

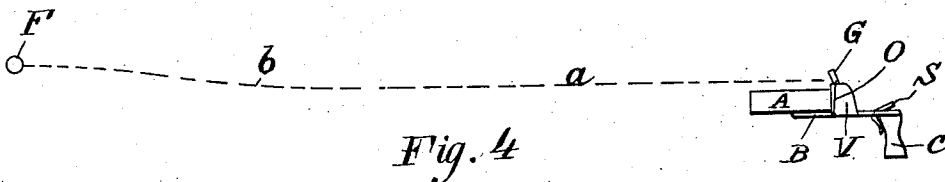
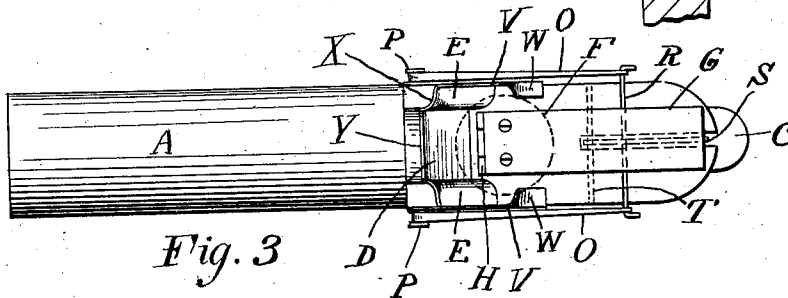
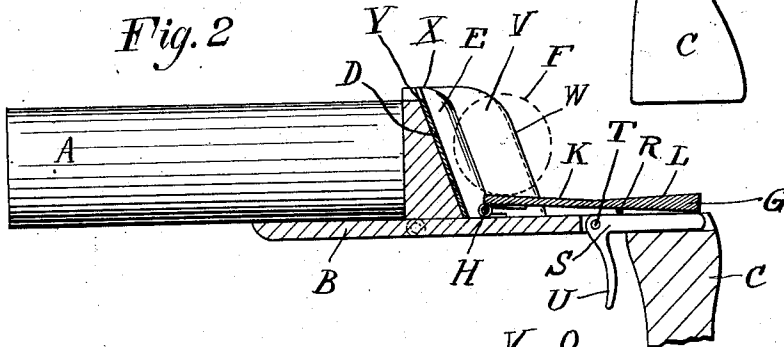
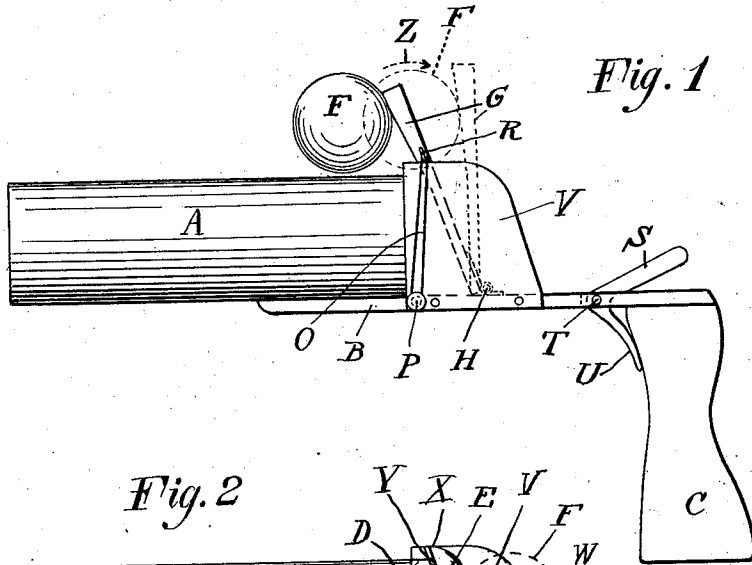
GUN.

APPLICATION FILED JUNE 17, 1911.

1,049,592.

Patented Jan. 7, 1913.

