3 Sheets--Sheet 1.

# B. DeLONG.

## Toy-Guns.

No. 159,502. Patented Feb. 9, 1875.

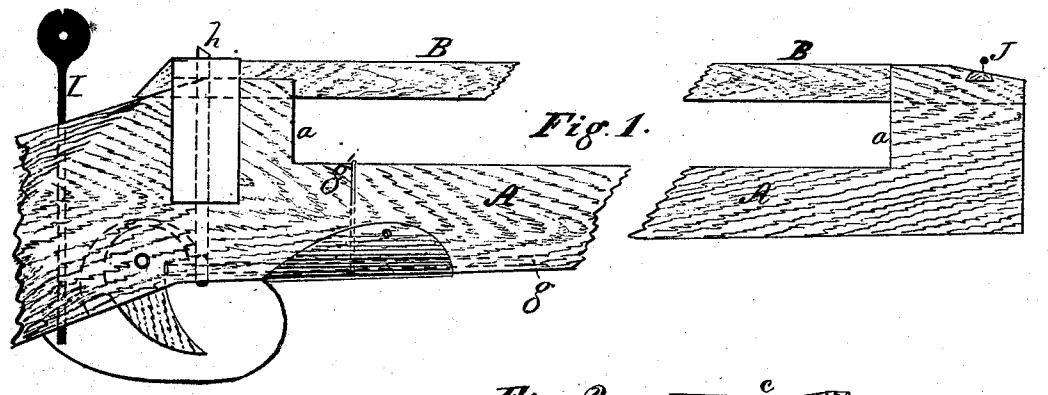


Fig. 1.

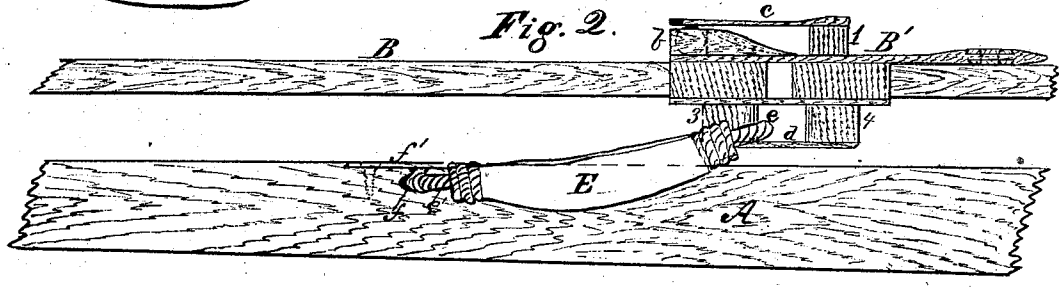


Fig. 2.

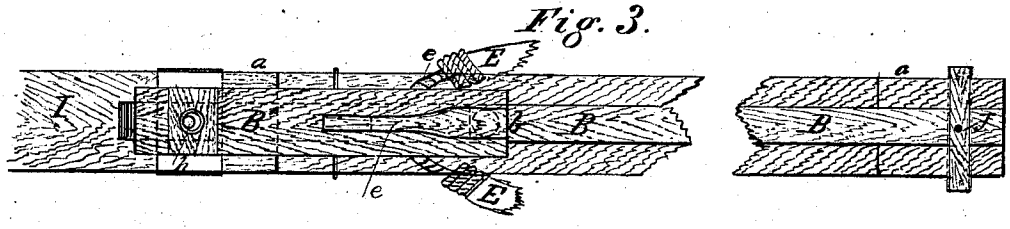


Fig. 3.




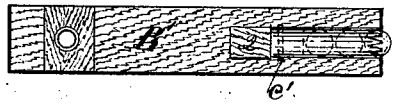


Fig. 5.

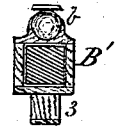


Fig. 4.

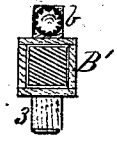


Fig. 6.

Witnesses.
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D. Davidson

Inventor.
Baltis DeLong.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

3 Sheets--Sheet 2.

# B. DeLONG.

## Toy-Guns.

No. 159,502. Patented Feb. 9, 1875.

