

No. 672,300.

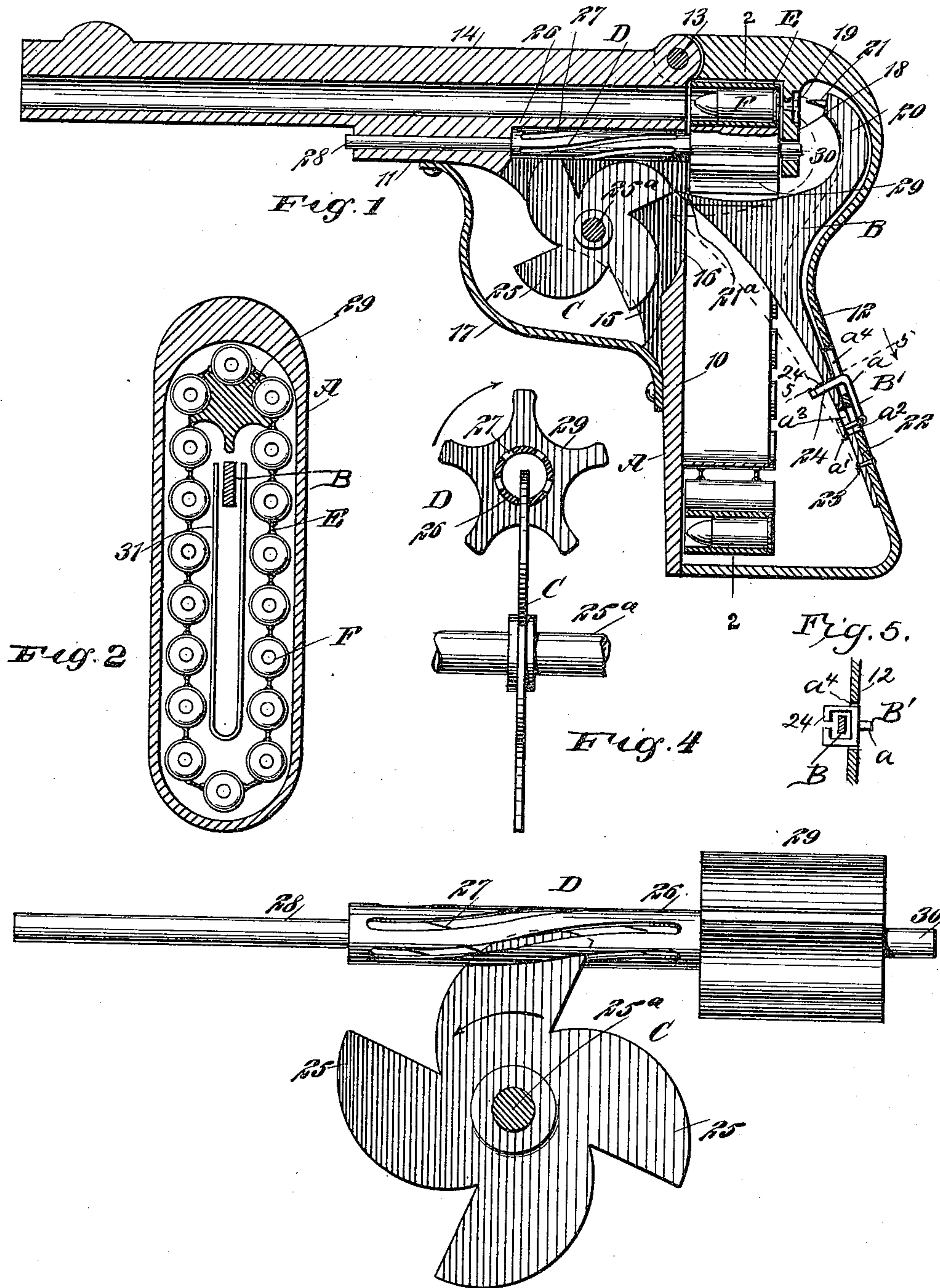
Patented Apr. 16, 1901.

W. J. TURNBULL.

MAGAZINE PISTOL.

(Application filed June 11, 1900.)

(No Model.)



WITNESSES:

*John A. Sullivan*  
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Fig. 3

INVENTOR

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BY

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# UNITED STATES PATENT OFFICE.

WALTER J. TURNBULL, OF NEW ORLEANS, LOUISIANA.

## MAGAZINE-PISTOL.

SPECIFICATION forming part of Letters Patent No. 672,300, dated April 16, 1901.

Application filed June 11, 1900. Serial No. 19,891. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER J. TURNBULL, a citizen of the United States, and a resident of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Firearm, of which the following is a full, clear, and exact description.

