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TOY FIRING DEVICE FOR CHILDREN'S USE

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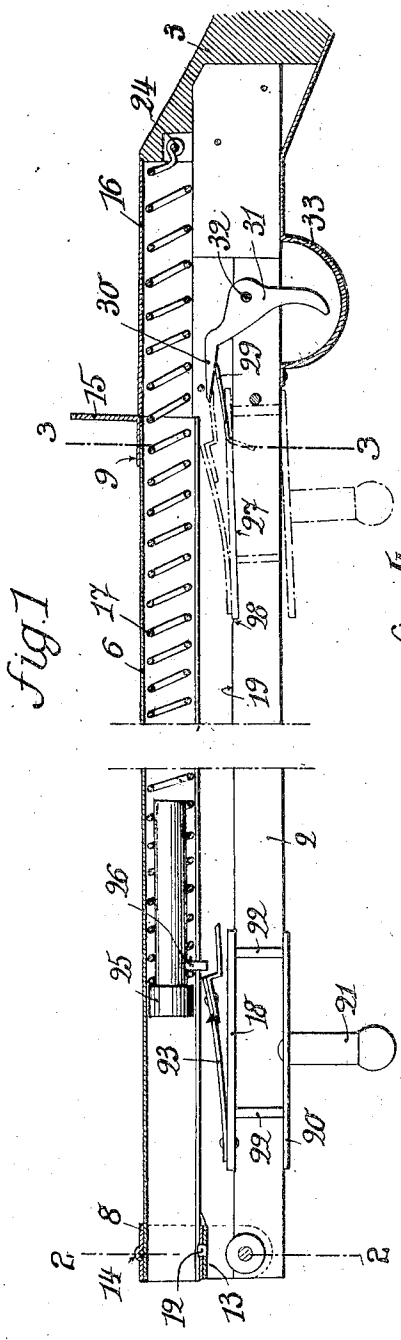


Fig. 1

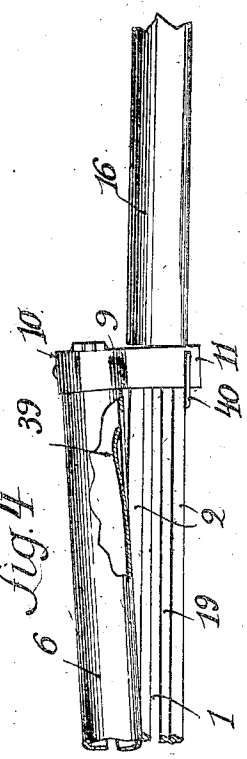


Fig. 4

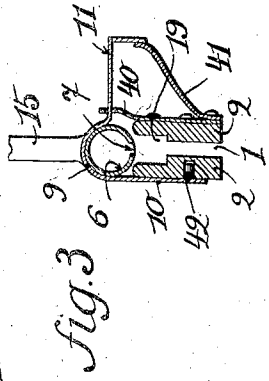


Fig. 3

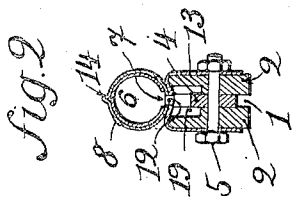


Fig. 2

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# UNITED STATES PATENT OFFICE.

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## TOY FIRING DEVICE FOR CHILDREN'S USE.

Application filed August 15, 1924, Serial No. 732,281, and in France August 17, 1923.

The present invention relates to a toy firing device for children's use, such as a carbine, pistol, cannon or the like.

The device for throwing the projectiles comprises a spiral spring which is cocked at each operation by a sliding member which is slidable in a longitudinal slot in the barrel and in the stock and which also serves as a part of the trigger mechanism. The barrel is pivoted to the stock at the forward end of the latter, and can be moved aside laterally and thus disengaged from the stationary breech piece when the said spring has been cocked and is caused to enter the latter piece, in order to insert the projectiles into the barrel at the rear end of the same, suitable means being provided for holding the projectile in place until it is driven out by the expansion of the spring.

The firing device hereinafter described is a carbine which comprises other special features rendering its construction simple and inexpensive, and the said device is strong as well as reliable in its operation.

The accompanying drawings show by way of example a constructional form of a carbine made in accordance with the invention.

Figure 1 is a longitudinal sectional view of the carbine, with its projecting spring in extended position.

Figs. 2 and 3 are vertical sections on the lines 2—2 and 3—3 of Figure 1.

Fig. 4 is a partial plan view showing the rear end of the barrel moved away from the stock and partly broken away.

The gun stock which is made of wood is divided by a longitudinal slot 1 into two parallel portions 2 which are connected at the rear with the shoulder-piece 3 and are cross-braced at the front part by a washer 4 and a bolt 5. The barrel 6 consists of a piece of sheet metal which is wound upon itself in such manner as to provide between its edges a slot 7 corresponding to the slot 1 in the said stock. The ends of the said barrel are strengthened at the front by a closed ring 8 and in the rear by a flange 9 whose end 10 is downwardly extended on the right hand side and whereof the other end 11 forms a hook extending on the left hand. The ring 8 is connected by a rivet 12, forming a pivot, to a fork 13 secured to the end of the stock by the bolt 5; said ring is provided with a boss 14 forming a front sight. The flange 9 is further provided with an upwardly directed extension 15 wherein is formed a cut-out portion for sighting purposes.

