May 3, 1927. 1,626,892

W. A. TIDWELL

TOY GUN

Filed Dec. 16, 1926

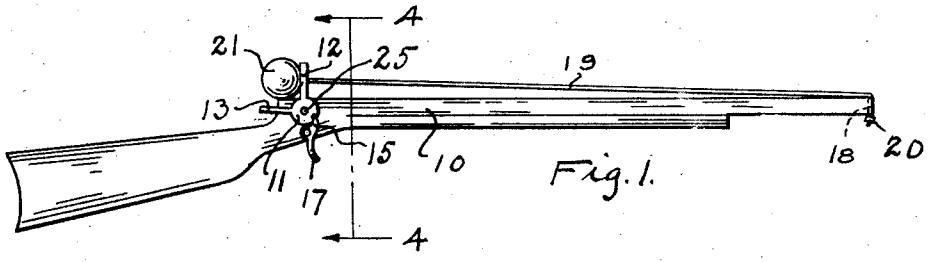


Fig. 1.

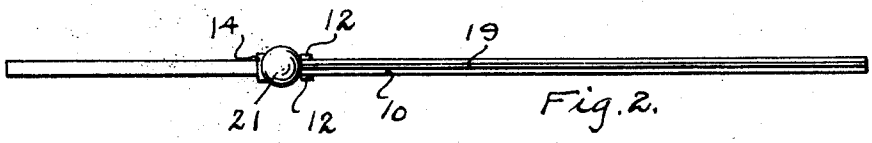


Fig. 2.

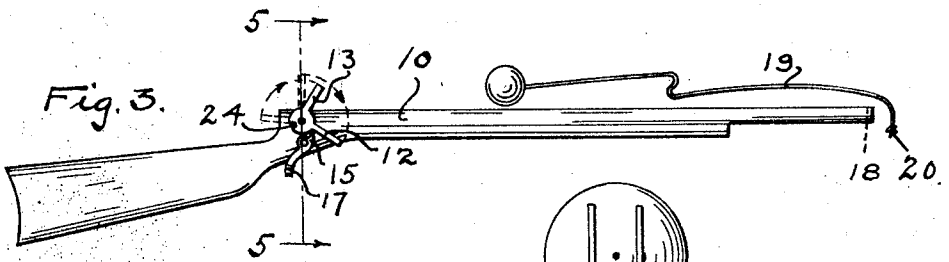


Fig. 3.

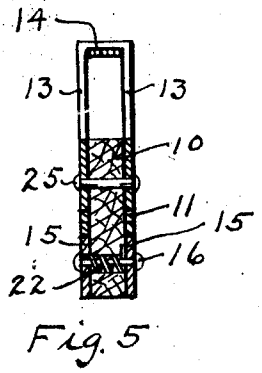


Fig. 5

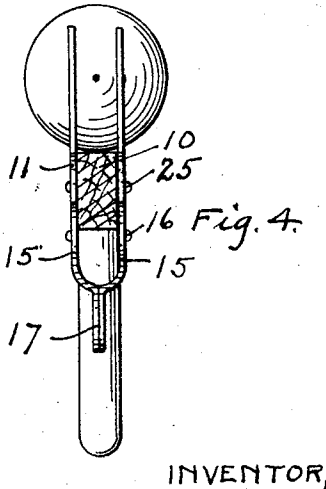


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM A. TIDWELL, OF INDIANAPOLIS, INDIANA.

TOY GUN.

Application filed December 16, 1926. Serial No. 155,153.

This invention relates to a toy gun, particularly to a mechanism for projecting a rubber ball, and has for its object the furnishing of a toy whereby a ball may be projected mechanically with substantial accuracy over a considerable distance by release of a trigger. Another important object is the extreme simplicity of the structure permitting a very low cost of production and use of automatic machinery to reduce hand operations to the lowest possible minimum.

A further object resides in the particular means for retaining the ball so that it may be released without interference by any parts otherwise causing a deflection of the ball from an initial straight line trajectory.

The invention is described in reference to the accompanying drawing, in which—

Fig. 1, is a side elevation of the toy gun with the ball ready to be released;

Fig. 2, a top plan view of the gun;

Fig. 3, a side elevation of the gun with the ball in its first stages of flight immediately upon being released;

Fig. 4, an enlarged vertical section on the line 4—4 in Fig. 1; and

Fig. 5, an enlarged vertical section on the line 5—5 in Fig. 3.

Like characters indicate like parts throughout the several views.

A gun 10 is formed preferably of wood. Mounted on each side of the gun 10 just forward of the part corresponding to the breech of a real gun, is a disk 11, free to revolve about a retaining rivet 25 centrally passed through the two disks 11 and the gun 10, the circumference of each disk not extending to beyond the top edge of the gun.

Each disk 11 integrally carries an upwardly projecting finger 12 and also a rearwardly projecting arm 13. The rear ends of the arms 13 are joined by the cross piece 14 which forms a thumb rest in setting or loading the gun.

Cut in from the circumference of each disk 11, forwardly and below the fingers 12, is a notch 24, and engaging in these notches, are the pawls 15 pivotally carried on the gun immediately below the disks 11 by the rivet 16. The two pawls 15 extend downwardly from their pivots under the gun and around toward each other to be joined on substantially the vertical center line of the gun to form the trigger 17, so that by pulling back the trigger 17 both pawls 15 may be simultaneously withdrawn from the notches 24.

