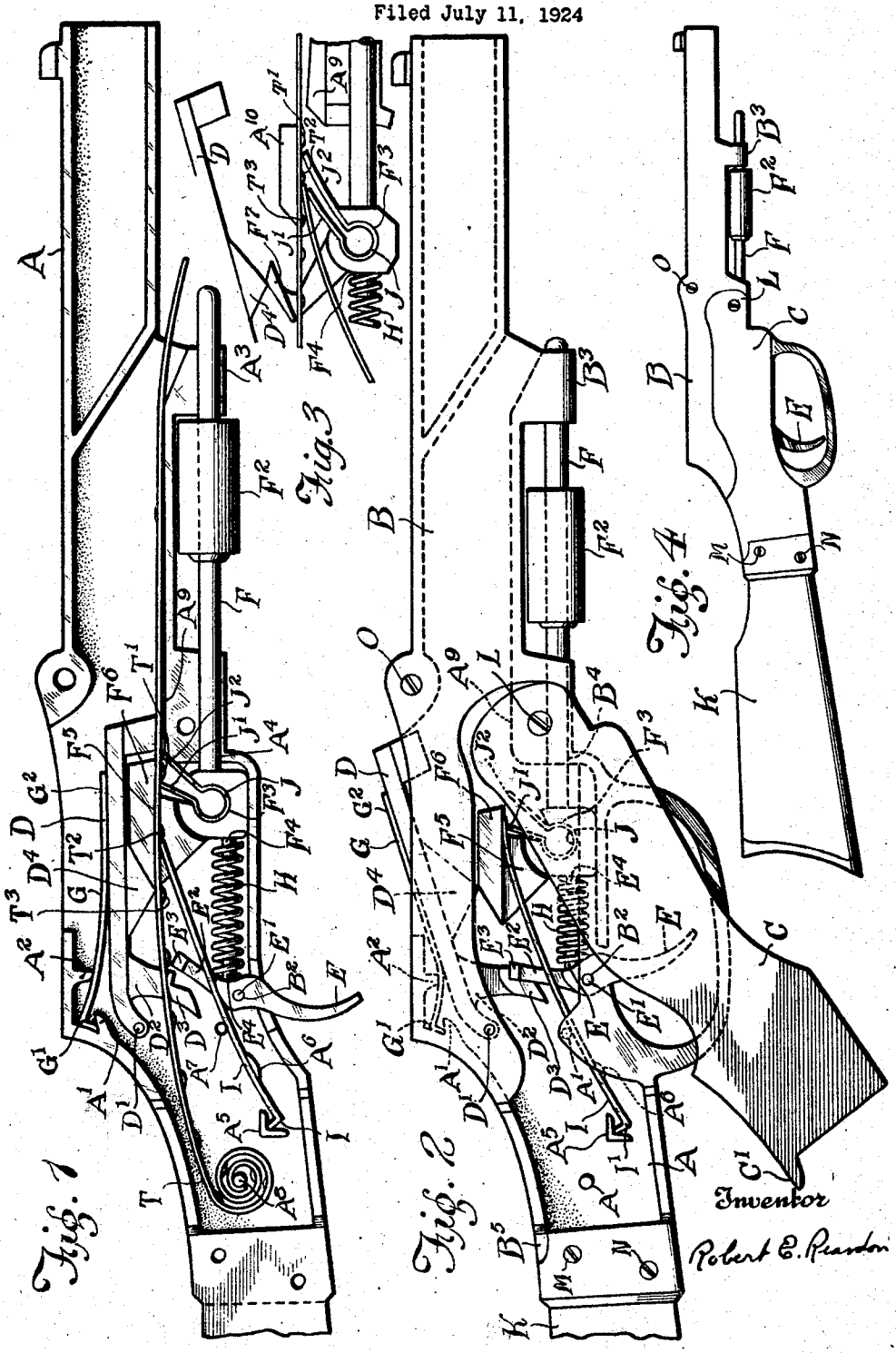
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R. E. REARDON

TOY GUN

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TOY GUN.

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To all whom it may concern:

Be it known that I, ROBERT EDWIN REARDON, a subject of the King of Great Britain, residing in the town of Columbia, county of Lancaster, and State of Pennsylvania, United States of America, have invented a new and useful Toy Gun, of which the following is a specification.

My invention relates to improvements in toy guns and particularly those using explosive caps mounted on paper tape, although it may be snapped effectively without said caps. The objects of my invention are safety in use; simplicity in construction; positive action, and attractive novelty and realism in design and operation. The child user finds employment for both hands in operating it—a keener enjoyment and greater sense of action than is derived from the usual toy pistol or gun. My improvement is presented as a two-handed cap feeding and firing device, wherein the hammer is cocked and cap fed by action of one hand and the hammer released by action of the other hand. It further combines the desirable features of internal explosion and positive cocking and locking of the hammer in its elevation, and in such manner that realism in use is increased by the shortness of trigger pressure necessary to discharge, the usual cap firing toy mechanism requiring a lengthy movement of the trigger for operation. Direct action wedge raising of the hammer by force of one arm of user, instead of the one finger pressure employed in hammer elevation in the usual trigger operated toy cap repeater, or thumb pressure used in cocking single shot devices, is a particularly advantageous additional feature of my gun—it makes operation easy.

