Feb. 25, 1930. J. B. FISHER 1,748,215

TOY GUN

Filed Jan. 21, 1929

Fig. 1

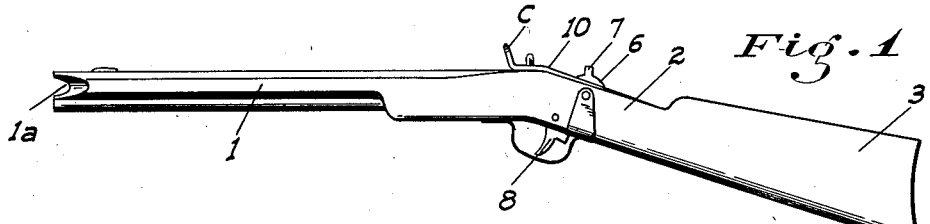


Fig. 2

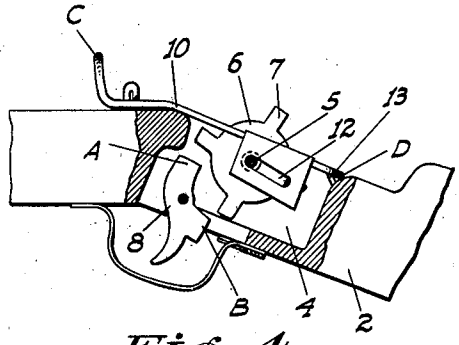


Fig. 3

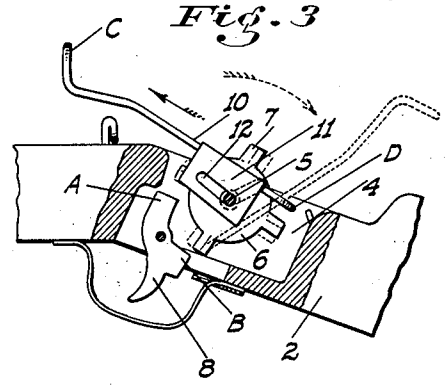


Fig. 4

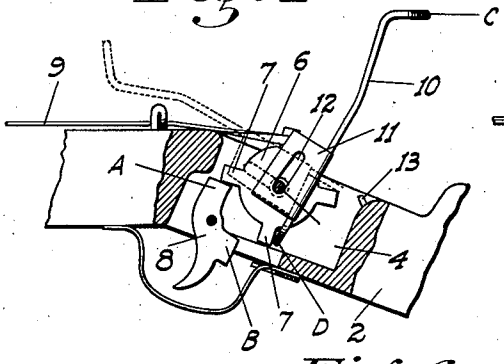


Fig. 5

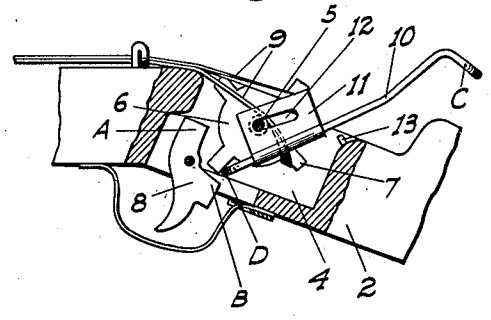


Fig. 6

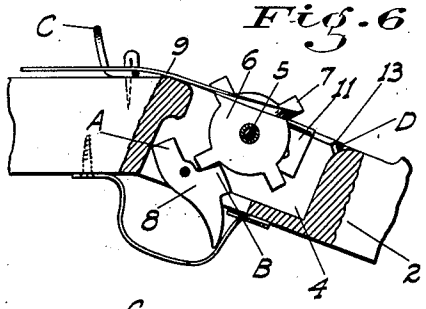


Fig. 7

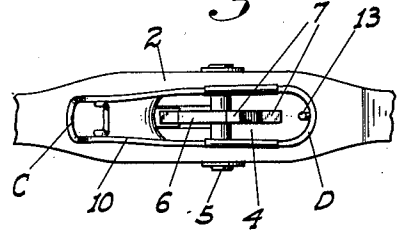
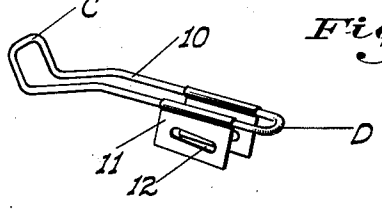


Fig. 8



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UNITED STATES PATENT OFFICE

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TOY GUN

Application filed January 21, 1929. Serial No. 333,897.