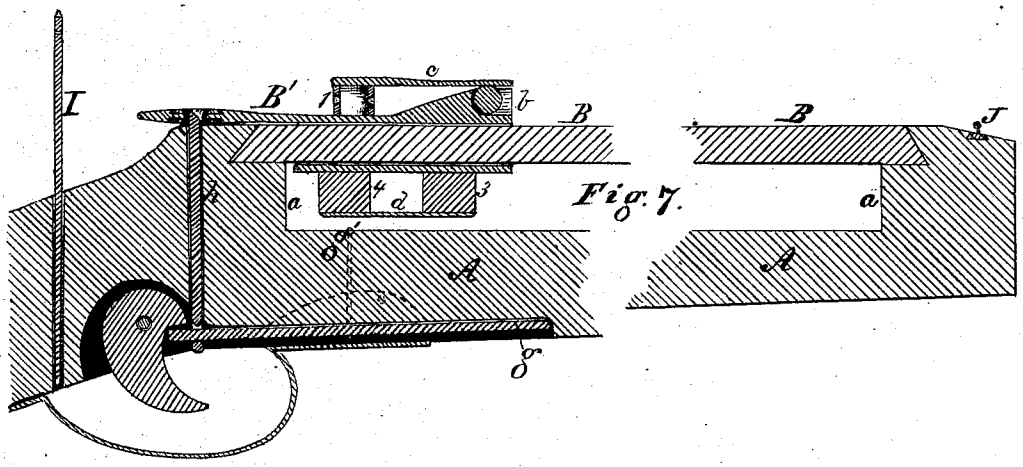



Fig. 8.

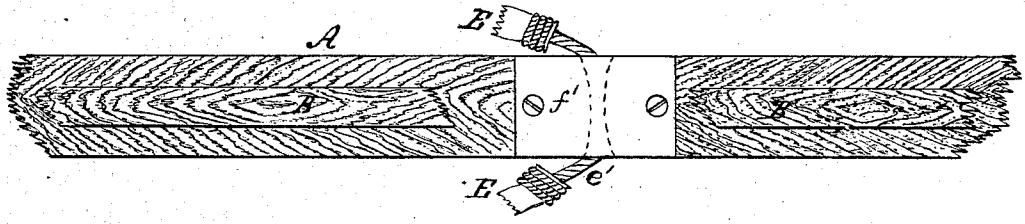
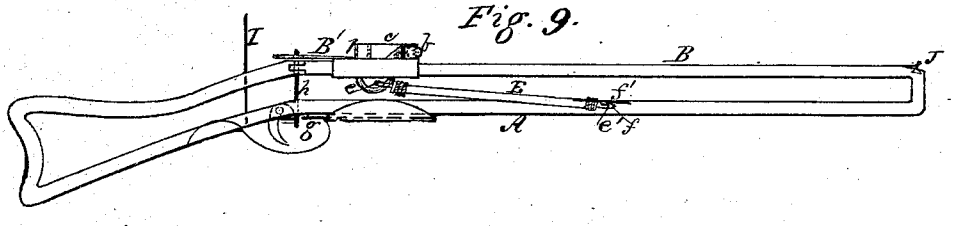



Fig. 9.

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B. W. Morse
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# B. DeLONG.

## Toy-Guns.

No. 159,502. Patented Feb. 9, 1875.

Fig. 10

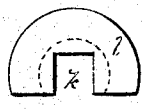



Fig. 11

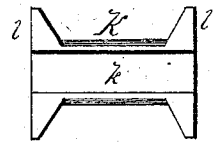



Fig. 12.

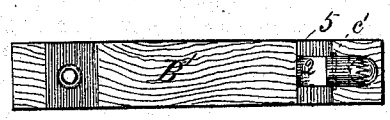



Fig. 13.

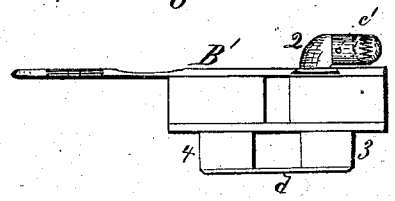



Fig. 14.

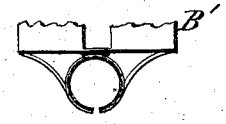
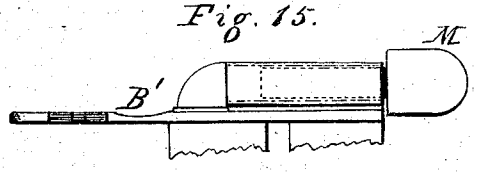



Fig. 15.