Further, the said stock is provided in the rear of the barrel with a sheet metal fork 16 constituting a stationary breech and within which the spiral spring 17 is entirely contained when the said spring is cocked. Along the said stock is freely slidable a sliding member comprising an upper strip 18 sliding in an enlarged portion or recess 19 in the slot 1, and also a lower strip 20 slidable below the stock and provided with a handle 21; further, two cross-pieces 22 connect the said strips and are slidable in the slot 1; lastly, a flat spring 23 is secured to the strip 18.

The rear end of the spring 17 is attached at 24 to the main frame; its front end is provided with a piston 25 and a stud 26; the latter is slidable in the slot 7 of the barrel and can be seized by the rear end of the flat spring 23 when the said sliding member is drawn toward the breech after having been pushed near the muzzle of the barrel as shown in Fig. 1.

At the rear end, the recess 19 is deepened at 27 and offers the shoulders 28 co-operating with the front end of the plate 18 when the said sliding member has been drawn backward to the maximum (dotted lines in Fig. 1) in order to maintain the spring 17 in the cocked position.

In this position, the rear portion of the plate 18 is placed upon a spring 29 which is made of wire and is secured in the frame, thus providing for the rocking motion of said sliding member and for its maintenance in the recess 27; at the same time, the spring 29 holds in the upward position the end 30 of the trigger 31 which turns upon the pivot axle 32 in the slot 1. The said trigger is protected by a guard 33. The spring 17 being thus held in the cocked position, it is observed that it will suffice to press upon the trigger in order that the end 30 shall bring down the rear end of the spring 23, against the reaction spring 29, thus allowing the stud 26 to escape and the spring 17 to expand for the firing of the projectile.

Fig. 4 shows the manner in which the projectile may be inserted into the barrel at the rear end; it suffices to push the hook 11 in order to turn the barrel upon the pivot 12 (Figs. 1 and 2) to the right, as herein represented and to entirely disengage the barrel from the stationary breech 16. But

obviously, this can only be done when the spring 17 is cocked and is caused to enter the breech. It is observed that in this position the hook 11 is disposed opposite the said breech and would prevent the expansion of said spring should the trigger be accidentally lowered.

A suitable spring or a tongue 39 forming a spring which is obtained for example by the punching of the wall of the barrel, is so disposed as to press upon one side of the projectile when the latter is inserted in the barrel and to hold it in place until it is driven out by the spring 17.

The hook 11 is guided in a cut-out portion in a plate 40 secured to the left hand side of the frame. It is preferably subjected to the action of an antagonistic spring 41 which serves to bring the barrel into the firing position. In this latter position, the barrel is further maintained by a stud 42 secured to the extension 10 and engaged in a corresponding mortise in the stock.

Obviously, without departing from the invention it is feasible to suitably modify the details of construction of the various parts of the device serving for the firing of the projectile as above described, and to utilize the same with targets of all types.

Claims:—

1. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein, a stationary breech secured to said stock, a movable barrel pivoted to the forward end of said stock, in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, and a sliding member movable in the slot of said stock and consisting of an upper strip, slidable in said slot, a lower strip slidable below the said stock, a handle provided upon the said lower strip, and pieces slidable in said slot and connecting the said upper and the lower strips together.

2. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein, a stationary breech secured to said stock, a movable barrel pivoted to the forward end of said stock in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, a sliding member movable in the slot of said stock and consisting of an upper strip slidable in said slot, a lower strip slidable below the said stock, a handle provided upon the said lower strip, and pieces slidable in the said slot and connecting the said upper and lower strips together, the sides of said slot being provided at the rear with shoulders adapted to latch the front part of the upper strip of the said sliding member when the latter is drawn to the rear to the maximum degree.

3. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein with shoulders at the rear portion of its sides, a stationary breech secured to said stock, a movable barrel pivoted to the forward end of said stock in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, a sliding member slidable in the said slot, and a wire spring secured to the said stock and adapted to engage the said sliding member and to maintain it against the said shoulders.

4. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein, a stationary breech secured to said stock, a movable barrel pivoted to the forward end of said stock in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, a spring tongue at the rear part of said barrel adapted to move opposite the breech, when the said barrel is swung out, in such manner, as to prevent the said coil spring from accidentally expanding.

5. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein, a stationary breech secured to said stock, a movable barrel pivoted to the forward end of said stock in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, the said barrel having a spring-tongue projecting inwardly and adapted to press upon one side of a projectile when the latter is inserted into the barrel in order to hold it in place until it is projected.

6. In a projecting apparatus for children's use, the combination of a stock having a slot formed therein, a stationary breech secured to said stock, a movable barrel pivoted to the froward end of said stock, in order to be laterally disengaged from the said stationary breech, a coiled spring secured within the said breech and adapted to enter the said barrel, the said barrel having a spring-tongue projecting inwardly and adapted to press upon one side of a projectile when the latter is inserted into the barrel in order to hold it in place until it is projected, a plate secured to one side of the stock and having a cut-out portion therein, a hook on the barrel slidable in the said cut-out portion, and a reaction spring engaging said hook and adapted to return the said barrel into the firing position.

In testimony that I claim the foregoing as my invention, I have signed my name.

ERIC DAVIDSON.