A. C. JONASSEN.

TOY PISTOL.

APPLICATION FILED FEB. 9, 1922.

1,430,812.

Patented Oct. 3, 1922.

2 SHEETS—SHEET 1.

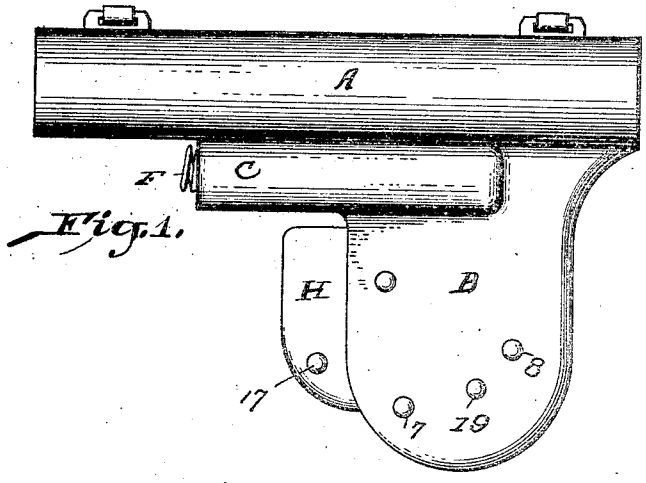


Fig. 1.

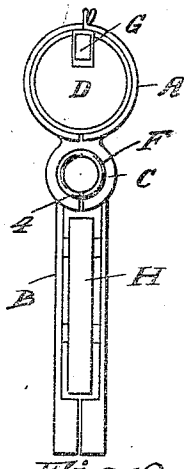


Fig. 2.

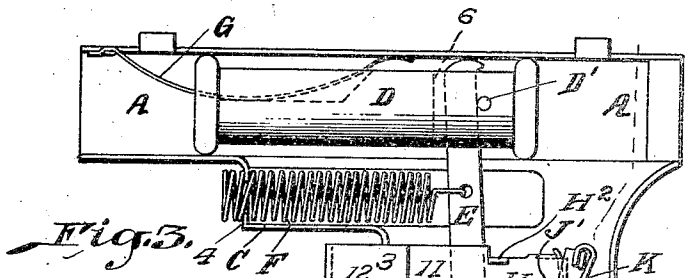


Fig. 3.

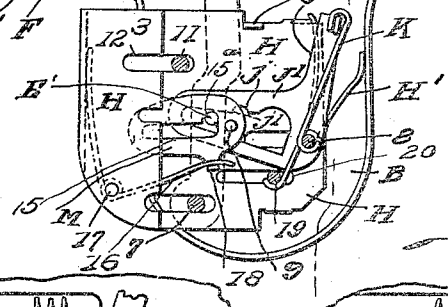


Fig. 6.

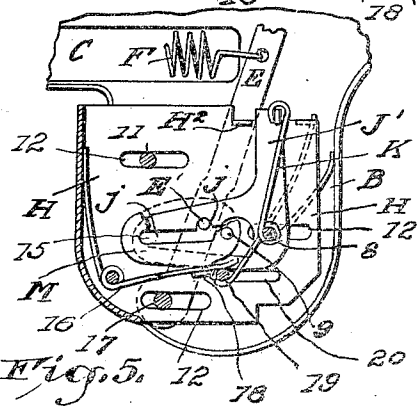
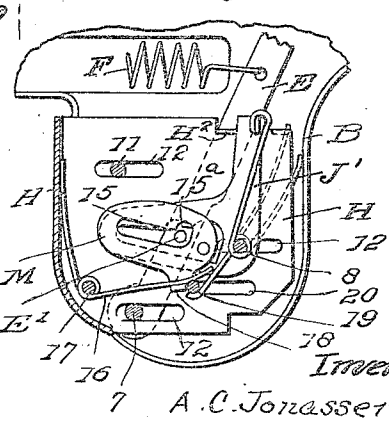


Fig. 5.



Inventor:

A. C. Jonassen

by Jas. Ymie

Atty.

A. C. JONASSEN.

TOY PISTOL.

APPLICATION FILED FEB. 9, 1922.

1,430,812.

Patented Oct. 3, 1922.

2 SHEETS—SHEET 2.

Fig. 7.

