

(No Model.)

C. F. WIEBACH & A. A. KOELLHOFFER.
IGNITING SPRING GUN.

No. 527,916.

Patented Oct. 23, 1894.

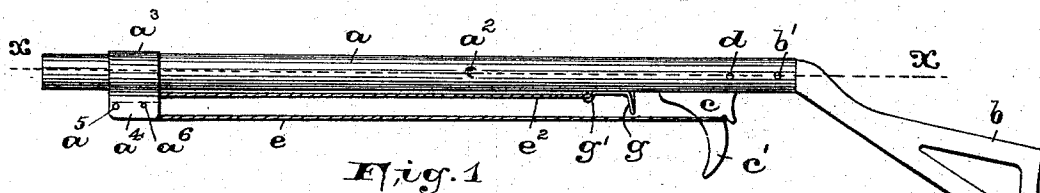


Fig. 1

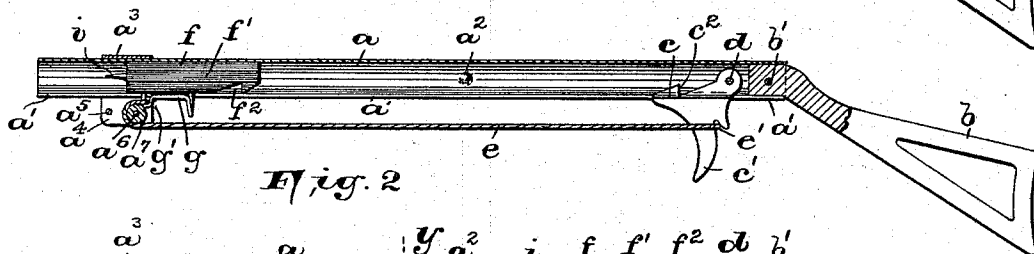


Fig. 2

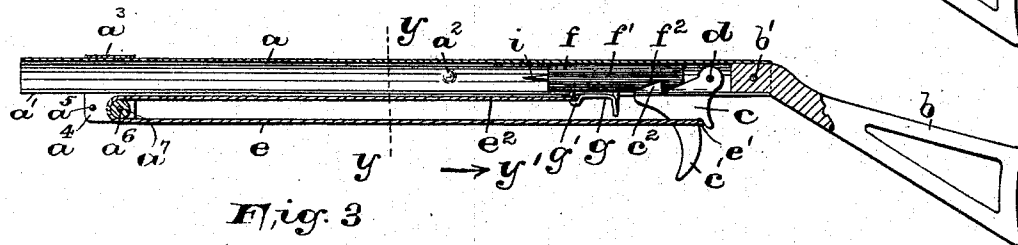


Fig. 3

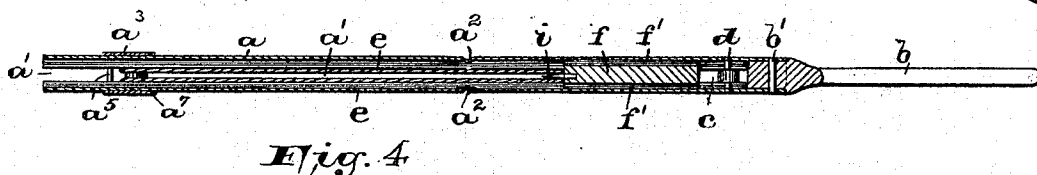


Fig. 4



Fig. 5

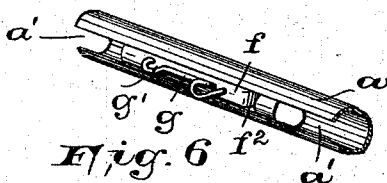


Fig. 6

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UNITED STATES PATENT OFFICE.

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IGNITING SPRING-GUN.

SPECIFICATION forming part of Letters Patent No. 527,916, dated October 23, 1894.

Application filed January 29, 1894. Serial No. 498,296. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. WIEBACH, residing at Newark, and ALOIS A. KOELLHOFFER, residing at Vailsburg, in the county of Essex and State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Toy Guns; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains, to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention has reference to improvements in toy guns for firing projectiles of any nature, but the main purpose of this invention is to provide a gun which is especially adapted for igniting and firing a pyrotechnic compound in the shape of a burning ball from its muzzle.

The invention therefore consists in the novel construction of gun herein described and claimed, and also in certain arrangements and combinations of parts to be hereinafter more fully described and finally embodied in the clauses of the claim.

The invention is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a side elevation of the toy gun embodying the principles of the present invention. Figs. 2 and 3 are longitudinal vertical sections of the gun, clearly illustrating the firing and propelling mechanism in its inoperative and operative positions. Fig. 4 is a horizontal section of the gun, taken on line x in Fig. 1; and Fig. 5 is a cross-section of the gun taken on line y in Fig. 3, looking in the direction of arrow y' . Fig. 6 illustrates in perspective, a detail view of part of the barrel and the plunger arranged in the same.

Similar letters of reference are employed in each of the above described views to indicate corresponding parts.

Our novel form of toy gun is especially adapted for the igniting and firing of an explosive projectile or pyrotechnic ball, consisting of a pyrotechnic compound and a friction igniting surface, or other suitable ex-

plosive compound which is ignited when the pointed end portion of a plunger in the gun is forcibly brought against the ball and thereby propels the same in a burning condition, from the muzzle of the gun. Said gun, however, can be used for the firing of projectiles which are non-explosive, as will be understood.