2 SHEETS—SHEET 1.



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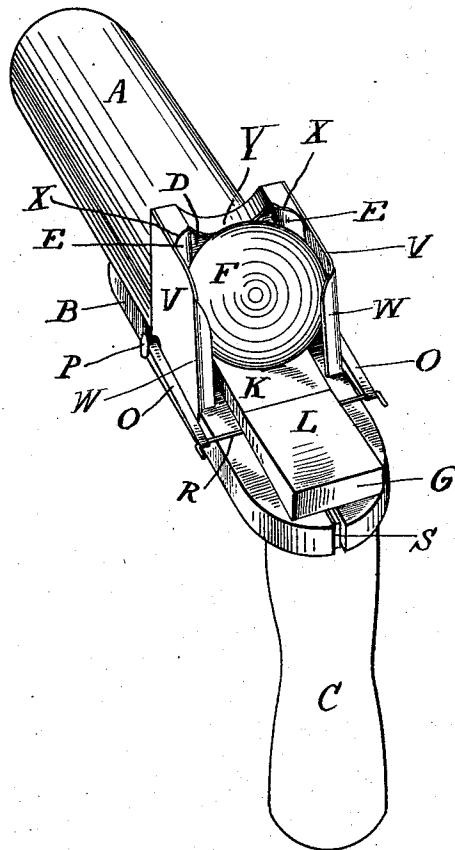
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2 SHEETS—SHEET 2.

Fig. 5



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GUN.

1,049,592.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed June 17, 1911. Serial No. 633,652.

To all whom it may concern:

Be it known that I, ALLAN C. NELSON, a citizen of the United States, and a resident of Flushing, county of Queens, city and State of New York, have invented certain new and useful Improvements in Guns, of which the following is a specification, accompanied by drawings.

This invention relates to improvements in guns, but more particularly to devices for propelling projectiles by mechanical power, although the invention may be used in any connection in which it is found applicable.

The objects of the invention are to provide a device by means of which a projectile, preferably a light object as distinguished from a heavy projectile, is propelled by simple devices, so that the gun, if desired, may be used as a toy. The principles of the invention, however, may be applied to articles of warfare.

To these ends the invention consists of the device shown in its preferred embodiment in the accompanying drawings, in which—

Figure 1 is a side elevation of the device; Fig. 2 is a side elevation partly in longitudinal section; Fig. 3 is a top plan view; Fig. 4 is a detail view showing the course of the trajectory, and Fig. 5 is a perspective view.

Referring to the drawings, A represents the barrel of the gun of any suitable character, which may be either hollow or solid, since the projectile travels above the barrel in the form of the invention shown in the drawings.

The device may also be so constructed that the ball or projectile would travel through the barrel.

The gun is provided with a suitable gunstock B shown in this instance cut away or recessed at the rear of the barrel and provided with a suitable handle C, it being understood that in the drawings the invention is shown applied to a pistol, although the invention may also be applied to guns adapted to be fired from the shoulder, and to cannons, either stationary or mounted on wheels.

The device as shown in the drawings is provided with a guide D extending upwardly from the gun stock B and arranged at the breech or rear of the barrel A. This guide D is preferably forwardly inclined and provided with the tracks E, along which the ball or projectile F travels from the position of rest. If desired, the gunstock may be made of wood or other suitable material,

and the track D is preferably made of metal, although it may be made of any suitable material having a smooth surface.

A propelling member G, preferably in the form of a plate having a smooth surface, is pivoted at H adjacent the base of the guide D in any suitable manner, by means of a hinge. The propelling member or plate G is preferably provided with an angular face having one portion K and another portion L forming an obtuse angle, for a purpose hereinafter to appear. If desired, the surface K—L could be curved. Actuating means are provided for the propelling member G, in this instance elastic means being shown in the form of rubber bands O, although it is to be understood that any suitable spring actuating means may be provided or other devices of any character whatsoever which would carry out the objects of the invention. In the arrangement shown in the drawings by way of illustration, the rubber bands A are secured to the pins P on the gunstock and also secured to the ends of the rod R carried by the propelling member G. The pins P are preferably arranged out of line with the pivot H of the propelling member G, so that when the propelling member is retracted into the position shown in Figs. 2, 3 and 5, said member will be maintained in retracted position until released by the bell crank lever S or other suitable releasing device pivoted at T to the gunstock and having the trigger U, by means of which device the propelling member G is forced upwardly until the elastic actuating means act to rock it upon its pivot H.

