R. BAISCH AND O. KREUTZ.

TOY GUN.

APPLICATION FILED NOV. 3, 1919.

1,353,138. Patented Sept. 21, 1920.

Fig. 1.

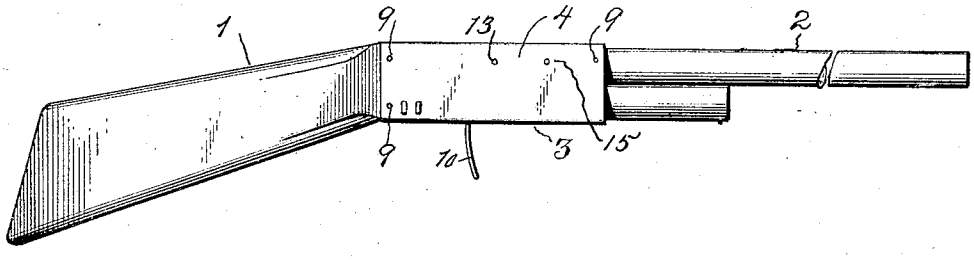


Fig. 2.

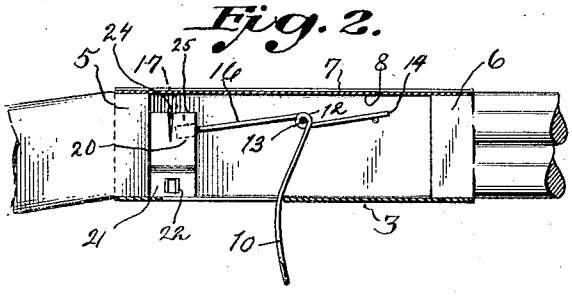
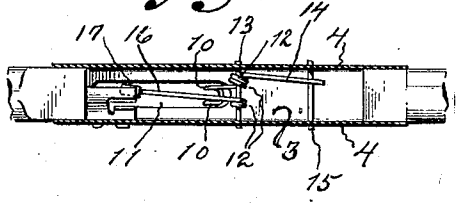


Fig. 3.



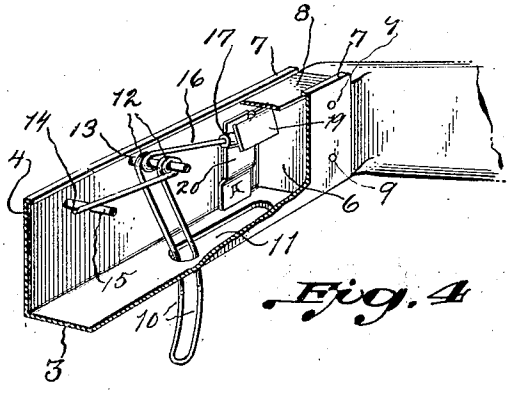


Fig. 4

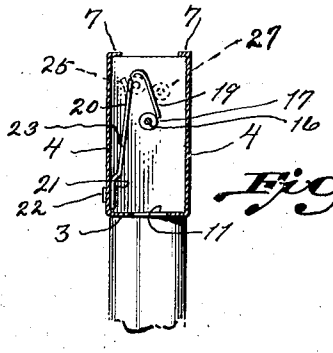


Fig. 5.

INVENTORS
Robert Baisch
Oscar Kreutz.
BY
Clement H. Stickney
ATTORNEY

UNITED STATES PATENT OFFICE.

ROBERT BAISCH AND OSCAR KREUTZ, OF DETROIT, MICHIGAN.

TOY GUN.

1,353,138. Specification of Letters Patent. Patented Sept. 21, 1920.

Application filed November 3, 1919. Serial No. 335,401.

To all whom it may concern:

Be it known that we, ROBERT BAISCH and OSCAR KREUTZ, citizens of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Toy Guns, of which the following is a specification.

This invention relates to toy guns and the like and to an arrangement thereof whereby an imitation of a shot or explosion is made by means that are readily operative, are easily manufactured and are capable of standing the rough usage to which toys are subjected.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a view in elevation of one form of toy gun that embodies features of the invention;

Fig. 2 is a view in horizontal, longitudinal section of the trigger chamber;

Fig. 3 is a view in detail of the trigger chamber in cross section, showing the path of travel described by a hammer of the trigger;

Fig. 4 is a view in perspective, partially broken away and in section showing the interior of the trigger chamber and the inclosed mechanism; and

Fig. 5 is a view in cross section through the trigger chamber showing the path of travel of the trigger hammer.

As herein indicated in preferred form a stock 1 and barrel 2, the latter of which may be a dummy if preferred, are united by a hollow trigger chamber. Preferably the latter is made of a piece of sheet metal folded to provide a bottom wall 3 and side walls 4 that are in substantially parallel relation and that embrace the inserted portion 5 of the stock and a corresponding part 6 of the barrel 2. The upper marginal portions of the side walls 4 are inbent to form parallel retaining flanges 7 which are at an interval above the plane of the inserted portions 5 and 6 of the stock and barrel so as to permit the insertion of a sound board 8 that is arranged to slide into position beneath the flanges 7 and thereby close the chamber. This sounding board or diaphragm is of fiber, sheet metal or suitable material to produce the tone desired when it is struck by the hammer of the trigger, the chamber itself forming a sound box. Retaining rivets 9 or the like hold the parts together.