I attain the objects of my invention by the construction, combination and arrangement of parts hereinafter described and particularly pointed out in the claims, it being understood that I do not intend to limit myself to the details of construction and combination of the various parts as described and shown herein.

My invention is illustrated in the accompanying drawings in which:

Figure 1 is an interior side elevation of the left half of the body of my cap gun, showing the several working parts therein in normal position and a section of the shoulder stock in place.

Figure 2 is an exterior view of my toy gun from the left side, showing the gun body with portion of shoulder stock therein and door plate in side partially opened. The interior of body and working parts are shown in clear and dotted lines as positioned at moment that the hammer is completely elevated by first action of operation.

Figure 3 is a partial interior side elevation of the breech action portion of the left half of my toy gun body, showing the working parts as at same moment of operation depicted in Figure 2, but illustrating a modification of the gun body and certain working parts.

Figure 4 is an exterior view, from the right side, of my toy gun as completely assembled.

In the drawings like numerals indicate similar parts.

My cap gun as shown is made of parts molded of gray iron with a wooden shoulder stock clamped between the body side pieces when assembled. It may be molded with an iron stock integral with a part of the body or otherwise formed partially or entirely of sheet metal, as might be desirable in manufacture. The gun in the preferred construction shown in Figures 1 and 2 consists mainly of a left side A, a right side B, a door plate C, a hammer D, a trigger E and a slide piece F. Co-operating therewith are a hammer spring G, a trigger-slide spring H, a pawl spring I, and a feed spring J, having two arms, J^1 and J^2. The wooden stock is designated as K.

The hammer spring G, preferably flat, is bent at one end G^1 to engage in flange projections A^1 and A^2 in gun side A so as to bear with its free end G^2 upon the upper side or back of the hammer D, which is pivoted in gun sides A and B by integral hubs such as D^1 engaging in casing side holes, as B^1. The hammer D has downwardly projecting from its shaft on the left side thereof a marginal flange D^2 which terminates in a right angular projection D^3 that is recessed transversely, forming what may be described as an inverted step

with an extended back. Forward of the said flange D^2 there projects downwardly from the hammer shaft, preferably centrally thereof, a triangular fin, or cocking projection, D^4. The trigger E is pivoted between gun sides A and B by means of integral trigger hubs, as E^1, engaging holes, as B^2, in said gun sides. The trigger E has an upward flange extension E^2, marginally of its left side, which terminates in a right angular flange projection, or arm, E^3, that is adapted to engage the transverse recess or groove in the hammer projection D^3. Projecting forwardly from the body of trigger E and slightly above its pivotal point is a stud, E^4, adapted to engage one end of the coil, trigger-slide spring H. The slide piece F, which is mounted to slide horizontally between the gun sides A and B in bearings such as A^3 and A^4, B^3 and B^4, consists of a shaft, preferably round, with a hand grip enlargement F^2 suitably located thereon, that terminates rearwardly in a head containing a transverse circular recess F^3 with an open sector, adapted to house the feed spring J. Extended from the rearward wall of said circular recess F^3 and adapted to oppose the stud E of trigger E and engage the other end of trigger-slide spring H, is a stud F^4. Extended upwardly from the said rear wall of recess F^3, marginally of its left side, is a flange F^5, terminating in and supporting a right angularly projected horizontal flange, or tape guiding wall, F^6, that is bevelled or sloped away from its rearward end upwardly, adapting it to slide under and wedgingly engage the extension D^4 of the hammer D and elevate same. The pawl spring I, preferably flat, is bent at one end, I^1, to hold it in engagement with suitably formed bearing studs A^5, A^6 and A^7, projected from gun side A, and bears with its free end upon the tape way formed by the under side of wall F^6, normally bearing thereon at a distance of one cap spacing from the point on said wall F^6 where the arm J^1 of feed spring J bears upon same. The feed spring J, which is U-shaped, is mounted in the transverse circular recess F^3 of slide piece F in such manner that its arm J^1 bears upon the tape path on wall F^6 and its arm J^2 projects clear of and so spaced from said wall F^6 that pressure would contact it with same a cap diameter in advance of the contacting point of arm J^1 thereon. The trigger-slide coil spring H is mounted on the studs E^4 and F^4 of the trigger E and slide piece F respectively, thus engaging and normally thrusting apart the said trigger E and slide piece F. The door plate C is pivoted frictionally on the gun side B by an assembly screw L and locked in closed position by engagement of a tongue extension C^1 at its free end with a corresponding B^5 recess formed in the stock grip portion of gun side B, the inherent resiliency of the substance of door plate C allowing it to ride into such engagement. The gun sides A and B are otherwise assembled by screws M, N, and O, the two former passing through and securing the wooden shoulder stock. A cap roll post A^8 is projected from gun side A in suitable location for cap feeding, and on it is shown a roll of cap tape T with the foremost caps T^1, T^2, and T^3, in engagement and in position for engagement with the feed and pawl springs J^1 and I respectively.

