Nov. 7, 1950 R. PAUL 2,529,047

TOY REPEATING ELASTIC BAND GUN

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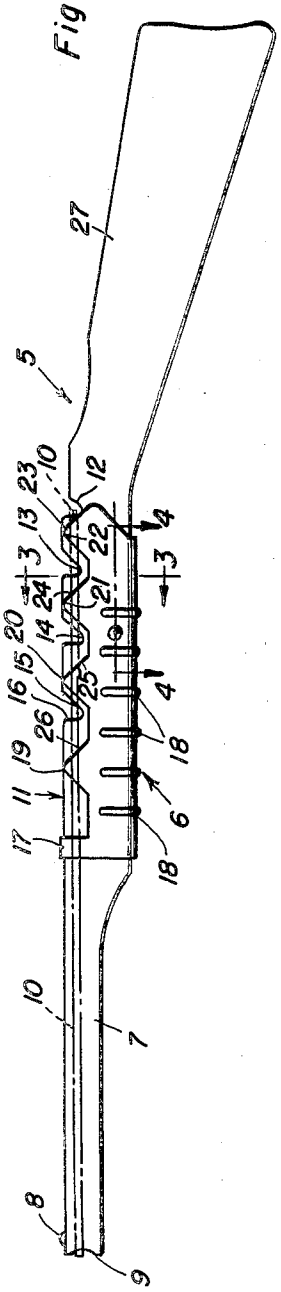


Fig. 1.

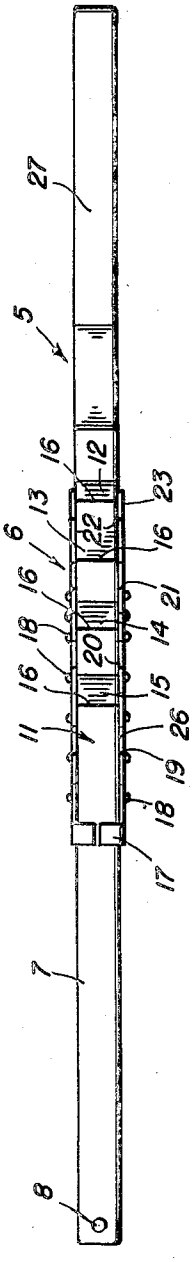


Fig. 2.

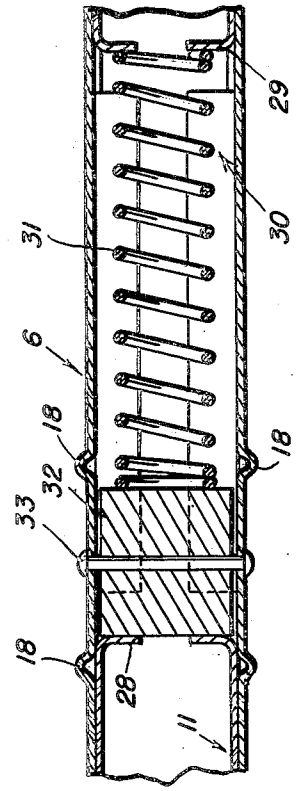


Fig. 4.

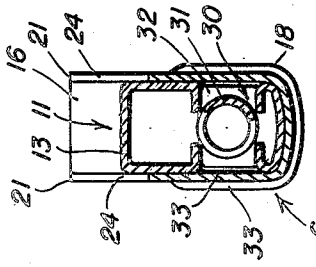


Fig. 3.

Robert Paul

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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TOY REPEATING ELASTIC BAND GUN

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The present invention relates to toy guns and so-called rifles of a type constructed to satisfactorily utilize common rubber or equivalent elastic bands as projectable missiles and the primary object of the invention is to structurally functionally and otherwise improve upon styles and forms of toy guns presently known to me.

As the introductory statement of the invention implies, I am aware that toy guns have been devised wherein means is provided to load the gun with a plurality of elastic bands, the latter being so arranged that they may be fired one by one or in such rapid succession that all bands appear to be shot off at the same instant. Then, too, I am aware that imitation rifles and shotguns have been devised wherein the stock or the adjacent breech portion of the gun is serrated or notched to provide longitudinally usable shoulders for anchorage of bands thereon. It is also old in the art to employ slidable members on a toy gun breech which are in some manner constructed to progressively contact the bands to trip and release same for projection purposes.

Features in the category revealed are disclosed, for example, in a patent to B. B. Gerken covering a toy gun in Patent 1,821,381 of September 1, 1931. In addition, a similar adaptation is covered in the repeating rubber band rifle of P. W. Beauchamp et al., Patent 1,909,927 of May 23, 1933.

