

No. 723,603.

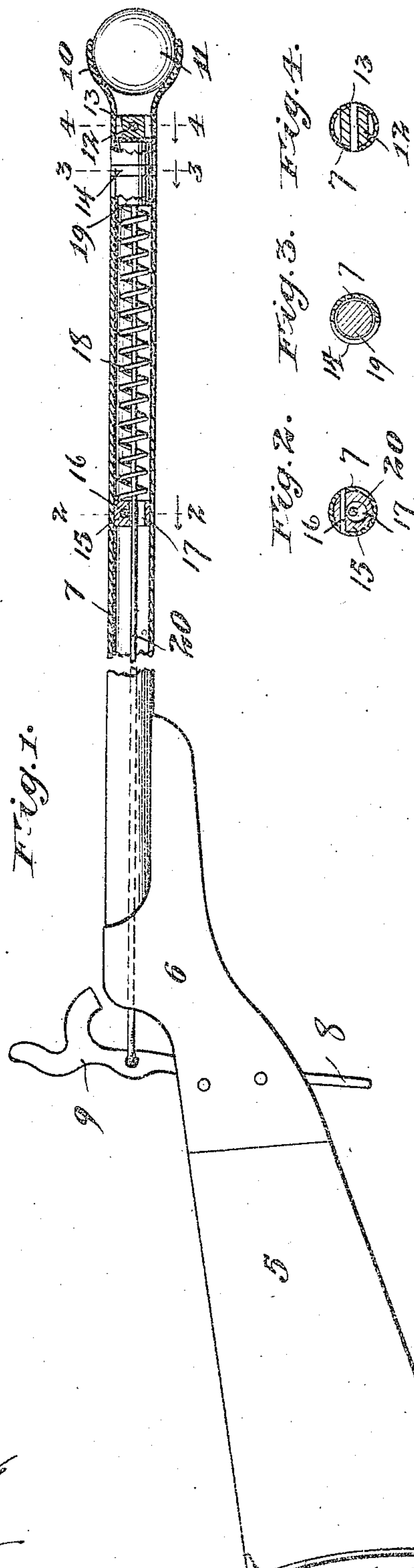
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E. HAZLEHURST.

TOY GUN.

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NO MODEL.



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UNITED STATES PATENT OFFICE

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TOY GUN.

SPECIFICATION forming part of Letters Patent No. 723,603, dated March 24, 1903.

Application filed April 21, 1902. Serial No. 103,961. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HAZLEHURST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Toy Guns, of which the following is a specification.

My invention relates generally to that class of toys designed to interest and amuse children which involve the creation of a noise or report such as is produced by the explosion of a percussion-cap in connection with the simultaneous propulsion of a harmless projectile; and my invention relates more specifically to a novel form and construction of toy gun in which a harmless projectile, such as a soft-rubber ball, is impelled from the muzzle of the gun under the explosive force of an ordinary percussion-cap, said cap being seated on an anvil in rear of the projectile and exploded by the impact thereon of a spring-impelled firing-pin controlled by a trigger mechanism of any known and usual type.

The object of my invention is to produce a simple and economically-constructed toy of the character referred to which in a harmless way shall be capable of affording innocent amusement and delight to children at a very small cost and which shall serve to promote skill and healthful exercise among children through a novel form of the pastime of playing at ball.

To this end my invention consists in a detonating and ball-impelling toy of the character described having the novel features of construction and mode of operation substantially as hereinafter more particularly described and definitely pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a toy gun constructed in accordance with my invention, the barrel thereof being broken away and shown partially in longitudinal section to clearly illustrate the construction of contained parts; and Figs. 2, 3, and 4 are detail cross-sectional views on the lines 2-2, 3-3, and 4-4, respectively, of Fig. 1 looking in the direction of the arrows.

In the drawings, 5 designates the shoulder-piece or stock, 6 the frame, 7 the barrel, 8

the trigger, and 9 the hammer, of an ordinary toy gun or rifle, such as is commonly used by children in the explosion of percussion-caps and the like. As these parts are ordinarily and cheaply constructed to adapt the device for use as an inexpensive toy, the shoulder-piece 5 is cut in the shape shown from a simple block of wood, the frame 6 is stamped up from sheet metal into the form shown, at its rear end seating the shoulder-piece 5 and at its upper and forward end seating the rear end of the barrel 7, the barrel 7 is merely a length of brass or other tubing, while the trigger 8 and hammer 9 are mounted in the frame 6, with any suitable locking and tripping mechanism therebetween to effect the usual operations of the hammer.

