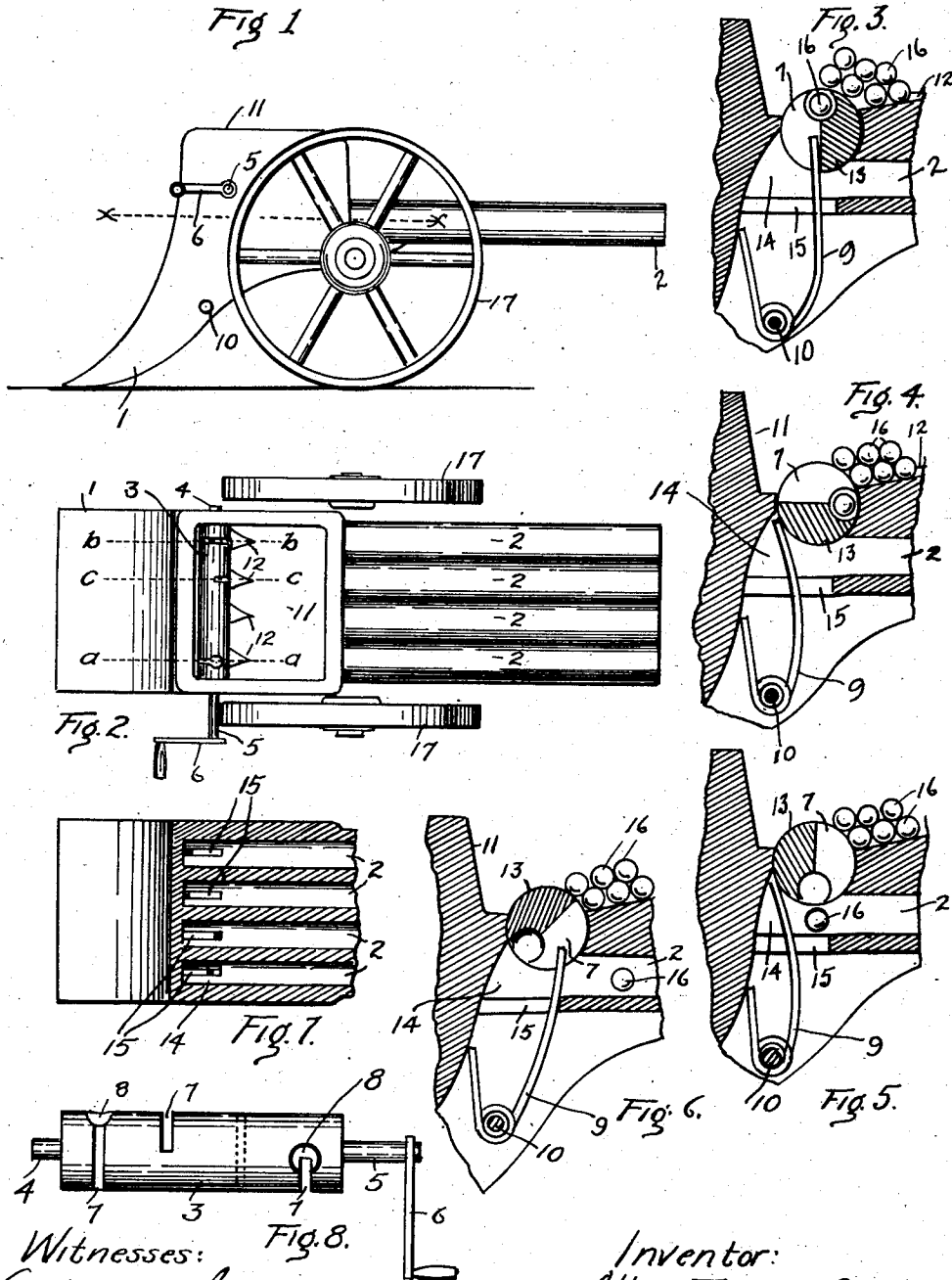


A. T. GILES.
RAPID FIRING TOY GUN.
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1,010,615.

Patented Dec. 5, 1911.



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UNITED STATES PATENT OFFICE.

ALBERT THOMAS GILES, OF CALGARY, ALBERTA, CANADA.

RAPID-FIRING TOY GUN.

1,010,615.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT THOMAS GILES, a subject of Great Britain, residing at Calgary, Province of Alberta, Dominion of Canada, have invented a new and useful Improvement in Rapid-Firing Toy Guns, of which the following is a specification.