As stated, it is an object of the invention to improve on patented and known elastic band guns and one improvement resides in a novel type of slidable grip which is slidably mounted on the rifle breech and which takes the form of a sheath and has longitudinally spaced cams which engage the elastic bands in properly arranged opposed pairs and in spaced progression for purposes of camming same from engagement with shoulders on said breech for ready firing of the bands.

Another object of the invention is to provide a gun, the construction of which serves to accommodate the stated slidable sheath with cam elements thereon, said sheath having connection with a return spring whereby the sheath, when it is operated to release the bands, is pulled in the direction of the butt or stock of the gun against the tension of the return spring.

Other objects, features and advantages of the invention will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

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Figure 1 is a side elevation of a toy-type elastic band gun constructed in accordance with the principles of the present invention;

Figure 2 is a top plan view of same;

Figure 3 is a cross section on the line 3—3 of Figure 1, looking in the direction of the arrows;

Figure 4 is a fragmentary longitudinal section on the line 4—4 of Figure 1 looking in the direction of the arrows.

Referring to the drawings by distinguishable reference numerals and accompanying lead lines it will be seen that, broadly interpreted, the structure is characterized by the toy gun per se denoted by the numeral 5 and the grip unit 6, the two being assembled as shown in Figures 1 and 2 and shaped to cause the overall gun to resemble an actual repeating type rifle.

The outer end of the barrel 7 has a suitable sight 8 and at this point I provide a notch 9 to seat adjacent end portions of one or more common rubber bands 10. The rubber or equivalent bands are adapted to be seated and hitched in notches or recesses provided therefor in the upper edge of the breech portion 11 of the gun. The notches are denoted by the numerals 12, 13, 14 and 15 and said notches define retaining shoulders 16 which may be individually used to accommodate adjacent end portions of a plurality of bands or the like. As a general rule, one band is hooked in each recess against the adjacent shoulder 16 in an obvious manner.

The grip 6, which is of sheet material, is in the form of a sheath, the latter being substantially channel-shaped in cross section. The forward end of the sheath is assembled and slidably mounted on the breech 11 by way of suitably bent strap member 17. The numerals 18 designate indentations or otherwise formed anti-slipping beads. The beads facilitate obtaining a satisfactory and reliable hold on the slidable grip 6. The upper edges of the respective side walls of the channel forming said sheath are provided with a plurality of substantially V-shaped projections 19, 20, 21 and 22. These in turn define intervening notches and also a plurality of cams 23, 24, 25 and 26. These cams and shoulders are spaced apart varying distances in a predetermined order, as shown. This idea of varying or stepping off the distances between the cams 23 to 26 and shoulders 16 permits them to operate in the desired progressive and timed relation, whereby it is possible to release the bands one at a time, or to move the grip with sufficient rapidity to virtually release and project all of the bands at approximately the same time. The stated predetermined order of the shoulders 16 assures that

the cams 23 to 26 will not obstruct the shoulders 16 and/or notches 13 to 15 while the grip is fixed in loading position.

It is desired to return the grip to a normal or loading position after each group of bands has been shot from the rifle. Therefore the rifle, which includes the usual stock or butt 27 is preferably constructed from sheet material and the breech portion has longitudinally spaced stop shoulders at the points 28 and 29 as shown in Figure 4. These shoulders 28 and 29, in conjunction with the rest of the structure, define a spring chamber 30 which accommodates a normally expanded coiled spring 31. The spring is confined in the chamber 30 and bears at one end against the shoulder 29. The opposite end of said spring 31 bears against a stop block 32 which is operable in the chamber, the side walls of the grip or sheath 6 being pinned to the block, as at 33. Thus, when the grip is grasped and pulled progressively toward the stock 27 of the gun the band 10 closest to the stock is released, the next adjacent band second, and so on. When all four bands have been cammed from the shoulders 16 and thus displaced in the manner just stated, the coiled spring 31 returns the grip 6 to its normal or forward position.