To operate my cap gun, the door plate being first opened, a roll of cap tape T is mounted on post A^8 on side A and the free end of the tape passed over hammer flange D^2 and along the under side of tape wall F^6, between the free ends of pawl spring I and feed spring arm J^2 and the said wall F^6, until the foremost cap T^1 lies in front of said arm J^2 of feed spring J. The second cap, T^2, lies then in front of pawl spring I. The door plate C being then closed, the gun is brought to firing position at the shoulder of user, with one hand gripping the hand grip enlargement F^2 of slide piece F and the other hand grasping the stock of the gun in position for trigger pressure. The slide piece F is then drawn back by the forward hand of the user, compressing the trigger-slide spring H against the trigger above pivotal point of same, and simultaneously elevating the hammer by forcing wedge-wise the sloped nose of tape wall F^6 against and under the hammer body projection D^4. When the hammer approaches the limit of its elevation the coincident rise of the inverted step in its projection D^3 permits the upper end E^3 of the trigger member E to ride under it into engagement with the said step or recess of projection D^3. At this point of the operation the arm J^1 of feed spring J has ridden back along the face of the tape T over the second cap T^2 and upon the nose of pawl spring I, against which said cap T^2 is held against recession with the tape wall F^6 and the feed spring arm J^1 in their rearward movement. Pressure on the slide piece F being now relaxed by the user of the gun expansion of coil spring H returns the said slide piece forwardly to normal position, spring arm J^1 incidentally riding off the nose of pawl spring I into engagement with cap T^2 and carrying the tape T forward thereby so that cap T^1 is extended over the anvil flange A^9. As the slide piece F reaches forward position the arm J^2 of feed spring J is thrust upward by engagement with the nose of anvil A^9 so that the free end of the spring arm J^2 presses against the tape T in advance of the second cap T^2, then engaged by the feed spring arm J^1, shielding same against back fire from explosion of the foremost cap T^1. The trig-

ger being now pressed by the rearward hand of the user, the trigger member head E^3 rides out of engagement with the hammer projection D^4 and the hammer falls by action of hammer spring G, percussing upon the anvil A^9 and the cap T^1 thereon, thus completing the operation, which may be repeated until the roll of caps is exhausted.

In the modification of my cap gun shown in Figure 3 the tape feeding mechanism differs from the foregoing preferred form in that the tape wall, A^{10}, is stationary, being a flange extension of gun side A, and the upward projection F^5 of slide piece F bears only a sloped flange F^7 extended right angularly therefrom, to engage triangular projection, or fin, D^4 of the hammer D and elevate the hammer. In this construction the pawl spring I bears on a stationary wall, holding the tape thereagainst while the feed spring J^1 travels to and from the anvil A^9 along the said tape, wall A^{10}, engaging a cap at the nose of pawl spring I and sliding it and the tape along the said wall to the anvil. Arm J^2 of the feed spring functions as a back fire shield in a manner essentially the same as in the preferred construction of Figures 1 and 2. The operation of the gun and the action of its several parts, other than in cap advancing as stated, are the same as in the preferred design.

I claim:

1. In a toy cap firing mechanism, a hammer disposed to contact with an anvil, an anvil in the path of said hammer, a spring adapted to contact said hammer upon said anvil, two hand grips spaced apart longitudinally on the said mechanism, means for elevating the hammer from the anvil and advancing cap tape to the anvil by movement of one hand grip, and trigger means adjacent the other hand grip for releasing the said hammer upon the said anvil.

2. In a toy cap firing mechanism, a spring hammer, an anvil disposed to contact with said hammer, a member with hand grip thereon, manually operable to directly elevate said hammer above said anvil and means to retain said hammer in elevated position by longitudinal movement of said wedge member in the plane of said anvil.

3. In a toy cap firing mechanism, a spring hammer, an anvil disposed to be struck by said hammer, a wedge member adapted to elevate said hammer above said anvil by longitudinal movement of said wedge member in the plane of the said anvil, and a trigger member adapted to engage said hammer when elevated and retain it in elevated position.

4. In a cap tape feeding and firing mechanism, a spring hammer adapted to contact upon an anvil, an anvil disposed to receive said hammer, a tape engaging and advancing member adapted to elevate said hammer from said anvil by longitudinal movement in the plane of said anvil, and a trigger member adapted to engage said hammer when elevated and retain it in elevated position.

ROBERT EDWIN REARDON.