My invention relates to a novel construction of a toy gun from which miniature projectiles may be discharged with great rapidity.

The object of the invention is to provide an inexpensive toy which will furnish entertainment and in the use of which dangerous accidents cannot occur.

The manner in which these and other beneficial results are attained are described herein and are shown in the accompanying drawings in which:

Figure 1 is a side view and Fig. 2 is a top plan view of the complete device. Fig. 3 is a fragmental section taken on the dotted line *a-a* in Fig. 2. Fig. 4 is a similar section taken on the dotted line *b-b* in Fig. 2. Fig. 5 is a similar view taken on the dotted line *c-c* in Fig. 2. Fig. 6 is a view of the parts shown in Fig. 5 at the instant of discharge. Fig. 7 is a fragmental horizontal section taken on the dotted line *x-x* in Fig. 1. Fig. 8 is a view of a cam cylinder as used in my invention.

Throughout the several views like characters refer to like parts.

Referring to the details of construction 1 is the carriage of the gun.

2 refers to the barrels of which there may be any desired number.

3 is a rotating cam cylinder formed with journal shafts 4 and 5 provided with bearings in the sides of the carriage 1. A handle 6 is attached to the end of the shafting 5. Slots 7 of which one is provided for each barrel, are cut half through the cylinder 3. Spherical recesses 8 of suitable size to receive one projectile, are provided at one end of each of the slots. Where four barrels, and four slots in the cam cylinder are used, each slot is advanced one fourth turn around cylinder with reference to the adjoining slot and in this manner the recesses 8 are one fourth of a turn apart. With three barrels the spacing would be one third of a turn. With more or less barrels the spacing is varied accordingly.

9 is a spring formed of any spring wire. One spring is used for each slot and all

the springs are mounted on a supporting shaft 10. The remaining metal at the cross sections of the cylinder where the slots are formed, provides the cams 13 for operating springs. The inside of the barrels extend back to the cam cylinder and a chamber 14 is formed under the cylinder. One arm of each of the springs 9, projects through slots 15 in the bottom of these chambers 14.

11 is a hopper formed on the carriage of the gun above the cam cylinder, the bottom sloping gently toward said cylinder and having shallow grooves 12 to direct the rolling projectiles to the recesses in the cylinder.

16 refers to projectiles which are spherical in shape. Ordinarily common gun shot are used.

17 are the wheels upon which the gun is mounted.

In Figs. 3, 4, and 5 the simultaneous positions of three of the slots are shown, but as each slot occupies these same positions during one revolution of the cylinder these figures with Fig. 6 apply equally well to any one of the slots and cams at different intervals of movement, and in connection with the description of the operation it will be well to consider these views as referring to the same slot and cam in different positions.

The operation of gun is as follows: A quantity of projectiles are placed in the hopper 11. The cylinder is rotated by means of the crank 6. As each recess 8 in the cylinder is thus brought to the top it receives a projectile which practically fills the recess, is carried around in the recess by the movement of the cylinder and is dropped in the chamber 14 at the end of the barrel. The end of the spring in the meantime has been forced back by the cam 13. Immediately after the projectile is dropped into the chamber 14 the spring is released by the cam 13 and passing through the recess 8 and slot 7 in the cylinder strikes projectile 16 with sufficient force to expel it from the barrel. The force with which the projectile is thrown varies according to the strength of the spring.

With the recesses 8 each being separated by a quarter of a turn four projectiles are discharged at regular intervals during each revolution of the cam cylinder. One hundred turns or four hundred "shots" per minute are readily attained.

Various sizes of the device may be con-

structed and the strength of the springs varied to produce desired velocity.

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

1. In a device of the character described; a gun carriage; barrels attached to said carriage; a hopper formed on the top of said carriage over the back ends of said barrels; a rotating cam cylinder placed beneath said hopper, having slots for the release of the springs and recesses for the retention of projectiles; means for rotating said cylinder; springs adapted to be withdrawn and released by said cam cylinder, all as described.

2. In a device of the character described, a gun carriage; gun barrels attached thereto; a hopper formed on the top of said

carriage; a rotating cam cylinder beneath said hopper, having slots and projectile recesses; bearings in the sides of said carriage in which the journaled ends of said cylinder are retained; a handle attached to said cylinder; springs mounted on a shaft extending through said carriage, said springs adapted to be engaged by said rotating cam cylinder; said shaft upon which said springs are mounted; and chambers formed beneath said cylinder communicating with each of said barrels and having a slot in each to receive the movable end of said springs, all as described.

ALBERT THOMAS GILES.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."