To all whom it may concern:

Be it known that I, SAMUEL E. PURDUM, a citizen of the United States, residing at Macomb, in the county of McDonough and State of Illinois, have invented a new and useful Top-Spinning Toy Spring-Gun, of which the following is a specification.

This invention relates generally to toy guns, and particularly to that class adapted for spinning a top and at the same time projecting a missile.

The object of the invention is to present a toy of the character specified which shall be simple of construction, efficient and durable in use, and which in addition to the functions named shall be capable of exploding a cap, thereby imparting added novelty to the device.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a toy gun or pistol, as will be hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there are illustrated two forms of embodiment of the invention each capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assembly without departing from the spirit thereof.

In the drawings, Figure 1 is a view in side elevation of a toy gun embodying the essential features of this invention. Fig. 2 is a view in longitudinal vertical section through the gun-barrel and rear portion of the breech, showing the operating mechanisms housed therein. Fig. 3 is a transverse sectional view taken on the line 3-3, Fig. 1, and looking in the direction of the arrow thereon. Fig. 4 is a view in elevation, partly in section, of a slightly-modified form of device. Fig. 5 is a transverse sectional view taken on the line 5-5, Fig. 2, and looking in the direction of the arrow thereon. Fig. 6 is a perspective detail view of one form of top that may be employed in connection with the gun or pistol.

Referring to the drawings, and to Figs. 1, 2, and 3 thereof, 1 designates the stock of a gun, which may be of any preferred construction and provided at the front portion of its hand-grip with a socket 2 to hold an arrow 3. Suitably associated with the stock in any preferred manner, as by bands 4, is a barrel 5, which may be constructed of any suitable material, such as heavy sheet iron or brass, and is provided for a portion of its length at each end with a slot 6 and 7, respectively. Housed within the barrel is a rod 8, one end of which carries a hammer 9, having disposed in front of it a rubber buffer 10, and the other end a top-carrier 11, presently to be described. The shank of the hammer is of a contour to fit snugly within the barrel and is provided on its under side with two notches 12 and 13, to be engaged by a spring-sear 14, provided with a downward-projecting extension 15, through which extends the forward end of a trigger 16, suitably pivoted in the stock. As herein shown, the hammer is associated with the rod through the employment of a nut 17, having a threaded engagement with the rear portion of the hammer and with the like portion of the rod, the carrier, the shank 18 of which also snugly fits the barrel, as shown in Fig. 3, having a threaded connection with the other end 19 of the rod, as at 19. Arranged on the rod is a coiled spring 20, one end of which bears against the rear portion of the shank of the carrier and the other end against a stop-pin or pins 21, extending through the barrel and into the stock, as clearly shown in Fig. 5. In this instance two of these pins are shown, one disposed on each side of the rod 8. By this arrangement when the hammer is drawn back to the position shown in Fig. 2 the spring is placed under tension, so that upon releasing the sear the carrier will be projected forward and with it the hammer. When the hammer is in the position shown in Fig. 1, the buffer 10 is in engagement with the pins 21, which operates to take up the shock to the pins which would otherwise occur. Arranged on the barrel at a point adjacent to that occupied by the forward end of the hammer when in the position shown in Fig. 1 is an abutment 22, adapted to contain a cap to be exploded by the hammer when it reaches the limit of its...
forward movement, the buffer yielding sufficiently for the purpose. The top carrier 11 is provided with an arm 23, disposed parallel with the barrel, the outer end of which is forked, as at 24, said fork being in vertical alinement with a notch 25 in the shank of the carrier, and the two crotches formed by the fork and the notch are adapted to be engaged by the terminal portions of the stem 26 of the top 27, which latter may be constructed as shown or otherwise. The top is provided near the lower portion of its stem with a spur-wheel 28, the teeth of which are adapted to mesh with a rack-bar 29, projecting vertically from one side of the front portion of the barrel and by preference integral therewith, the rack being produced preferably by punching or otherwise forming a plurality of openings or depressions to be engaged by the teeth of the spur-wheel. Thus when the hammer is in the position shown in Fig. 2 and the top is positioned as shown therein upon release of the trigger rapid rotary motion will be imparted to the top by cog action between the rack-plate and the spur-wheel, so that when projected clear of the gun and upon striking the floor it will spin for a considerable length of time. In order to guide the carrier and cause it at all times to occupy a proper operative relation with regard to the rack-bar, the said carrier is provided with a downturned ear 30, which encloses a portion of the height of the rack-bar, as clearly shown in Fig. 3, and thereby performs the function for which it is designed.

To adapt the gun for projecting a missile, either in the nature of an arrow 3, which may be a short length of stick, or marbles, rubber balls, or the like, the forward end of the carrier is provided with a socket or depression 31, adapted to receive such missiles.

In order to facilitate drawing the hammer back against the stress of the spring, its finger-grip is provided on each side with laterally-extending ears 32, as clearly shown in Fig. 2. Reference has been made to two notches on the under side of the shank of the hammer, and the function of these is as follows: Where the toy is to be used only for the purpose of spinning a top and exploding a cap, it is not essential that the spring should be placed under excessive tension for the purpose, and in the latter case the said notches would be allowed to engage with the notch 12; but where a missile is to be projected it will, of course, be desirable to place the spring under greater tension, and under these conditions the said notch will be caused to engage with the notch 13.

The form of embodiment of the invention shown in Fig. 4 exhibits the ideas above outlined carried into effect with a pistol, the only difference in construction being the manner of holding the hammer back when the spring is under tension. In this latter arrangement the under side of the shank is provided with a single notch 33, (although there may be two notches for the purpose above stated,) and this notch is adapted to engage a transverse pin 34, secured in the barrel. To lift the hammer free from the pin, the trigger 35 is provided with a rearward curved arm 36, adapted to ride against the under side of the shank of the hammer, the fulcrum point of the trigger being in advance of the finger-hold at 37, thus to cause the curved arm to ride upward and perform the function designed.

It will be seen from the foregoing description that although the toy of this invention is exceedingly simple of construction it combines in a novel and thoroughly feasible manner features of attraction not heretofore presented in a single toy—namely, means for spinning a top, means for projecting a missile, and means for exploding a cap.

It will be readily understood that various changes in minor details of construction of the device as herein described may be embodied in carrying the invention into practical use, and it is to be understood that the invention is not to be limited to the precise constructions herein shown and described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a toy spring-gun, the combination of a slotted barrel, a spring-plunger having a head adapted to propel a projectile from said barrel, an arched carrier-arm mounted on said plunger and projecting through said slot, recesses in the end of said carrier-arm and in said plunger-head for the spindle of a top, and a rack-bar provided at one side of said slot and adapted to engage a spur-wheel on the top spindle.

2. The combination in a toy spring-gun, of a barrel having a longitudinal slot along its upper surface, a spring-plunger mounted in said barrel and having a head adapted to propel a missile, an arched carrier-arm mounted on said head and projecting through said slot, recesses in the end of said carrier-arm and in said plunger-head adapted to receive the spindle of a top, a rack-plate on said barrel at one side of said slot and a lug mounted on said carrier-arm and adapted to engage said rack-plate.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL E. PURDUM.

Witnesses:
CHARLES W. FLACK,
BERNARD C. ROSS.