stock and disposed at substantially right angles to the longitudinal axis of the slot comprising a catch whose purpose is to be more fully hereinafter set forth.

A longitudinally extending blind bore 34 is formed in the stock 18 and terminates a spaced distance from the enlarged portion 30. The blind bore 34 is longitudinally aligned with the slot 28. It is further to be noted that the slot 28 is formed confronting notches formed in the upper and lower portions 24 and 26 of the stock 18 and also that the blind bore 34 is formed partially in the upper portion 24 and partially in the lower portion 26. The forming of the slots 28 and the blind bore 34 in this manner enables the bore and slot to be formed by conventional routing machines before the corresponding ends of the upper and lower portions 24 and 26 are secured together in any convenient manner such as by fasteners or gluing.

The forward end of the portion of the slot 28 formed in the lower portion 26 terminates in a transversely extending recess 36 in which a notched portion of a transversely extending bow 38 is seated. A portion of the blind bore 34 is aligned with a complementary transversely extending recess 40 formed in the bow 38 and in addition to the notch 42 formed in the lower surface of the bow 38 which is engaged with the recess 36, the upper surface of the bow is notched as at 44 to receive the lower surfaces of the upper portion 24 of the stock 18. In this manner, the bow 38 is clamped between the upper and lower portions 24 and 26 of the stock 18. A suitable flexible bow string 45 is secured between the opposite ends of the bow 38 and is disposed through the slot 28 for sliding movement longitudinally of the slot.

The grip 22 is provided with a transverse bore 46 in which a portion of the trigger assembly generally referred to by the reference numeral 48 is rotatably journaled. The forward end of the trigger assembly 48 is provided with a pair of end portions 50 for movement past the stop surface 32 toward the slot 28 and each of these end portions terminates at their rear ends in a right angulated and inwardly directed portion 52 extending through the bore 46. The ends of the right angulated portions 52 remote from the corresponding end portions 50 are interconnected by means of a unitary loop shaped member 54 encircling a portion of the grip 22.

The forward end of the upper surface 56 of the upper portion 24 is provided with a sight member 58 for aiming the pistol bow 10 and it is to be understood that the pistol bow 10 can be constructed of any suitable material such as metal, wood or plastic.

The operation of the pistol bow is quite simple in that it is merely necessary to draw the flexible bow string 45 rearwardly through the slot 28 until the medial portion thereof is engaged with the stop surface 32 as illustrated in FIGURES 3 and 6 of the drawings. When the bow string 45 is thus positioned, the bow 38 will be flexed and the shank 14 of the arrow 12 may be placed in the blind bore 34. The grip 22 may then be grasped in the hand

of the user of the bow **10** and the rear end or loop portion **54** of the trigger assembly **48** may be fingered by the user and moved downwardly to urge the medial portion of the bow string **45** toward the longitudinal axis of the slot **28** by upward movement of the end portions **50** whereupon the resiliency of the bow **38** will pull the bow string forwardly through the slot **28** which will in turn engage the rear end of the shank **14** of the arrow and project the arrow **12** forwardly and out of the blind bore **34**.

By providing a pair of end portions **50**, the entire portion of the bow string **45** engaged with the stop surface **32** may be simultaneously urged upwardly toward the longitudinal axis of the slot **28** and thereby ensure that a portion of the bow string **45** will not catch on a corner of the stop surface **32** adjacent the slot **28**.

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 pistol bow comprising a stock including an elongated barrel portion and a grip portion, said barrel portion including upper and lower portions having confronting lower and upper substantially planar horizontal surfaces respectively and secured together with said surfaces in surface-to-surface contacting relation, at least one of said surfaces including a notch extending transversely thereacross and opening toward the other of said surfaces defining a longitudinal transversely extending slot in said barrel portion terminating a spaced distance from the opposite ends of said barrel portion, a bow extending transversely of the forward end of said barrel portion and having its mid-portion secured in the forward extremity of said slot, the confronting surfaces of said bow and at least one of said barrel portions having opposing notches formed therein by which said bow and at least one of said barrel portions are interlockingly engaged with each other, an elongated flexible member secured between opposite end portions of said bow and having its mid-portion slidably received in said slot, a longitudinal blind bore formed in said barrel portion and having portions thereof formed in both said upper and lower portions thereof and extending from the forward end of said barrel portion to a point spaced forwardly of the rear end of said slot, the rear end of said slot including an enlarged portion defining a catch for said flexible member, said grip portion including a trigger for releasing said flexible member from engagement with said catch, and said notch in said bow mid-portion including a portion aligned with said bore, said enlarged portion of said slot including a stop surface immediately adjacent said slot and disposed rearwardly of said bore lying in a plane extending transversely of said stock and disposed at substantially right angles to the longitudinal axis of said slot comprising said catch.

2. The combination of claim 1 wherein said trigger comprises a lever pivotally secured to said stock intermediate its opposite ends for movement about an axis extending transversely of said stock, one end of said lever being for engagement with said flexible member to unseat the latter from engagement with said stop surface upon pivotal movement of said lever and the other end of said lever being adapted for engagement by a finger of the user of said bow.

3. The combination of claim 2 including a transversely extending bore formed through said stock adjacent said grip portion, said trigger including a portion rotatably journaled in said bore.

4. The combination of claim 3 wherein said one end of said trigger includes end portions disposed on opposite sides of said stock for movement past said stop surface toward said slot.

5. A pistol bow comprising a stock including an elongated barrel portion and a grip portion, said barrel portion including upper and lower portions having confronting lower and upper substantially planar horizontal surfaces respectively and secured together with said surfaces in surface-to-surface contacting relation, at least one of said surfaces including a notch extending transversely thereacross and opening toward the other of said surfaces defining a longitudinal transversely extending slot in said barrel portion terminating a spaced distance from the opposite ends of said barrel portion, a bow extending transversely of the forward end of said barrel portion and having its mid-portion secured in the forward extremity of said slot, confronting surfaces of said bow and at least one of said barrel portions having opposing notches formed therein by which said bow and at least one of said barrel portions are interlockingly engaged with each other, an elongated flexible member secured between opposite end portions of said bow and having its midportion slidably received in said slot, a longitudinal blind bore formed in said barrel portion and having portions thereof formed in both said upper and lower portions thereof and extending from the forward end of said barrel portion to a point spaced forwardly of the rear end of said slot, the rear end of said slot including an enlarged portion defining a catch for said flexible member, said grip portion including a trigger for releasing said flexible member from engagement with said catch, and said notch in said bow mid-portion including a portion aligned with said bore, said enlarged portion of said slot including a stop surface immediately adjacent said slot and disposed rearwardly of said bore lying in a plane extending transversely of said stock and disposed at substantially right angles to the longitudinal axis of said slot comprising said catch, said trigger comprising a lever pivotally secured to said stock intermediate its opposite ends for movement about an axis extending transversely of said stock, one end of said lever being for engagement with said flexible member to unseat the latter from engagement with said stop surface upon pivotal movement of said lever and the other end of said lever being adapted for engagement by a finger of the user of said bow, a transversely extending bore formed through said stock adjacent said grip portion, said trigger including a portion rotatably journaled in said bore, said one end of said trigger including end portions disposed on opposite sides of said stock for movement past said stop surface toward said slot, each of said end portions extending from an opposite end of said bore and formed integrally with a portion of said trigger extending through said bore.

6. The combination of claim 5 wherein the ends of the portions of said trigger extending through said bore remote from the associated end portions are interconnected by means of a unitary loop shaped portion embracing a portion of said grip portion.

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