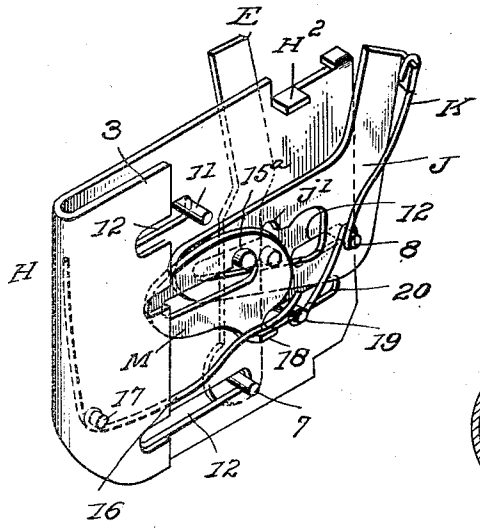


Fig. 4.

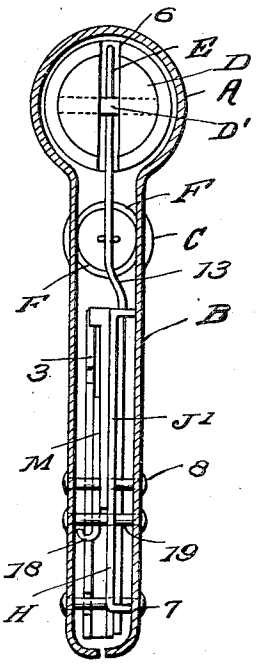


Fig. 8.

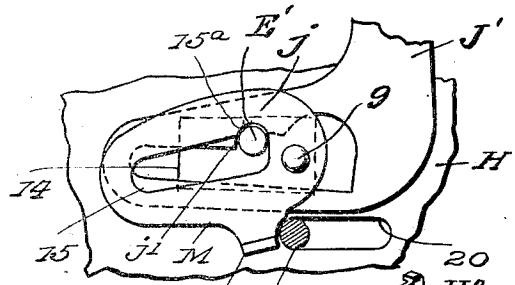
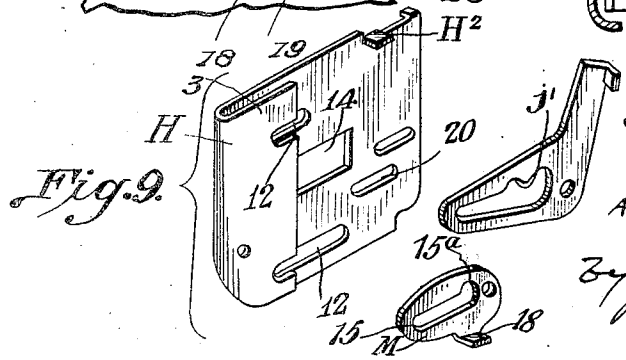


Fig. 9.



Inventor.

A. C. Jonassen

By Jno. Invine

Atty.

Patented Oct. 3, 1922. 1,430,812

UNITED STATES PATENT OFFICE.

ALFRED CHRISTIAN JONASSEN, OF DAYS BAY, WELLINGTON, NEW ZEALAND.

TOY PISTOL.

Application filed February 9, 1922. Serial No. 535,373.

To all whom it may concern:

Be it known that ALFRED CHRISTIAN JONASSEN, a subject of the King of England, residing at Bay View House, Days Bay, Wellington, New Zealand, has invented certain new and useful Improvements in Toy Pistols, of which the following is a specification.

This invention relates to an improvement in toy pistols, designed particularly for the projection of round objects, such as marbles.

The present invention is designed to provide an article preferably in the shape of a pistol, from which the projectiles are ejected by a spring-pressed plunger. A particular feature of importance is the construction whereby the pistol is cocked, that is, the plunger held in withdrawn position and the spring arranged to operate on said plunger held under tension, through a mere finger pressure on the trigger, the plunger and cooperating parts being automatically locked in this cocked or firing position to permit a convenient loading of the projectile in the barrel. The construction, relation, and arrangement of the parts intermediate the trigger and plunger are such, that they are automatically released from the locked position by further pressure on the trigger, this release permitting movement of the plunger under the action of the tensioned spring to force the projectile from the barrel.

The invention also contemplates the provision of means whereby projectiles of varying sizes may be held within the barrel in loaded position, thereby adapting the toy for the shooting of articles of different sizes.