In applying my invention to a toy gun or rifle of this character I preferably enlarge the muzzle end of the barrel to give the same a generally cup-shape formation, as shown at 10, adapting the same to snugly seat a soft hollow rubber ball 11, constituting the projectile of the toy. In the gun-barrel, directly in rear of the enlarged or cup-shaped end thereof, I introduce an anvil 12, consisting simply of a plain metal block having its ends shaped to fit the inner wall of the barrel and secured therein by any suitable means, the means herein shown consisting simply of a cross-pin 13, fast in the walls of the barrel and extending longitudinally through the anvil-block. (See Fig. 4.) A slight distance in rear of said anvil I notch the barrel transversely by means of a slot 14, which preferably extends through substantially one-half the circumference of the barrel. (See Fig. 3.) This slot serves as a convenient opening through which to introduce the percussion-cap to the operating-face of the anvil, as more particularly hereinafter described. Within the barrel 7, at any suitable point between the slot 14 and the breech end of the barrel, is interposed a block 15, which block may be conveniently secured to and within the barrel by a cross-pin 16, Fig. 2, and is longitudinally apertured at 17 for a purpose hereinafter specified. This block serves as an abutment for the inner end of a coil-spring 18, the forward end of which spring bears against the rear end

of a sliding firing-pin 19, which coöperates with the anvil 12 in the explosion of the caps. This firing-pin is simply a short cylindrical block of metal which fits the bore of the gun in easy sliding contact therewith and is provided with a retracting rod or link 20, the rear end of which is pivotally secured to the hammer 9. It will be observed that the aperture 17 in the abutment-block 15 serves to permit the free reciprocations of this rod without interfering with the function of the block 15 as an abutment for the spring.

It will be observed that the anvil 12 does not completely fill the bore of the barrel, but that longitudinal passage-ways exist on either side thereof to permit the free passage of the explosive gases liberated by the cap to the cup-shaped receptacle in rear of the projectile.

The operation of my invention will be readily understood from the foregoing description. The parts are normally in the relative positions shown in Fig. 1 of the drawings. To load the gun, the firing-pin is retracted against the tension of its actuating-spring by throwing back the hammer 9 in an obvious manner, which backward travel of the firing-pin exposes the slot 14 and permits the ready insertion therethrough of a cap to priming position on the face of the anvil. The gun is then aimed and the trigger pulled, whereupon the expansive force of the spring 18 drives the firing-pin with a sharp impact against the anvil, exploding the cap thereon, the force of the explosion acting immediately against the projectile and expelling the latter from the gun with considerable force. Where the ball is thus shot into the air, the effort and interest of the child may then be directed to catching the same on its fall. The toy may also be used for regular target practice the same as an ordinary rifle, affording no less interest and zest in the sport without any of the dangers that accompany this exercise in connection with a projectile capable of inflicting serious injury if misdirected.

It will be observed that I have located the point at which the cap is exploded at that end of the barrel which is most remote from the eye of the user in aiming the same, thus eliminating all possibility of the injuries which so frequently happen to the eye of a child in manipulating a toy of this character. It will also be observed that the slot 14 is so located relatively to the operating-face of the anvil that the firing-pin will have entirely passed and closed said slot before it impacts the cap upon the anvil. This construction has a double advantage in that it prevents the possibility of the escape of any of the exploding fulminate in a direction rearwardly of the anvil or toward the user and, further, directs the force of the entire charge against the projectile.

I have found in practice that the explosion of a single paper percussion-cap in my invention will suffice to drive a hollow rubber ball

a hundred feet or more into the air. At the same time the projectile is of such a character as renders it impossible of inflicting injury even at the closest possible range.

It is evident that various changes and modifications might be made in the specific structure and relative arrangement of the several elements making up my invention without departing from the substance and spirit thereof, and I do not, therefore, limit myself to the particular embodiment of my invention herein shown and described except to the extent that the same constitutes the subject-matter of claims specifically directed thereto.

I claim—

1. A toy gun of the character described having the muzzle end of the barrel provided with an enlarged cup-shaped seat for a projectile, an anvil in rear of said seat, a spring-actuated firing-pin in rear of and coöperating with said anvil to explode a charge of fulminate, and means for retracting and tripping said firing-pin, substantially as described.

2. A toy gun of the character described having a seat for a projectile at the muzzle end of the barrel, an anvil in rear of said seat, a spring-actuated firing-pin in rear of and coöperating with said anvil to explode a charge of fulminate, an opening through the wall of said barrel in rear of said anvil and so positioned as to be entirely closed by said firing-pin when the fulminate is exploded by the latter, and means for retracting and tripping said firing-pin, substantially as described.

3. A toy gun of the character described having the muzzle end of the barrel enlarged to form a cup-shaped seat for a projectile, an anvil in rear of said seat, a spring-actuated firing-pin in rear of and coöperating with said anvil to explode a charge of fulminate, an opening through the wall of said barrel in rear of said anvil and so positioned as to be entirely closed by said firing-pin when the fulminate is exploded by the latter, and means for retracting and tripping said firing-pin, substantially as described.

4. In a toy gun of the character described, the combination with the stock and the trigger mechanism mounted thereon, of a barrel having at its muzzle end an enlarged cup-shaped seat for a projectile, a fixed anvil in the barrel in rear of said seat, an opening formed through the wall of the barrel in rear of said anvil, a firing-pin slidable in said barrel in rear of and coöperating with said anvil and adapted to entirely overrun and close said opening, a fixed abutment in the barrel in rear of said firing-pin, a coil-spring interposed between said abutment and firing-pin, and a retracting-rod connecting said firing-pin with said trigger mechanism and passing through said spring and abutment, substantially as described.

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