Oct. 30, 1951 A. G. HERRING 2,573,142

REPEATING RUBBER BAND TOY GUN

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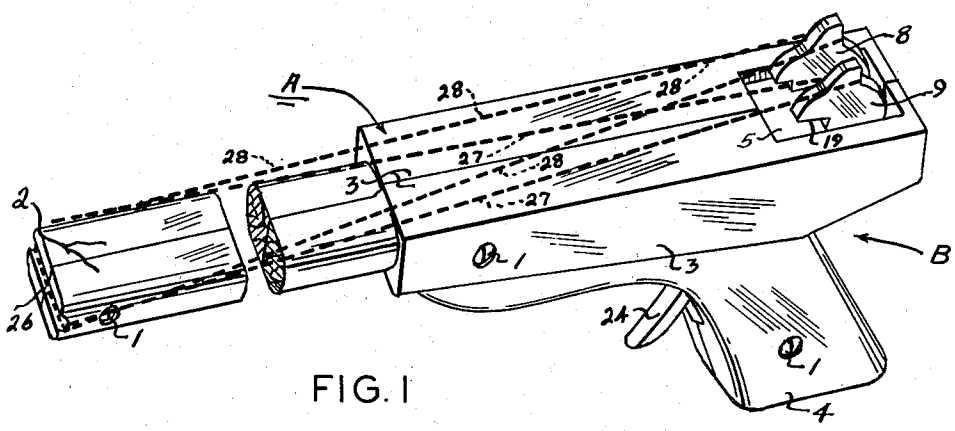


FIG. 1

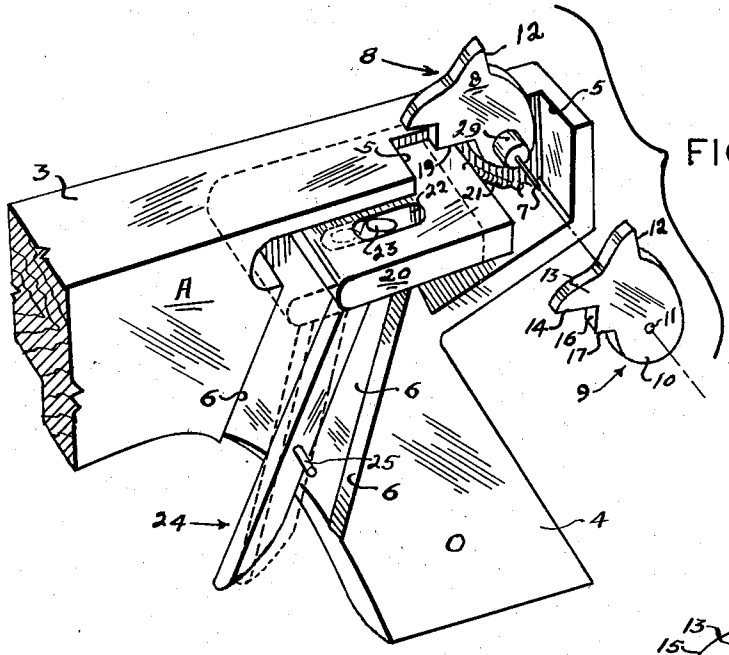


FIG. 2

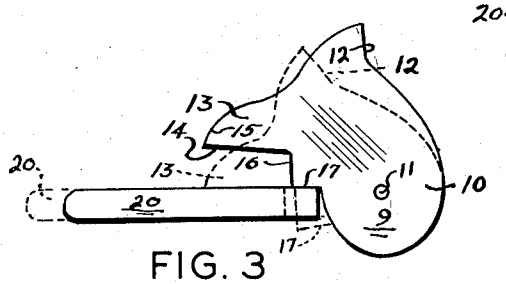


FIG. 3

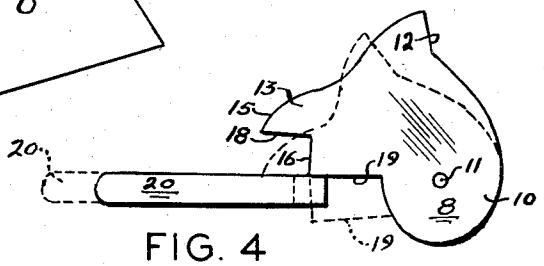


FIG. 4

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REPEATING RUBBER BAND TOY GUN

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2 Claims. (Cl. 124—19)

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The present invention relates to toy guns, and more particularly to a gun for firing or discharging endless rubber bands.