This invention relates to improvements in automatic or repeating toy guns of that character which use rubber bands as missiles and particularly represents improvements over the structure shown in my co-pending application for patent Serial No. 236,463, filed November 29, 1927.

The principal object of the present invention is to simplify the trigger and the control structure for the band holding disc so that the trigger for said structure constitutes a single piece.

A further object is to provide an improved means for facilitating the loading of the disc with a number of the bands so that even a small child may easily accomplish this operation, and to prevent the loading from being then effective unless the barrel of the gun is pointed down and so training the user in the proper handling of actual fire arms during this loading operation.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of my improved gun.

Fig. 2 is a fragmentary sectional elevation of the gun showing the same unloaded.

Fig. 3 is a similar view of the initial operation in the loading of the gun.

Fig. 4 is a similar view showing one band engaged with the disc.

Fig. 5 is a similar view showing the subsequent movement of the loading member and with another band also mounted on the disc.

Fig. 6 is a similar view showing the trigger after it has been pulled and a band has been discharged.

Fig. 7 is a fragmentary top plan view of the gun.

Fig. 8 is a perspective view of the lever member for facilitating the loading operations.

Referring now more particularly to the characters of reference on the drawings, the gun may be made of wood or pressed metal and comprises essentially a barrel 1, a stock 2 and a butt 3, these parts being shaped and proportioned to simulate an actual fire arm which may be a rifle, shotgun, or revolver. The stock 2 is formed with a vertical slot 4 in which the operating mechanism is located as will now be described.

Disposed in the slot 4 and mounted on a shaft 5 is a disc 6 which is considerably narrower than the slot and is provided with a plurality of radial lugs 7, preferably four of such lugs being used. The disc is disposed so that its upper periphery substantially alines with the upper edge of the stock, the lugs of course successively projecting above the stock.

Pivoted in the slot below and somewhat ahead of the shaft 5 is a trigger 8, the lower portion of which projects below the stock as usual for engagement with a finger. The trigger at its upper forward end, above its pivot, has a stop A to project into the path of the disc lugs, and has also another stop B disposed rearwardly of and below said pivot to also project into the path of the lugs. The stop B in addition serves as a weight, being so disposed relative to the trigger pivot as to cause the stop A to swing away from the path of the lugs as the gun is held with the barrel sloping up and the disc is not loaded, so that there is then nothing to prevent free rotation of said disc. When the gun is held with its barrel sloping down, however, the trigger will swing in the opposite direction or so that the stop A will project into the path of rotation of the lugs so as to then prevent rotation of the disc in one direction.

As in the previous device rubber bands 9 are used as the missiles, which bands are all caught at one end by a notch 1^a cut in the outer end of the barrel and are then stretched to extend to and are caught by the successive lugs 7 about the disc. The bands exert a rotative pressure on the disc, tending to rotate the same forwardly, which tendency is nor-

mally restrained by the lug which at the time bears against the top of the stop A of the trigger. Another lug then projects upwardly above the stock as shown in Fig. 4, so that when the trigger is pulled rearwardly so as to move the stop A clear of the lug engaged thereby, the tension of the band will cause the disc to rotate and in so doing will release itself and fly off into a space. As soon as the trigger is pulled, stop B passes into the path of the lug previously engaged by the stop A as shown in Fig. 6, limiting the rotative movement of the disc. Assuming that another band is still engaged by a disc lug, the rotative pull of this band on the disc will cause the trigger to be automatically shifted forward when the finger pressure is released, and in so doing will move the stop A under the lug above, preventing further rotation of the disc until the trigger is again pulled, when the above movements are repeated. It will thus be seen that the disc is automatically permitted to rotate to discharge a missile and is again held so as to prevent more than one missile being discharged, with each pull on the one piece trigger mechanism and without the aid of any springs or other additional features.

In the previous device it was necessary to load the disc by rotating the same backward by hand. This was inconvenient and awkward especially for a small child and I have therefore provided an improved disc rotating lever to facilitate loading operations.

