

March 12, 1929.

E. C. SPERRY

1,704,810

CROSS BOW GUN

Filed May 14, 1928

Fig. 1.

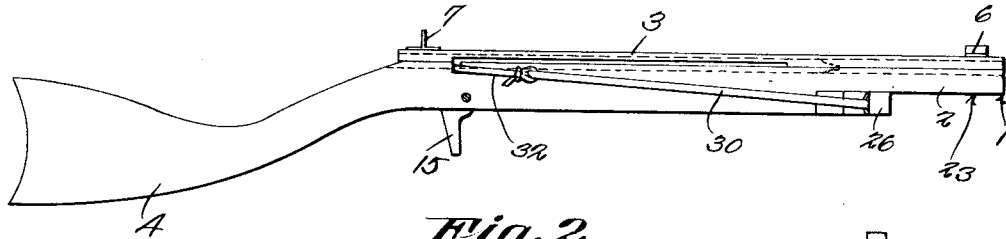


Fig. 2.

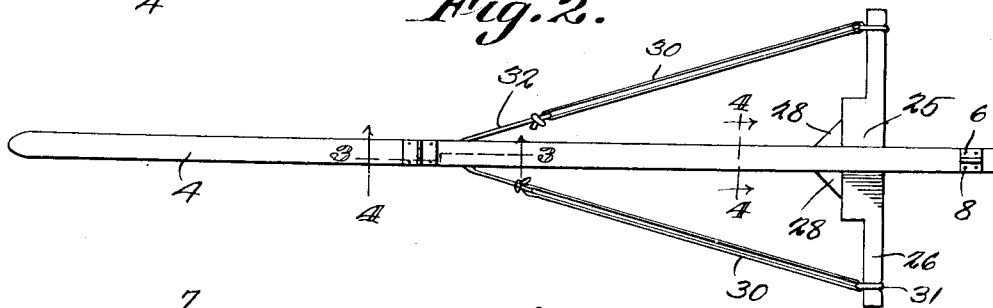


Fig. 3.

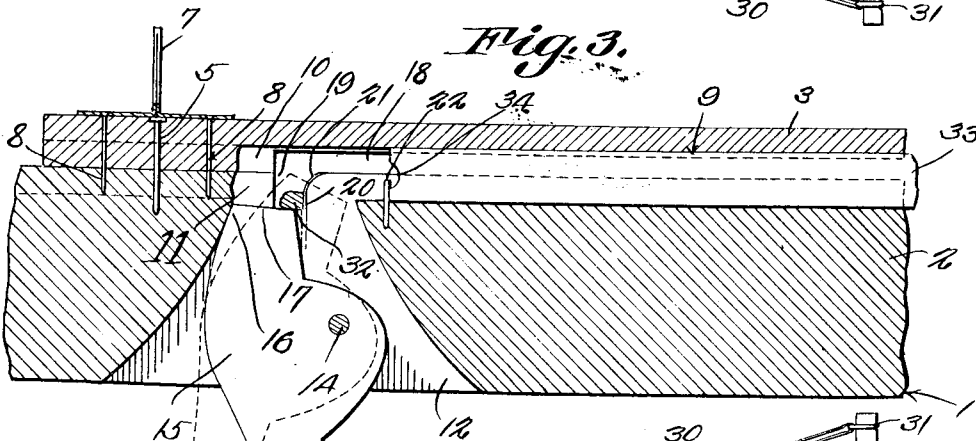
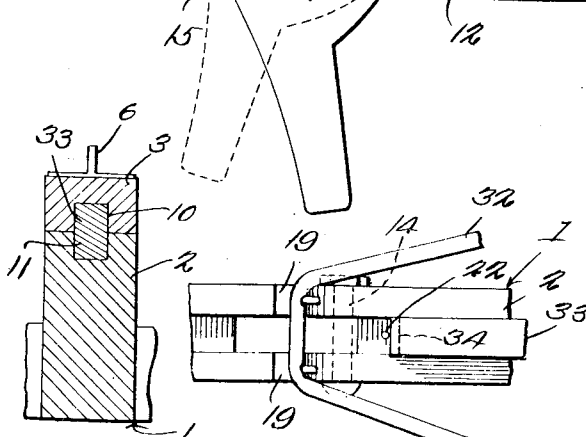


Fig. 4.