The invention in the preferred form of details is illustrated in the accompanying drawings, in which—

Fig. 1 is a view in side elevation of the pistol.

Fig. 2 is an end elevation of the same viewed from the front.

Fig. 3 is an elevation of the interior mechanism, one half section of the casing being removed.

Fig. 4 is an enlarged section, transversely of the pistol and taken on the line 4—4 of Fig. 3, the interior mechanism being shown in elevation.

Fig. 5 is a detail showing the operating parts in cocked position and locked in such position.

Fig. 6 is a similar view with the parts in released position following a further movement of the trigger.

Fig. 7 is a detached perspective view of the trigger and parts associated therewith.

Fig. 8 is an enlarged detail view illustrating the position of the parts in cocked position.

The improved pistol comprises two casing sections, preferably stamped and shaped so that when assembled, there will be provided a construction including a hollow barrel A, a handle grip butt B and a cylindrical chamber C immediately beneath the barrel.

An ejecting plunger D is mounted for free sliding movement in the barrel A, the forward end of this plunger being preferably somewhat enlarged and presenting a solid face to engage and eject a projectile from the barrel. A plunger operating lever E is pivotally supported at its lower end upon a pin 7, which extends across the butt sections B of the pistol form, near the lower end of the latter. This lever preferably extends from its pivotal connection to and through chamber C and into a slot 6, formed in the plunger D and opening through the rear end thereof. A pin D′ bridges the slot 6 in rear of the lever E and confines the lever within the plunger.

A helical spring F of sufficient strength is fitted in the chamber C, the rear end of this spring being connected as at 5 to the lever E in a manner to permit rotative movement of the spring. The forward end of chamber C is not completely closed, the respective halves of the pistol form presenting flanges 4 to partially close the forward end of the chamber C. These flanges 4 serve, by interfitting a forward coil of the spring F therewith, as a means for holding the forward end of such spring in the operation of the parts, and also and more particularly as a means for adjusting the normal tension of said spring. The spring is adjusted by varying the number of coils, and therefore the tension, between the flanges 4 and the lever E. From Fig. 3 of the drawings, it will be apparent that this result can be readily accomplished by forcing the spring, for example, downwardly until the coils engaging the upper flange are below such flange, whereupon the spring may be drawn forward or forced rearward to engage other coils of the spring with the flange, whereupon a similar operation is carried out with

respect to the spring and lower flange. By this operation any coil in the forward part of the spring may be made to engage the flanges, and thus form in effect the terminal coil of the spring, thereby adjusting its tension as desired.

A trigger H is slidably mounted in the butt or handle portion of the pistol, the forward wall of this portion having an opening to permit the projection of the forward portion of the trigger therethrough. This trigger, which is of plate-like form, has its forward edge turned laterally as at 3, to afford a broad finger bearing in the operation of the trigger. The trigger is slidably mounted upon the pin 7 and on similar pins 8 and 11, the latter being arranged substantially in alignment with the pin 8 and the former in rear and intermediate the pins 7 and 11, with the trigger plate slotted at 12 for sliding cooperation with all of said pins. The rear portion of the trigger plate is vertically reduced in height and at the upper offset thus provided, and at the forward edge thereof, there is formed integral with the trigger plate, a laterally extending lug or offset H^2, which acts as a final trip for the release of the locking means as hereinafter described.

The operating lever E is pivotally supported on the pin 7 and extends upwardly in close contact with the trigger plate, being immediately above said trigger plate, inwardly offset, as at 13 Fig. 4, to center the upper portion of the lever. Above the pivot pin 7, the operating lever is provided with a lateral pin E′, hereinafter termed the locking pin, which latter extends through an elongated widened slot 14 in the trigger plate H.

A locking lever J′, of substantially L-shape is pivotally supported on the pin 8, one arm of the lever extending upwardly in the path of movement of the lug H^2 on the trigger plate, the other arm of the lever extending forwardly, being formed with an enlarged slot *j*, through which the pin E′ of the operating lever extends, the upper wall of this slot *j* presenting a locking abutment *j′*, behind which the pin E′ is adapted to engage in the locked position of the parts. The lever J′ is held in operative position, that is, with the upper wall of the slot resting upon the pin E′, through the medium of a spring K coiled about the pin 8 with its lower end held against movement and its upper end engaging a lug on the upper end of the lever J′.