WITNESSES

H. H. Young

B. H. Moore

By

INVENTOR

Baltis DeLong

Attorney

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

# UNITED STATES PATENT OFFICE.

BALTIS DE LONG, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN TOY GUNS.

Specification forming part of Letters Patent No. **159,502**, dated February 9, 1875; application filed February 5, 1874.

*To all whom it may concern:*

Be it known that I, BALTIS DE LONG, of the city of Washington, District of Columbia, have invented certain new and useful Improvements in Toy Guns, of which the following is a specification:

The object of my invention is to produce a gun that may be cheaply manufactured, one that will throw the ordinary leaden ball with considerable force and great accuracy, and that may not only be used as a toy for children, but may be a source of amusement to those older in parlor target-shooting.

In the accompanying drawings, Figure 1 is a side view of the gun with the central portion broken away, showing a guide, a front and rear sight, and a tripping device in dotted lines. Fig. 2 is a side view of the central portion of the stock and guide, showing their position, a ball or missile holder, carrier, and elastic propeller or propellers. Fig. 3 is a plan of so much of the gun as is necessary to show the front and rear portions of the guide, the two sights, ball-holder, and ball-carrier. Fig. 4 is an end view of the ball-holder and ball-carrier with the guide-rod in section. Fig. 5 is a plan view of the carrier with the holder somewhat modified, and Fig. 6 an end view thereof with the guide in section. Fig. 7 is a vertical longitudinal central section through so much of the gun as is necessary to show another mode of securing the guide; also, an automatic whistle, in combination with a ball holder and carrier. Fig. 8 is a plan of the central portion of the gun, the guide being broken away to show the manner in which the springs may be secured to the stock; and Fig. 9 is a side view of the gun, having the guide and stock constructed of one and the same piece. Fig. 10 is an end view of a rammer or loader; Fig. 11, a side view thereof. Fig. 12 is a top view of the carrier with a removable holder secured thereto; Fig. 13, a side view thereof. Fig. 14 is a side view of the lower portion of a ball-carrier, showing the manner in which the bracket may be constructed for securing the rubber when the carrier is made of metal. Fig. 15 is a side view of the upper portion of the carrier with a tube having a loaded plug therein.

Upon brackets or projections *a* on the stock A is secured a guide, B, in any well-known way, (three of which are shown;) but that preferred by me is represented in Fig. 7, in which case the ends of the guide enter mortises in the projections *a*, which renders it capable of being readily removed or replaced by simply springing it into or out of place. A missile-carrier, B′, is made to embrace the guide, and may pass entirely around it, as shown. Any manner of securing it to the guide so as to prevent its turning thereon or escaping therefrom when the gun is discharged will answer. The upper side of the carrier in this instance is made somewhat longer than the other sides, and is strengthened at its rear end, when made of wood, by two strips, one on the upper and the other on the under side thereof, with the grain of the wood at right angles thereto, and through this portion a hole is made and then lined with metal to prevent wear. The lining may consist of an ordinary metal eyelet pressed therein, as shown.

One mode of securing the ball or missile is shown on the upper side of the carrier, consisting of a socket, *b*, for receiving the ball, and a spring, *c*, secured to a bracket, 1, to hold it and prevent its dropping out in whatever position the gun may be held. This bracket may be made on the principle of the old-style annular-disk whistle, (see Fig. 7,) with a hole in its front wall and another directly opposite it in the rear wall, so that in its movement, the air rushing through the openings, a sound will be heard similar to that produced by a rifle-ball passing rapidly through the air. In this mode of forming the holder it is convenient to make the bracket 1 into a whistle, but not necessary, as the whistle may be placed at the rear end of the ball-carrier, on top, or either side; neither is it necessary to form the socket for the ball in the upper portion of the carrier, and have a spring attached thereto to prevent the ball dropping out when the gun is turned muzzle downward, as will be seen by another mode of constructing the holder in Figs. 5 and 6, in which case a tube is shown having one end scalloped and the points bent inward sufficiently to form a slight pressure upon the ball. In this case the tube is secured to a bracket, 2, by a pin, *c′*, passing through it and the bracket, the bracket being

rigidly secured to the upper portion of the ball-carrier.