A chamber or casing formed by the plates V may be provided around the guide D and the plates may have the retaining flanges W for retaining the ball or projectile F in position preparatory to being propelled and as shown, this chamber or casing is preferably open at the top and at the rear. This casing could be a tube, if desired.

The operation of the device is as follows: The ball or projectile F is preferably a hollow celluloid object, although it may be of any suitable form and construction. The projectile F is placed within the casing V upon the propelling member G in the position indicated in Figs. 2, 3 and 5. It will be seen that the height of the guide D is slightly greater than the diameter of the ball F, but the distance from the surface of the propelling member G to the top X

of the tracks E is substantially equal to the diameter of the ball. While these dimensions need not be adhered to, they have been found to be satisfactory in carrying out the objects of the invention, as will hereinafter appear. It will also be seen that the top Y of the guide D is hollowed, while the ends X of the tracks E extend outwardly at each side. In order to propel the ball, the trigger U is withdrawn as indicated in Fig. 1, and the propelling member G is carried forward upon its pivot H by the actuating means O. The propelling member G moves very rapidly and the ball F slides along the tracks E. The ball F rolls and probably slides also upon the surface of the propelling member G, the combined action of the propelling member and the tracks E being to impart a reverse twist to the ball, so that as the ball moves along the tracks E it revolves backwardly in the direction of the arrow Z shown in dotted lines in Fig. 1. In the construction and arrangement of the parts shown in the drawings, which are to be taken as illustrative only, the ball will be at the top of the tracks E when the propelling member G is substantially vertical, as shown in the dotted lines in Fig. 1. When the propelling member has reached the end of its travel, as indicated in full lines in Fig. 1, the ball is about to leave the end of the propelling member in the position indicated in full lines, but said ball does not touch the gun barrel A and is propelled forward in the direction of the axis of the gun barrel. The ball is in contact with the propelling member G at every instant until the final position is reached, as indicated in full lines in Fig. 1. The path of the ball after leaving the gun is shown in dotted lines in Fig. 4 in which a substantially straight line *a* indicates the trajectory for a given distance beyond the gun barrel, until the point *b* is reached from which the trajectory rises, and continues in a curved path, gradually falling by gravity. The ball begins to rise at the point *b*, owing to the reverse twist which has been imparted to it by the propelling mechanism.

In accordance with this invention, the ball or projectile F from the time it leaves

the position of rest in the gun, as indicated in Fig. 2, describes first an upward path along the guide and changes its direction at the top of the guide and moves forwardly, owing to the cooperation between the propelling member and the guide. The conformation of the surfaces K and L of the propelling member G aids in projecting the ball forwardly, holding it to the same to the line of movement or to the line of movement or trajectory for each shot, and thus preserving the accuracy of the device. The tracks E also aid in maintaining the accuracy of the device, since they center the ball or projectile and cooperate with the propelling member G.

I claim and desire to obtain by Letters Patent the following:

1. A gun comprising a barrel and gunstock, a vertically arranged projectile receiving chamber at the breech of the barrel, said chamber being open at the top and rear to permit the free introduction of a projectile from above, an upwardly and forwardly inclined guide within said chamber and at the front thereof upon which the projectile is propelled, a propelling member pivoted adjacent the base of the guide, means for actuating said propelling member, and means for releasing said propelling member after it has been set in retracted position upon the gunstock.

2. A gun comprising a barrel and gunstock, an upwardly extending guide at the rear of the barrel, open at the top to permit the free placement of a projectile upon the guide from above, a propelling member pivoted adjacent the guide, and adapted to cooperate with said guide in propelling a projectile along the guide and then forwardly in the direction of the axis of the barrel, actuating means for said propelling member, and means for releasing said member from retracted position.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALLAN C. NELSON.

Witnesses:

HERBERT G. OGDEN,
HENRY SHELDON.