Novelty is predicated on unique releasing means which takes the form of a channel-shaped grip whose side walls slidably embrace the shouldered portions of the breech wherein said grip has a plurality of successively functioning band dislodging and releasing cams, said cams being arranged in opposed longitudinally spaced pairs and the spacing between the successive pairs of cams being different. In addition, novelty has to do with the assembling strap means 17 at one end of the channel-shaped sheath and the wooden or equivalent stop and assembling block 32 which is pinned between the walls of the sheath and which is slidable in the breech chamber. What is more, novelty has to do with the breech provided with longitudinally spaced shoulders for the tensioned band-ends, there being a spring chamber provided to accommodate the spring means and the assembling and stop blocks carried by the aforementioned cam-equipped sheath.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials or rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. Releasing means for elastic bands on a toy rifle comprising a grip adapted to be slidably mounted on a shoulder equipped breech of said rifle, said grip having a plurality of successively functioning band tripping and releasing cams, said cams being arranged in opposed, longitudinally spaced pairs and the spacing between the successive pairs of cams being different.

2. A toy-type elastic band gun of the type shown and described comprising a gun proper including, a barrel, a breech and a stock, said breech having longitudinally spaced transversely disposed notches providing tensioned band locating and retaining shoulders from which one end portion of an elastic band can be lifted and released, and a slidable grip embodying a channel-shaped sheath having retaining strap means at one end slidably embracing said breech, the upper edges of the side walls of said sheath being serrated and defining and providing band lifting and releasing cams, the latter coacting with said shoulders.

3. A toy rifle of the type shown and described comprising a gun proper including barrel, breech and stock portions, said breech portion having longitudinally spaced transversely disposed accessible notches providing tensioned band locating and retaining shoulders from which one end portion of an elastic band can be lifted and released, and a slidable grip embodying a channel-shaped sheath having retaining strap means at one end slidably embracing said breech, the upper edges of the side walls of said sheath being serrated and defining and providing band lifting and releasing cams, said cams being arranged in opposite pairs and the spacing between successive pairs of cams being different.

4. A toy rifle of the type shown and described comprising a gun proper including barrel, breech and stock portions, said breech portion having longitudinally spaced transversely disposed accessible notches providing tensioned band locating and retaining shoulders from which one end portion of an elastic band can be lifted and released, and a slidable grip embodying an open-ended channel-shaped sheet material sheath having bent retaining straps at one end slidably embracing said breech, the upper edges of the side walls of said sheath being serrated and defining and providing band lifting and releasing cams, said cams being V-shaped and arranged in opposed pairs and the spacing between successive pairs of cams being different.

5. As a new article of manufacture, a slidable grip adapted to be slidably mounted on a shoulder equipped breech of a toy elastic band gun comprising an open-ended channel-shaped sheet metal sheath having parallel side walls provided at corresponding ends with laterally bent retaining straps to slidably embrace said breech, the upper edges of said side walls being serrated and defining inverted V-shaped elastic band lifting and releasing cams, said cams being arranged in opposed pairs and the spacing between successive pairs of cams being different, said side walls further including a plurality of indentations defining outstanding ribs to facilitate satisfactory grasping of the sheath for operational purposes, and a stop block fitted between and pinned to said side walls.

6. A toy-type elastic band gun of the class described comprising a gun including a stock, a breech and a barrel, said breech being hollow and providing a spring chamber, a block confined and slidable back and forth in said chamber, a coiled spring also confined in said chamber and bearing at one end against said block and bearing, at the opposite end, against a portion of the breech, the top side of said breech having longitudinally spaced transverse notches providing a plurality of elastic band accommodating and retaining shoulders, and a channel-shaped sheath having side walls slidably embracing said breech and fixedly pinned to said block, the forward end portion of said sheath having assembling straps slidably embracing said breech, the upper edges of the said side walls having longitudinally spaced V-shaped projections, and said projections defin-

ing band lifting and dislodging cams cooperable with said shoulders.

7. A toy-type elastic band gun of the class described comprising a gun including a stock, a breech and a barrel, said breech being hollow and providing a spring chamber, a block confined and slidable back and forth in said chamber, a coiled spring also confined in said chamber bearing at one end against said block and bearing, at the opposite end, against a portion of the breech, the top side of said breech having longitudinally spaced transverse notches providing a plurality of elastic band accommodating and retaining shoulders, and a channel-shaped sheath having side walls slidably embracing said breech and fixedly pinned to said block, the forward end portion of said sheath having assembling straps slidably embracing said breech, the upper edges of the said side walls having longitudinally

spaced V-shaped projections, said projections defining band lifting and dislodging cams, said cams being arranged in opposed pairs and the spacing between successive pairs of cams being different and said cams being normally out of alignment with said shoulders so as not to interfere with the step of engaging the tensioned ends of the bands with the shoulders.

ROBERT PAUL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,381,639	Hess	June 14, 1921
1,821,381	Gerken	Sept. 1, 1931
1,909,927	Beauchamp et al.	May 23, 1933