Another mode of securing the holder is shown in Figs. 12, and 13, in which case the holder is rendered capable of being readily removed or replaced by making the lower portion of the bracket, to which the tube or socket is secured, dovetailed, or securing thereto a dovetailed piece, 5, and fitting it to a corresponding groove in the upper portion of the carrier. By this mode the holder may be changed to suit larger or smaller balls, as desired, thus changing the caliber of the gun by simply changing the holder.

The brackets 3 and 4 upon the under side of the ball-carrier, and the strip *d*, secured thereto, form an opening, through which, in this instance, a cord, *e*, passes, to the ends of which rubber bands E are secured, having their other ends similarly secured to the ends of a cord, *e'*, passing through or let into an opening, *f*, through the stock about midway between the breech and muzzle. To prevent the cord to which the rubbers are attached, and which passes through the stock, from escaping, a metal strip, *f'*, may be placed over the opening, and secured by screws, or fitted to a groove. Instead of the rubbers being secured to the cords *e e'*, an endless band of rubber might be secured to the carrier by inserting the band before gluing or securing the strip *d*. When the carrier is made of metal, a ring open on its under side may be secured to the under side of the carrier and braced, as shown in Fig. 14.

A spring, *g*, Fig. 7, made of wire, and let into the under side of the stock, so as to be flush therewith, is held in place by a staple, *g'*, embracing it, passing up into or through the stock and clinched. This spring passes through a loop on the lower end of a wire, *h*, far enough to allow the trigger to catch thereon, and holds the wire *h* in its proper place to catch and hold the carrier. (In case the stock is made of metal, as shown in Fig. 9, the spring *g* may be held in place by allowing the extended forward end of the trigger-guard to embrace it.) The wires *g* and *h* constitute a tripping device for discharging the gun, and is operated by pulling the trigger in the ordinary manner.

The gun is furnished with adjustable front and rear sights, I and J, the one adjustable vertically and the other horizontally, so that the sight of the gun may be regulated to bring the throw of the missile to any degree of accuracy required, except those inaccuracies which may be occasioned by the irregularity in weight or dissimilarity in structure of the missiles thrown. The rear sight, I, is shown in Fig. 1 as being turned at a right angle to its proper position.

The holder may be of sufficient capacity to contain one or more balls, as shown in Fig. 5.

A rammer or loader, K, has a groove, *k*, to fit the guide and flanges *l*, and affords a hold for the thumb and fingers in the act of forcing the carrier back to the breech.

For a popgun, a loaded plug, M, is made to fit the holder, which, in this instance, consists of a plain tube, (see Fig. 15,) and as the carrier, and consequently the tube and plug connected therewith, is driven rapidly forward as far as the spring will admit, the instant reaction of the spring separating the tube and plug, the desired sound is produced.

It will be observed that the main portion of the gun—that is, the guide and stock—may be made of a single piece of metal by bending it in the form shown in Fig. 9.

I have shown a square rod for a guide; but it is evident that any other, either angular or annular in cross-section, would answer as well.

Although rubber bands are shown as the power of propulsion, I do not confine myself to those, as it is very evident that coiled-wire spring or the cross-bow would do.

In this gun the ball is held snugly in the holder, and the carrier to which the holder is secured or forms a part being accurately guided throughout its movement, the ball, when leaving it, must necessarily pass on in the same plane as the line of movement of the carrier, and hence its throw is more accurate than that of spring-guns heretofore constructed, in which a barrel or groove is used as a guide for the ball.

When the gun is discharged, the instant the carrier has gained its momentum, the ball leaves the holder without concussion, and the velocity of the carrier is overcome through its medium of propulsion.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a toy gun, the combination of the sliding carrier and the ball or missile holder, removable therefrom, substantially as described.

2. In a toy gun provided with a guide and carrier sliding thereon, a whistle attached to or forming a part of said carrier, for the purpose set forth.

3. The combination, in a toy gun, of a missile-carrier, holder, and guide, the carrier embracing the guide, and having the holder secured to said carrier, substantially as described.

4. The combination, in a toy gun, of a guide and missile-carrier, the carrier embracing and sliding upon the guide, when propelled by spring-power arranged to limit the forward movement of the carrier, substantially as described.

5. In combination with a toy gun, the removable guide B, substantially as described.

6. In a toy gun, the grooved rammer K, substantially as described.

BALTIS DE LONG.

Witnesses:

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B. H. MORSE.