A trigger is formed of a piece of spring wire or similar material bent between its ends into curved, substantially parallel, spaced arms 10 that together form a finger pull and extend through a slot 11 in the base 3 of the chamber. At the inner ends the arms 10 are bent into pivot eyelets 12 which form bearings for the trigger on a cross pivot pin 13, preferably in the form of a screw which passes through an opening in one of the walls 4 and is screw-threaded into a mating opening in the opposite wall. A spring arms 14 extends forwardly from one of the eyelets 12 and bears downwardly against a stop pin 15 which, similarly to the pin 13, bridges the space between the walls 4 into one of which it is screwed. A hammer arm 16 extends rearwardly from the other eyelet 11 and is provided at the end with a striker or hammer 17. The forward end margin of the slot 11 acts as a stop to limit the forward movement of the finger pull 10.

To provide the necessary snapping action to the trigger whereby as it is drawn back the hammer 17 may be released suddenly and allowed to fly against the under side of the plate 8, a detent member is suitably secured to one of the walls 4 of the chamber with the upper portion thereof formed into convergent, resilient arms 19 and 20 into which the hammer 17 passes as the trigger is drawn back, and by which it is retarded gradually until it reaches the upper end or nearest point of approach of the arms 19 and 20, when it is released suddenly and snaps against the sounding board 8. The arms 19 and 20 are so disposed in reference to the normal path of travel of the trigger 17 as to carry the latter to one side slightly of the course it might describe if free and as a consequence when the trigger is released or permitted to return to initial position under the spring action of the arm 14, the hammer passes down the outside of the arm 19 as indicated by the dotted figure 27. Thus the hammer 17 cams around the arm 19 passing up on the inside of it and returning on the outside, while it never is brought to rest by the converging arms although its sudden release produces the same result as if it had been stopped sharply as by a detent.

While the detent member may be of any shape giving the converging, gripping action desired, the form herein shown is preferable

and consists of a supporting portion 21 having struck out tongues 22 which pass through and are riveted against the wall 4, while the inwardly inclined body 23 of the member extends upwardly from the base into the arm 20 and is folded over to produce the arm 19, a longitudinal slit 24 separating the arms 19 and 20 from the adjacent portion. As a further detail of good construction the slit 24 permits of the out bending of the upper portion 25 of the arm 20 whereby a regulatable or adjustable grip is given to the hammer 17 just before its release.

As a result of this construction, a percussion toy in the shape of a gun or pistol or the like is obtained, which gives a very loud, snapping report, that is easily made in large quantities, with extremely low cost because of the simplicity of its construction and that is able to withstand hard usage from the simplicity of its parts.

Obviously, changes in the details of construction may be made without departing from the spirit of our invention and we do not care to limit ourselves to any particular form or arrangement of parts.

What we claim is:

1. In a toy gun, a sounding diaphragm, a trigger having a spring return arm and a spring hammer arm, a hammer carried by the latter arm and yieldingly gripping means for engaging the hammer as the trigger reaches the limit of its pull and suddenly releasing the hammer whereby the spring hammer arm snaps the hammer against the diaphragm.

2. A toy gun comprising a stock, a hollow trigger chamber extending forwardly from the stock and having the sounding diaphragm as one wall thereof, a one piece trigger in the chamber having a spring stop arm and a spring hammer arm, a hammer on the spring hammer arm adapted to strike the diaphragm and means in the chamber for yieldingly gripping the hammer as the trigger is pulled and suddenly releasing it as the trigger approaches the limit of its pull whereby the spring arm snaps the hammer against the diaphragm.

3. A toy gun comprising a stock, a plate bent between its margins to form a hollow trigger chamber extending forwardly from the stock, a sounding diaphragm forming one wall of the chamber, a one piece trigger oscillatory in the chamber having a spring stock arm for returning the trigger to initial position and a spring hammer arm, a hammer on the hammer arm adapted to be swung thereby against the diaphragm and means for yieldingly gripping and retarding the hammer as the trigger is pulled and suddenly releasing it as the trigger approaches the limit of pull, whereby the spring arm snaps the hammer against the diaphragm.

4. In a toy gun, a trigger chamber provided with a sounding diaphragm, a one piece trigger comprising a spring wire bent to form a trigger pull with oppositely extending spring arms, one of which acts as a return member for the trigger and the other of which carries a hammer and means for yieldingly gripping the hammer as the trigger approaches the limit of its pull and for suddenly releasing the hammer toward the limit of pull of the trigger whereby the spring arm snaps the hammer against the diaphragm.

5. In a toy gun, a trigger chamber one wall of which is a sounding diaphragm, a pivot pin in the chamber, a spring wire bent between its ends to form a trigger pull terminating in a pair of bearing eyelets engaging the pin, a spring arm extending in one direction from an eyelet adapted to yieldingly resist movement of the finger pull when the latter is drawn back, a spring arm extending rearwardly from the other eyelet, provided with a hammer, and adapted to project the hammer toward the diaphragm and means in the chamber for yieldingly resisting the movement of the hammer toward the diaphragm and for releasing the hammer suddenly toward the limit of motion of the trigger.

6. In a toy gun, a trigger chamber one wall of which is a sounding diaphragm, a pivot pin in the chamber, a spring wire bent between its ends to form a trigger pull terminating in a pair of bearing eyelets engaging the pin, a spring arm extending in one direction from an eyelet adapted to yieldingly resist movement of the finger pull when the latter is drawn back, a spring arm extending rearwardly from the other eyelet, provided with a hammer, and adapted to project the hammer toward the diaphragm, and a detent plate secured in the chamber and bent to form a pair of convergent arms adapted to yieldingly grip the hammer as it approaches the diaphragm and to release it when the trigger approaches the limit of its motion, the hammer being adapted to return to initial position by passing around the detent member.

In testimony whereof we affix our signatures.

ROBERT BAISCH.
OSCAR KREUTZ.