The principal object of the invention is to provide a toy gun which will consecutively discharge a plurality of endless rubber bands.

A further object is to provide a toy gun structure in which said bands may be consecutively discharged by one stroke of, or pull on the trigger.

Another object is to provide a structure of this class in which the mechanical arrangement does not defeat the possibility of making the gun closely simulate a real gun of conventional type.

An additional object is to provide a gun of this class in which substantially all of its mechanical mechanism may be made of wood.

Other objects will be apparent from the following description when taken in conjunction with the accompanying one sheet of drawings, wherein:

Figure 1 is a perspective view of a toy gun constructed in accordance with the present invention, the dotted lines representing two rubber bands installed thereon in position to be discharged;

Figure 2 is an enlarged perspective view of the stock, one body half of which has been removed to disclose the inside construction thereof;

Figure 3 is a diagrammatic elevational view illustrating the operation of one of the rubber band retaining and discharging elements; and,

Figure 4 is a similar view showing operation of the other retaining element.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

The reference characters A and B indicate respectively, two complemental body halves which are adapted to be connected together in face to face abutted relation, and which together form the barrel, stock and handle portions of the device. The body halves A and B are held in such abutting assembled relation by a plurality of bolts 1, which pass through suitably located aligned transverse perforations in the body halves.

The two body halves, when held together in such relation, combine to form a front or forward barrel portion 2, an integral stock portion 3 which lies in axial alignment, with and to the rear of said barrel portion, and a handle portion 4 which projects downwardly from the stock portion.

Formed within the rear portions of the two

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body halves, and located within the rear portion of the stock 3, there is provided a cavity or chamber which has an upper opening 5 and a downwardly extending channel 6 which passes at an angle through the upper part of the handle 4.

Extending across the chamber beneath the upper opening 5, there is provided a transverse pivot pin 7, which acts as a horizontal axis for pivotally mounting a plurality of retaining elements, each of which acts to hold and to release a stretched endless rubber band, as will be more fully described herein below:

The right hand one of the retaining elements, looking from the rear of the device, is indicated by the reference numeral 8, while the left hand one of the elements is indicated by the numeral 9.

The two retaining elements are somewhat similarly formed, although they are not identical in measurement. The elements each have a disc-like body portion 10 provided with a transverse perforation 11 for receiving said pivot pin 7. Above the body portion 10 there is an upwardly extending projection having a flat rear edge surface 12. Extending forwardly from the body portion 10 is a bill or nib 13 which has its lower edge surface formed in two downwardly faced straight shoulders.

The only difference in the two elements 8 and 9 resides in the difference in length of these downwardly facing shoulders.

As best illustrated in Fig. 3, the left hand element 9 has a downwardly facing straight shoulder 14 which extends rearwardly from its front edge 15 to a vertical face 16. The face 16 extends downwardly to the front end of a second downwardly facing straight shoulder 17. The front shoulder 14 is considerably longer than the rear shoulder 17, for a purpose more fully described herein below.

As best shown in Fig. 4, the right hand element 8 has a downwardly facing straight shoulder 18 which extends rearwardly from its front edge 15 to a vertical face 16. The face 16 extends downwardly to the front end of a second downwardly facing straight shoulder 19. In the element 9, the front shoulder 18 is considerably shorter than the rear shoulder 19. The only differences in the two elements 8 and 9 are in the comparative lengths of the two front shoulders 14 and 18, and in the two rear shoulders 17 and 19. The front shoulder 14 of the element 9 is considerably longer than the front shoulder 18 of the element 8, and the rear shoulder 19 of the element 8 is consid-

erably longer than the rear shoulder 17 of the element 9.

The purpose of these differences in length of the downwardly facing shoulders of the two retaining elements will be more fully described hereinbelow.