Fig. 6.

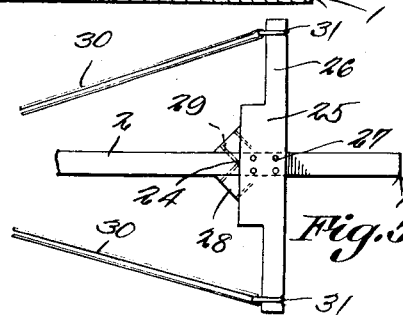


Fig. 5.

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UNITED STATES PATENT OFFICE.

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CROSSBOW GUN.

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This invention aims to provide a simple bowgun, so constructed that rubber bands may be used to form the bow string. The invention aims to improve the connection between the parts which form the barrel. Another object of the invention is to supply novel means for controlling and releasing the bow string.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in side elevation, a device constructed in accordance with the invention;

Figure 2 is a top plan;

Figure 3 is a section on the line 3—3 of Fig. 2;

Figure 4 is a cross section on the line 4—4 of Figure 2;

Figure 5 is a fragmental bottom plan;

Figure 6 is a top plan showing the body of the barrel, with the arrow in place.

The device forming the subject matter of this application is made of wood for the most part, and includes a barrel 1 made up of a body 2 and a cap strip 3 superposed on the body. A stock 4 is connected to the body 2 of the barrel 1 and preferably formed integrally therewith. The cap strip 3 is connected at its ends to the body 2, by means of securing elements 5, such as nails. A front sight 6 and a rear sight 7 are mounted on the cap strip 3. The sights 6 and 7 cover the securing elements 5 and hold them in place. Securing devices 8, such as nails, connect the sights 6 and 7 with the cap strip 3 and with the body 2 and serve as retainers for the sights.

The securing devices 8, moreover, serve as a connection auxiliary to the securing elements 5 for holding the cap strip 3 at its ends upon the body 2. The bore 9 of the barrel 1 is rectangular in cross section, as shown in Fig. 4. The bore 9 is formed by

groove 10 in the cap strip 3 and by a cooperating groove 11 in the body 2. In the lower edge of the body 2 there is an opening 12, across which extends a pivot element 14 mounted at its ends in the body 2. On the pivot element 14, a trigger 15 is mounted for swinging movement. The length of the trigger 15 is such that when the upper rear corner 16 of the trigger strikes against the body 2 at the rear wall of the opening 12, the upper end surface 17 of the trigger will be disposed a little below the lower surface of the bore 9, as shown in Figure 3 of the drawings. There is an elongated slot 18 in the cap strip 3 the slot communicating with the bore 9. There are notches 19 in the sides of the body 2, and these notches communicate with the opening 12 and with the bore 9. The notches 19 form shoulders in the body 2 of the barrel 1, the shoulders being marked by the numeral 20. The shoulders at their inner ends are disposed at right angles to the bore 9, but the outer corners of the shoulders are rounded off a little, as shown in Figure 3. Antifriction strips 21 preferably of metal, are embodied at one end in the body 2. The antifriction strips 21 extend along the shoulders 20 and terminate at the slot 18, as shown in Figure 3.

A stop 22, in the form of a pin, is mounted at its lower end in the body 2 and extends upwardly into the groove 11 of the body 2, the stop 22 being housed completely in the groove 11. The stop 22 is located slightly in advance of the shoulder 20.