This lever comprises a continuous and substantially flat loop 10 of wire or the like which is disposed just over the slot 4 and has side plates 11 which project between the disc and sides of the slot. These plates have longitudinal slots 12 therein through which the shaft 5 freely passes. The forward portion of the loop is raised as shown at C to form an arch normally straddling the missile bands when loaded, while the rear portion of the loop forms a cross bar D. When the shaft 5 is at the forward end of the slot 12, the lever lies adjacent and parallel to the stock and the cross bar D is then engaged by a catch pin 13 fixed on the stock at the rear end of the slot 4, and preventing downward movement of the lever into the slot. As the lever is pulled forwardly, however, the cross bar is disengaged from the catch pin, and by the time the shaft 5 reaches the rear end of the slot 12, said cross bar is disposed in the path of movement of the disc lugs. As the front end of the lever is then raised and pulled rearwardly, turning on the shaft 5 as an axis, the cross bar will engage the nearest lug and will rotate the disc rearwardly. The finger of the same hand holding the gun at the stock may then be used to retain a hold on the lever while the rubber band is being stretched by the other hand and engaged with the lug then uppermost. A release of pressure on the lever (with the gun barrel sloping down) will cause a forward lug to engage the stop A, preventing forward rotation of the disc. The lever may then be restored to its original position if desired, or if further loading operations are to be carried out it may be retracted a sufficient distance to cause the cross bar to engage another lug, when the backward movement of the lever and the consequent backward rotation of the disc may be repeated.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. In a toy gun to shoot eleastic bands, a rotary member, a plurality of lugs projecting radially therefrom to be each engaged with one end of a band, a trigger pivoted under the member, a stop formed with the trigger and adapted to project behind one lug to then prevent rotation of the member in one direction and another stop on the trigger to project behind a lug only after the first named stop has been withdrawn from the lug by a rearward pull on the trigger and the member has rotated a certain amount in said one direction.

2. In a toy gun to shoot elastic bands, a rotary member, a plurality of lugs projecting radially therefrom to be each engaged with one end of a band, a trigger member pivoted under the member somewhat ahead of the pivot thereof, a stop formed with the trigger above the pivot thereof and adapted to project behind one lug to then prevent rotation of the member in one direction and another stop on the trigger disposed below and rearwardly of said first named stop to project behind the same lug only after the trigger has been pulled rearwardly and the first named stop has been disengaged from the lug.

3. A structure as in claim 1 in which said last named stop serves as a weight which is arranged to cause the upper end of the trigger and the first named stop to swing forwardly and clear of the lug unless the gun is held with a downward slope toward its forward end.

4. In a toy gun to shoot elastic bands, a rotary member, a plurality of lugs projecting radially therefrom to be each engaged with one end of a band, said band being then stretched whereby to tend to rotate the member in one direction, releasable trigger means

for normally preventing such rotation, and lever means permanently mounted on the gun to detachably engage one lug on the disc at a time to turn said disc a certain distance in the opposite direction against the resistance of the band.

5. In a toy gun to shoot elastic bands, a rotary member, a plurality of lugs projecting radially therefrom to be each engaged with end of a band, said band being then stretched whereby to tend to rotate the member in one direction, releasable trigger means for normally preventing such rotation, a lever pivoted in connection with the member and having a cross bar on its rear end to engage a lug of the member, and means formed with the lever pivot means for enabling the lever to be moved lengthwise of the gun at will to withdraw the cross bar from the path of movement of the lugs.

6. In a toy gun to shoot elastic bands, a rotary member mounted in a vertical slot provided in the stock of the gun, a shaft on which said member is pivoted, lugs projecting radially from the member to be each engaged with one end of a stretched band, trigger means normally preventing rotation of the member in the direction induced by the pull of the bands, a lever normally lying along the top of the stock and slot, a cross bar on the rear end of the lever to project into the path of rotation of the lugs, and a plate depending from the lever into the slot and having a longitudinal slot through which the shaft projects whereby said shaft may form the axis of rotation of the lever and also permit the lever being shifted longitudinally of the gun.

7. A structure as in claim 6, with a catch pin mounted on the stock to detachably engage the cross bar only when the lever is disposed in its normal position and the said cross bar is rearwardly of the path of the lugs.

8. A structure as in claim 6 in which the forward end of the lever is formed with an upstanding arch extending laterally and disposed in the central transverse plane of the stock to then straddle a band engaged with a lug.

In testimony whereof I affix my signature.

JOSEPH B. FISHER.