A trip lever M is pivotally supported upon a pin 9 projecting from the trigger plate H and passing through the slot *j* in the locking lever J′. This trip lever is formed with a slot 15, through which the pin E′ from the operating lever extends, the upper wall of this slot having a notch *j″* capable of receiving the pin E′. The trip lever is normally held in position to cause the upper wall of the slot therein to bear upon the pin E′ by a spring 16 coiled about a pin 17 projecting from the trigger plate H, the rear portion of this spring overlying and bearing upon a lateral lug 18 projecting from the trip lever, while the forward end of the spring engages in rear of the lateral edge 3 at the forward portion of the trigger. A trip pin 19 is secured transverse of the walls of the butt, operating through a slot 20 in the trigger plate H and in position to be engaged by the lug 18 of the trip lever in the release operation of the parts.

Assuming the parts assembled as described, it is apparent that under initial inward pressure on the forward edge of the trigger, the cooperation of the wall of the notch 15^a of slot 15 in the trip lever M and the pin E′ will cause a rearward movement of said pin, and thus swing the upper end of the operating lever E rearwardly and tension the spring F, this rearward movement of the lever E drawing the plunger D with it. The movement of the trigger is continued until the pin E′ is carried in rear of the projection *j′* of the locking lever J′, whereupon the parts are in so called half cocked position and obviously locked, as the pin E′, and therefore the lever E are held against forward movement by the locking cooperation with the slots and projections in the levers. In this rearward movement of the trigger, the lateral projection 18 of the trip lever M has been brought comparatively close to the pin 19, as shown in Figs. 5 and 8. After the projectile has been placed in the barrel A, a slightly further rearward movement is imparted to the trigger for the firing operation. This additional rearward movement causes the lug 18 of the trip lever M to engage the pin 19 and swing the trip lever upwardly on its pivot 9, thus withdrawing the notch 15^a from cooperation with the pin E′. This movement of the trigger plate, simultaneously or immediately subsequently causes the lug H^2 of said trigger plate to engage the upright arm of the lever J′, rocking the same on its pivot 8 against the tension of the spring K, withdrawing the projection *j′* from in front of the pin E′. This releases the lever E and permits the spring to act to force the plunger longitudinally of the barrel and thereby eject the projectile.

A spring G is secured within the barrel to temporarily hold the projectiles in loading position, this spring being preferably bowed inwardly with the bowed portion seating in a recess in the plunger, to thereby provide a resilient member capable through its bowed portion of holding projectiles of varying sizes in loading position.

It is obvious from the above construction that the various parts of the structure, aside

from the spring formations, are readily constructed of sheet metal stamped or pressed into appropriate outline, and that the various parts may be readily and simply assembled in proper relation. This materially reduces the initial cost of construction.

What I claim is:—

1. A toy pistol, comprising a barrel and a butt, a plunger mounted in the barrel, means interposed between the barrel and the plunger to hold projectiles of varying diameters within said barrel and adjacent the end of the plunger preparatory to firing, said means including a resilient element, a lever extending from the plunger and into the butt, a spring attached to the lever to force the plunger forward when placed under tension, a trigger, and locking means for the lever operative through movement of the trigger to hold the lever against the action of the spring.

2. A toy pistol, comprising a barrel and a butt, a plunger mounted in the barrel, said plunger having a longitudinal recess in its peripheral face, a curved spring flat in cross section and secured at one end to the barrel and normally seated in the longitudinal recess to temporarily hold a projectile in the barrel adjacent the end of the plunger, a lever extending through a slot formed in the plunger and extending into the butt, and trigger mechanism for moving the lever and plunger to and holding said lever and plunger in firing position.

3. A toy pistol, comprising a barrel and butt, a spring actuated plunger mounted in the barrel, a lever pivoted in the butt and having its free end engaging a slot formed in the portion of the plunger, a trigger plate mounted to slide in the butt, a second lever pivoted to the plate and positioned to engage the first mentioned lever, a third lever pivoted within the butt and formed with means to lock the first mentioned lever when the trigger plate is partially operated and to free such first mentioned lever when said trigger plate is further moved in the same direction.