Slidably disposed within the cavity which is complementally formed in the stock 3 of the two body halves, there is provided a solid rectangular block or shuttle 20. The rear end of the shuttle 20 resides beneath the front end or nib portions 13 of the two elements 8 and 9, and the shuttle is normally held at its rearmost position by a suitable retrieving spring 21. When in such rearmost position, the rear portion of the shuttle is engaged beneath the rear downwardly facing shoulders 17 and 19 of the elements 9 and 8 respectively.

The central portion of the shuttle 20 has an elongated through slot 22 which receives the upper reduced end portion 23 of a trigger 24. The trigger 24 resides within the channel 6 formed in the two body halves A and B, and is pivotally mounted therein upon a transverse pivot pin 25. The trigger 24 extends beneath the stock 3 in front of the handle 4, so that it may be contacted by a person's finger and be moved rearwardly in a manner similar to any gun trigger. Rearward movement of the depending portion of the trigger 24 causes forward movement of the shuttle 20 in an obvious manner.

In loading the gun with endless rubber bands, a band is first stretched from a notch 26 across the front end of the barrel 2, back to the retaining element 8, and the rear portion of the loop of the band is engaged behind the upwardly projecting rearwardly facing edge surface 12 thereof. Such a band is indicated in Fig. 1 by the reference numeral 28. Tension of the rubber band 28 acts to draw the retaining element 8 forwardly, and therefore holds the rearmost downwardly facing shoulder 19 of the element 8 in firm contact with the upper surface of the shuttle 20.

Another, and similar, rubber band 27 is stretched through the notch 26 and is engaged behind the upwardly projecting rearwardly facing edge surface 12 of the retaining element 9. This arrangement of the two bands leaves the band 27 above the band 28, and the tension of the band 27 holds the shoulder 17 in firm contact with the upper surface of the shuttle 20.

With the two bands 27 and 28 thus installed or mounted, the gun is ready to be discharged.

Rearward movement of the downwardly projecting portion of the trigger 24 first withdraws the rear portion of the shuttle 20 from beneath the rearmost downwardly facing shoulder 17 of the retaining element 9. This releases the element 9 to forward pivotal movement on its pivot pin 7. This movement is however limited by subsequent contact of the front shoulder 14 with the upper surface of the shuttle 20. Sufficient movement is allowed, however, to dispose the rear edge surface 12 at such an angle that the rear loop of the band 27 will slide off the surface 12. This is due to the inherent resiliency of the band, and such resiliency causes the band to be projected forwardly from the barrel 2.

Further rearward movement of the trigger 24 causes the shuttle 20 to be withdrawn from beneath the shoulder 19 of the retaining element 8, and the rubber band 28 is therefore similarly discharged.

In order to place the gun in condition for reloading, the retaining elements are manually pivoted to their original positions. The spring 21 acts to return the shuttle to its original rearmost position beneath the shoulders 17 and 19.

The exact location of the spring 21 is not particularly pertinent, so long as it returns the shuttle to its rearmost position. It could well be arranged to operate on the trigger 24, if desired.

The retaining elements 8 and 9 are held in suitable spaced relation from each other by some desired means, for instance, by a spacer 29 (Fig. 2). The spacer 29 may either be in the form of a tubular lug made integral with the element 8, or it may well be in the form of a tubular sleeve freely mounted on the pivot pin 7.

From the above disclosures, it is thought to be obvious that a device has been provided which will accomplish all of the objects and purposes set forth.

Obviously the invention is susceptible to some changes or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claims.

I claim:

1. A toy gun, including: an elongated barrel; a stock extending longitudinally from the rear end of said barrel, and having a longitudinal cavity formed therein; a pivot pin passing transversely through said cavity; a plurality of retaining elements rotatably mounted on said pin, and having portions normally projecting above said stock; a shoulder on each of said elements, said shoulders being of uneven lengths; a shuttle within said cavity beneath said shoulders for holding the elements in their normal positions of projection above the stock, said shuttle slidable in a forward direction from beneath said shoulders successively to release the elements to separate and individual partial forward and downward rotation; a trigger engaging the shuttle for moving it forwardly; and a spring for retrieving said shuttle to its normal rearmost position.

2. Structure as specified in claim 1, in which each of said retaining elements includes: a pivoted disc portion; and an upper rearwardly facing abutment on said disc portion and normally projecting above said stock.

ARTHUR G. HERRING.

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