The body 2 of the barrel is cut away at its forward end, as shown at 23, in Figure 1, to form a shoulder 24 (Fig. 5) against which abuts the thickened intermediate portion 25 of a cross bow 26. Securing elements 27, such as nails or screws connect the intermediate portion of the cross bow 26 with the body 2 of the barrel 1, and it is in order to provide ample room for the securing elements 27 that the cross bow 26 is thickened in its intermediate portion as shown at 25. Triangular brackets 28 abut against the rear edge of the thickened intermediate portion 25 of the cross bow 26, as shown in Figure 2, and the brackets 28 are attached by securing elements 29, such as nails to the part 25 of the cross bow 26, and to the sides of the body 2 of the barrel 1. The brackets 28 afford a secure connection between the cross bow and the barrel. The

cross bow 26 preferably is rigid. The bow string may be of any desired construction. As shown, it includes resilient bands 30, preferably made of rubber. The rubber bands 30 may be cut from an old tube of the kind used in a pneumatic vehicle tire, although, of course, rubber bands 30 may be manufactured in any other desired way.

The bands 30 at their forward ends are connected at 31 to the ends of the cross bow 26. The rear ends of the rubber bands 30 are connected to a strip 32 of strong leather or the like, slidably mounted in the slot 18.

The strip 32 is pulled back and engaged with the antifriction strips 21, behind the shoulders 20, the bow string thus, being held set. An arrow 33 is thrust backwardly into the bore 9 until the arrow abuts against the stop pin 22. The arrow 33 has a notch 34 in its rear end. Because both the arrow 33 and the bore 9 are of rectangular cross section, the arrow 33 cannot rotate and the notch 34 is always in position to receive the bow string, when the bow string is lifted clear of the shoulder 20, by the action of the trigger 15. Because the stop pin 22 is housed completely in the groove 11 of the body 2, there is no chance for the strip 32 of the bow string to catch on the stop pin when the part 32 of the bow string moves forward in the slot 18. Especial attention is directed to the antifriction strips 21 which, preferably, are made of metal. Owing to the provision of these strips, and because the shoulder 24 has a rounded corner, as shown in Figure 3, there is little friction on the part 32 of the bow string, when the front part of the bow string is lifted clear of the shoulders by the action of the trigger 15. The result is that the part 32 of the bow string is worn but little, and will last a long time.

What is claimed is:—

1. In a device of the class described, a barrel comprising a body and a cap strip superposed on the body, a cross bow carried by the barrel, a bow string assembled with the bow and movable between the cap strip and the body, a securing element forming a main connection between the cap strip and the body, a sight on the cap strip, the sight covering the securing element to hold it in place, and a securing device connecting the sight, the cap strip, and the body, to serve as a retainer for the sight, and as an auxil-

iary connection between the cap strip and the body.

2. A device of the class described, comprising a barrel having a bore, the barrel having an opening communicating with the bore, and having a longitudinal slot communicating with the bore, the barrel being provided with a notch communicating with the bore and with the opening, the notch defining a shoulder which has a rounded corner, an antifriction strip mounted in the barrel and extending along the shoulder and around the corner, a bow carried by the barrel, a bow string assembled with the bow and movable in the slot, the bow string being engageable with that part of the antifriction strip which extends along the shoulder, thereby to hold the bow string set, and a trigger pivotally mounted in the opening, the trigger constituting means for sliding the bow string upon that part of the antifriction strip which extends along the corner, thereby to ease the bow string into the slot and to enable the bow string to exercise a propelling function.

3. In a device of the class described, a barrel comprising a body and a cap strip, the body and the cap strip having cooperating grooves defining a bore, the cap strip being provided with a longitudinal slot communicating with the bore, there being a shoulder in the body, a stop mounted in the body in advance of the shoulder and housed completely in the groove of the body, a bow mounted on the barrel, a bow string assembled with the bow and movable in the slot, the bow string being engaged with the shoulder to hold the string set, a projectile in the bore and abutting against the stop, the projectile having a notch for the reception of the bow string, and a trigger engageable with the bow string to lift the bow string clear of the shoulder and to permit the bow string to engage in the notch of the projectile, the bore and the projectile being of rectangular cross section, thereby to prevent the projectile from rotating when the projectile is in engagement with the stop, and thereby to hold the projectile in such a position that the notch will receive the bow string.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

ERNEST COLDWELL SPERRY.