4. A toy pistol, comprising a barrel and butt, a plunger mounted in the barrel, an operating lever pivoted in the butt and having its free end fitted in a slot formed in the plunger, a spring attached to the operating lever and adapted to be placed under tension when said lever is forced rearwardly, a trigger plate mounted in the butt and extending forwardly beyond the edge of said butt, the trigger plate having a lug, means for guiding the movement of the trigger plate, a second lever pivoted in the butt and formed with a slot, one wall of which forms an abutment, a pin extending from the operating lever and through the slot and normally engaging the abutment, a spring actuated lever pivoted in the butt and formed with a slot having a depression to cooperate with the pin when the spring actuated lever is in normal position, the upper end of said spring actuated lever being in the path of movement of the lug on the trigger plate, whereby when the trigger plate is partially moved rearwardly the pin and second mentioned lever will actuate the operating lever and lock same against accidental movement, and upon further movement of said plate the lug will engage the spring actuated lever and free the pin and cause the spring to force the operating lever and plunger forward to eject a projectile.

5. A toy pistol, formed to provide a barrel, a handle butt and a spring chamber, a plunger operative in the barrel, plunger controlling means operative in the butt, a plunger operating spring arranged in the spring chamber, said chamber having means for operating with the coils of the spring to permit a greater or less number of said coils to be held for effective action on the plunger, whereby the initial tension of the spring may be adjusted at will.

6. A toy pistol, formed to provide a barrel, a handle butt and a spring chamber, a plunger operative in the barrel, a lever connected to the plunger, means arranged in the butt for controlling the lever, and a coil spring connected at one end of the lever and seated in said spring chamber, the forward edge of the chamber presenting a flange normally positioned between the coils of the spring, whereby the spring may be adjusted between said flange and lever, to vary the normal tension of the spring at will.

7. A toy pistol, including a barrel, a butt, a plunger operative in the barrel, a spring operated lever connected to said plunger and pivotally supported in the butt, a trigger plate slidably mounted in the butt, means carried by the trigger plate to initially operate the lever to move the plunger and tension the spring, means mounted in the butt to lock the lever in operative position, and means operative through a movement of the trigger plate to release said trigger operating means and lever locking means from cooperation with the lever.

8. A toy pistol, including a barrel, a butt, a plunger operative in the barrel, a lever connected to said plunger and pivotally supported in the butt, a spring connected to the lever and adapted to be tensioned in the movement of the lever in one direction, a trigger plate slidably mounted in the butt, a trip lever normally engaging the pin projecting from said first mentioned lever, said trip lever being operated in the movement of the trigger plate to position the plunger and tension said spring, and means mounted in the plunger to finally lock said first mentioned lever in spring tensioning position.

9. A toy pistol, comprising a barrel, a projectile ejecting means, a trigger, and independent means adapted in the operation of the trigger in one direction to set the ejecting means for operation.

10. A toy pistol, comprising a barrel, a projectile ejecting means, a trigger, and means whereby operation of the trigger in one direction will set the ejecting means for operation, said means serving to lock the ejecting means independently of the trigger.

11. A toy pistol, comprising a barrel, a projectile ejecting means, locking means for holding the ejecting means in set position, and a trigger operative in one direction to move the ejecting means to a position to be held by the locking means.

12. A toy pistol, comprising a barrel, a projectile ejecting means, a trigger manually operable in one direction, and means whereby a portion of the full movement of the trigger serves to set and independently lock the ejecting means, the remaining portion of the full movement of the trigger releasing said lock.

13. A toy pistol, comprising a barrel, a projectile ejecting means including a spring, a trigger arranged for manual movement in one direction, means for locking the ejecting means in position to hold the spring under tension, and means whereby the trigger in said manual movement operates the ejecting means to and within control of said locking means.

14. A toy pistol, comprising a barrel, a plunger therein, a spring operated lever connected with the plunger, a trigger adapted for manual movement in one direction, lever locking means arranged in the pistol, and a trip lever carried by the trigger to engage and operate the lever in the manual movement of the trigger to and within control of the locking means.

15. A toy pistol, comprising a barrel, a plunger therein, a spring operated lever connected with the plunger, a trigger adapted for manual movement in one direction, lever locking means arranged in the pistol, a trip lever carried by the trigger to engage and operate the lever in the manual movement of the trigger to and within control of the locking means, and means in the pistol to release said locking means on the further manual movement of the trigger.

In testimony whereof I affix my signature.

ALFRED CHRISTIAN JONASSEN.