The gun consists essentially of a suitable barrel a , preferably made of sheet metal, which is formed in the bottom with a longitudinal opening or slot a' , being provided in its opposite sides with oppositely placed indentations a^2 projecting toward one another, as will be seen from Figs. 4 and 5. Said indentations a^2 are formed integral with the sheet metal barrel of the gun, and form projections or stops on the inner surface of the barrel near the rear end of the barrel; but far enough away from the trigger, when the latter is drawn back into the gun, to hold the pyrotechnic ball a certain distance from the plunger, whereby the latter, when released, is better adapted to ignite the said ball, at the same time forcing it from the barrel of the gun. Said barrel a of the gun, is secured by means of a suitable pin or screw b' to a gun stock b , but said stock and the barrel of the gun may be secured together in any other well-known manner or they may be cast in one piece.

In the rear end of the barrel, or bore a of the gun, and pivotally arranged on a pin d is a suitable trigger c , the finger or pull-piece c' thereof extending from said slot a' , while a holding or locking tooth c^2 on said trigger normally projects up into the barrel of the gun. Surrounding the forward end of said barrel a is a sleeve a^3 having two downwardly extending ears a^4 , held together by pins a^5 and a^6 , but leaving a space between said ears to allow a small pulley wheel a^7 to be placed upon a pin a^6 and to rotate between said ears a^4 . Attached to or connected with said finger piece c' of the trigger c is a suitable elastic band or cord e which passes over said pulley a^7 and is connected with an eye g' of a suitable pull or finger piece g on the under side of a plunger f , said pull or finger piece and its eye extending downwardly and projecting from the slot or opening a' in the bar-

rel of the gun, as will be seen from Figs. 2 and 3. Said plunger f is provided on its opposite sides with grooves f' , whereby said plunger is permitted to pass by the inwardly extending projections a^2 in the barrel of the gun.

In order to prepare the gun for action, the plunger f is forced back into the barrel of the gun by means of pulling on said pull or finger piece g , and drawing the same back to the position indicated in Fig. 3, which causes the end e' of the elastic cord or band e to pull upon the finger-piece c' of the trigger and causes the holding tooth c^2 thereon to firmly engage with a notch f^2 in the under side of the plunger f . Thus the plunger will be retained in its position ready for firing and the pyrotechnic ball or other projectile can be dropped into the gun, being held away from an igniting pin i in the forward end of the plunger f , or from the plunger itself, by the projections a^2 in the sides of the barrel of the gun.

When the trigger is pulled in the usual manner, and the tooth c^2 is disengaged from the notch f^2 in the plunger, the portion e^2 of the elastic band or cord e will cause the plunger f to move forward very rapidly and by the sudden impact of the point i against the pyrotechnic ball, the friction compound thereon will become ignited and a burning ball is propelled from the muzzle of the gun.

The pin a^5 between the ears a^4 limits the forward flight of the plunger f when the end of the rubber cord or band comes in contact with said pin and thereby prevents the discharge of said plunger from the muzzle of the gun.

As has been stated, the gun may be used as a toy for the firing of all kinds of projectiles, whether explosive or non-explosive.

We do not wish to limit our invention to the exact form of construction herein shown, as we are aware that certain details of construction may be made without departing from the scope of our invention.

Having thus described our invention, what we claim, is—

1. The herein described toy gun consisting essentially of a barrel, having a slotted opening in the bottom, indentations a^2 forming projections or stops on the inside of the barrel, a plunger in said barrel, and a trigger adapted to engage with said plunger and an

elastic cord or band connected with said plunger and trigger, substantially as and for the purposes set forth.

2. The herein described gun, consisting essentially of a barrel, having a slotted opening in the bottom, indentations a^2 forming projections or stops on the inside of the barrel, lugs or ears extending downward near the front end of said barrel, a pulley arranged between said ears, a plunger in said barrel, a trigger adapted to engage with said plunger, and an elastic cord or band connected with said plunger and trigger, and passing over said pulley, substantially as and for the purposes set forth.

3. The herein described toy gun consisting essentially of a barrel having a slotted opening in the bottom, a plunger in said barrel, an igniting device on said plunger, a trigger, and an elastic band or cord connected with said plunger and trigger, substantially as and for the purposes set forth.

4. The herein described toy gun, consisting essentially of a barrel, having a slotted opening in the bottom, lugs or ears extending downward near the front end of said barrel, a pulley arranged between said ears, a plunger in said barrel, an igniting device on said plunger, a trigger adapted to engage with said plunger, and an elastic cord or band connected with said plunger and trigger, and passing over said pulley, substantially as and for the purposes set forth.

5. The herein described toy gun, consisting essentially of a barrel having a slotted opening in the bottom, lugs or ears extending downwardly near the front of said barrel, a pulley arranged between said lugs or ears, indentations a^2 in said barrel, a trigger c provided with a finger-piece and a holding or locking tooth c^2 , a plunger f provided with a point i , a notch f^2 in said plunger, and an elastic cord or band e connected with said trigger and plunger and passing over said pulley, substantially as and for the purposes set forth.

In testimony that we claim the invention set forth above we have hereunto set our hands this 21st day of December, 1893.

CHARLES F. WIEBACH.

ALOIS A. KOELLHOFFER.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.