A vertical slot 18 is cut across the muzzle end of the gun to receive the knotted end of a rubber string 19 having a rubber ball 21 attached to its other end. A knot 20 in the rubber is drawn up against the under side of the gun muzzle, the string 19, passed up along in the slot 18, and then stretched backwardly over the top of the gun and the ball 21 positioned behind the two fingers.

Pulling back the trigger 17 will release the pawls 15 from the disks 11, and the great tension to which the rubber string 19 has been subjected, will cause the ball 21 to shoot forwardly pressing down the fingers 12 and raising the arms 13, as indicated by dash lines in Fig. 3. As the ball 21 travels, the string 19 is released from the end of the gun and travels with the ball 21 in its flight.

The pawls 15 serve as stops to contact the fingers 12 when they are thrown forwardly so that the arms 13 come to rest when projecting upwardly from the gun to afford a convenient means to be contacted and drawn back by the thumb of the operator to bring the fingers 12 back to their upright positions.

A torsion spring 22 is carried on the rivet 16, one end being engaged to one pawl 15 and the other end secured in the gun 10 so that the pawls are tended to be held in contact against the disks 11 whereby the pawls immediately engage in the notches 24 upon the fingers 12 being brought back to the initial position.

It is obvious that numerous changes and substitutions may be made in the structure here shown without departing from the spirit of the invention, and I, therefore, do not desire to be limited to the precise structure shown, nor any more than may be required by the following claims.

I claim:

1. In a toy gun, a barrel, a disk pivotally mounted on each side of the barrel, a hammer finger normally extending upwardly from each disk, each of said disks having a notch formed therein, a trigger having its upper end bifurcated to straddle the barrel from its under side and pivotally carried on

the barrel by said ends, and a pawl extending from each of said ends to engage in said disk notches.

2. In a toy gun, a barrel, a disk pivotally mounted on each side of the barrel, a hammer finger normally extending upwardly from each disk, each of said disks having a notch formed therein, a trigger having its upper end bifurcated to straddle the barrel from its under side and pivotally carried on the barrel by said ends, and a pawl extending from each of said ends to engage in said disk notches, spring means for holding said pawls in contact with said disks, and a yoke having arms attached to said disks, said yoke normally extending to the rear of said disks.

3. In a toy gun, a disk pivotally carried on each side of the gun near its breech end, said disks being free to rotate on the same axis, a hammer finger extending from each of said disks, a trigger carried by the gun, a pawl extending from the trigger to engage in a stop in one of said disks, and means for normally maintaining said pawl in contact with said disk.

4. In a toy gun, a barrel, a disk pivotally mounted on each side of the barrel, a hammer finger normally extending upwardly from each disk, each of said disks having a notch formed therein, a trigger having its upper end bifurcated to straddle the barrel from its under side and pivotally carried on the barrel by said ends, and a pawl extending from each of said ends to engage in said disk notches, spring means for holding said pawls in contact with said disks, and a yoke having arms attached to said disks, said yoke normally extending to the rear of said disks, and a yoke substantially U-shaped securing said disks, one to the other.

5. In a toy gun adapted to project a rubber ball having a rubber string attached to it, a barrel, hammer fingers, one pivotally secured to each side of the barrel near its breech end whereby the fingers are free to rotate in parallel planes, a trigger, a pawl spring pressed against a contacting surface extending from one of said fingers about its point of rotation, a thumb piece having an arm extending to each of said fingers whereby, by pulling the thumb piece backwardly, said fingers may be brought to an erect position to permit said pawl to drop into a notch in said finger contacting surface, so that said ball may be positioned on top of the barrel of said gun behind said two fingers and the rubber string passed between the fingers over the top of the barrel and stretched to have its end detachably secured over the end of the barrel.

6. In a toy gun adapted to project a rubber ball by means of an elastic spring attached to the ball; a gun barrel, a hammer unit comprising two mounting disks pivotally secured to and receiving the gun barrel therebetween, a hammer finger extending parallel one to the other from each disk, an arm extending from each disk angularly from said arms, and a thumb piece joining the outer ends of the arms, one of said disks having a notch cut in from its periphery; a trigger engaging said notched disk, a pawl spring pressed against the disk; said hammer unit being adapted to be rocked by the thumb piece to bring the hammer fingers upright whereupon the pawl engages in the disk notch to prevent forward rotation of the hammer fingers until withdrawn by said trigger; a rest whereby said ball may be positioned back of the two hammer fingers and the string stretched between the fingers to be engaged over the end of the gun barrel; and said hammer fingers and said arms being carried by said disks so that said pawl stops one of said fingers before said thumb piece strikes the barrel upon discharge of the ball.

7. In a toy gun adapted to project a rubber ball by means of an elastic string attached to the ball; a gun barrel, a hammer unit comprising two mounting disks pivotally secured to and receiving the gun barrel therebetween, a hammer finger extending parallel one to the other from each disk, an arm extending from each disk angularly from said arms, and a thumb piece joining the outer ends of the arms, said disks having a notch cut in its outer edge, a trigger having its upper end bifurcated to form parallel pawls pivotally secured to and extending one on each side of the gun barrel toward said disks, spring means normally maintaining said pawls in contact with said disks, said hammer unit adapted to be rocked by the thumb piece to bring the hammer fingers to an upright position to permit said pawls to engage in said disk notches, and said pawls acting as stops to limit the forward travel of said hammer unit.

In testimony whereof I affix my signature.

WILLIAM A. TIDWELL.