My invention relates to that class of firearms with which a magazine or cartridge-belt is employed; and the purpose of the invention is to provide means which will enable the cartridges to be fed in an accurate and expeditious manner by the same device which operates the hammer and also to employ the same device for effecting a positive lock for the feed mechanism just before and during the time the hammer acts upon a cartridge and also to so construct the device operating the hammer and cartridge-feed that a portion of the device will always be in positive engagement and controlling contact with the feed mechanism.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal vertical section through a pistol having the improvement applied. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a view of the feed mechanism and the device for operating the same, the parts being drawn on an enlarged scale. Fig. 4 is a section through the feed mechanism and an edge view of the device which operates the same, and Fig. 5 is a section taken on the line 5 5 of Fig. 1.

A represents the stock of a pistol, which stock is hollow, and the stock is provided with a stationary vertical front wall 10, which forms a part of the casing or frame 11 of the arm, and the other section 12 of the stock, which closes against the fixed section 10, is connected by a hinge 13 with the upper breech portion of the barrel 14, which barrel is supported in the frame or casing 11 in any desired way. The frame or casing is provided with a chamber 15, the main open end of which is opposite a trigger-guard 17, and the

chamber 15 is provided with an opening 16 in its rear wall, whereby communication is obtained with the interior of the stock A. 55

A hammer B is located in the movable portion or section 12 of the stock A. This hammer may be of any suitable material, but usually a spring material is employed, and the body of the hammer is more or less triangular; but its head portion 20 is curved upward and forward and terminates in a firing-pin 21. The body portion of the hammer is likewise provided with an upwardly and forwardly extending breast 21<sup>a</sup>, which extends into the chamber 15 of the frame or casing 11 through the opening 16 therein, as is best shown in Fig. 1. The loop or shank portion 22 of the hammer particularly is of a spring material, and this portion of the hammer is bolted or otherwise attached to the inner surface of the movable section 12 of the stock A, as is also shown in Fig. 1. The hammer may be prevented from acting at any time by the application of a safety-lock B', and this lock may be of any desired construction, that shown in the drawings being an arm *a*, held to slide at the back of the grip or stock, having a lower hinged and capped section *a'*, which passes through an elongated opening *a*<sup>2</sup> in the stock and through a registering slot *a*<sup>3</sup> in the lower or body portion of the hammer B, as shown in Fig. 1, and at the upper end of the arm *a* a loop 24 is placed at an angle to the arm, as shown in Fig. 5. This loop passes through a second elongated opening *a*<sup>4</sup> in the stock, and the contracted portion of the body of the hammer passes through the loop. Thus if the arm *a* is forced upward the body of the hammer will be held in a rearward position and its pin cannot strike a cartridge; but when the arm *a* is in its lower position the hammer is free to act. The firing-pin 21 of the hammer is immediately opposite a pin-receiving opening 19, which is produced in a partition 18, extending from side to side of the stock at its upper portion, as is also shown in Fig. 1. 85 90 95

A single device is employed to operate the feed mechanism D and hammer B and to serve as a trigger. This device consists of a wheel C, having a series of cam-teeth 25 formed peripherally thereon, one surface of each cam-tooth being usually convexed and



the opposing surface straight. Four of such teeth are shown in the drawings; but I do not limit myself to any specific number. This cam-wheel C is mounted on a pin 25<sup>a</sup>, and  
 5 this pin extends from side to side of the chamber 15 in the frame or casing 11, and the cam-wheel is so placed in said chamber 15 that one of said teeth 25 will at all times be present in the space between the chamber 15 and  
 10 the trigger-guard 17. This projecting tooth is used in the same way as a trigger.

The feed mechanism D, in connection with which the cam-wheel C is employed, consists of a cylinder 26, having a series of spiral  
 15 grooves or slots 27 therein, and this cylinder is preferably tubular. The ends of the spiral grooves 27 may be but slightly curved; but their central portions are decidedly so shaped. A rod 28 is attached to one end of  
 20 the cylinder 26, and a star-wheel 29 is connected with the other end of the cylinder, as shown in Fig. 4, and said star-wheel is provided with a trunnion 30.

In mounting the feed mechanism the rod  
 25 28 is held to turn in the forward portion of the frame or casing 11, while the trunnion 30 is mounted to turn in the transverse partition 18 in the stock or butt of the arm. When the feed mechanism is so mounted, the cyl-  
 30 nder 26 is within the chamber 15 and the star-wheel 29 is within the stock or butt between the barrel and the partition 18.

The cam-wheel C is so placed within the chamber 15 that while a tooth is acting on  
 35 the hammer B, and even while a tooth is out of engagement with the hammer, another tooth will be within a groove in the cylinder of the feed mechanism. In fact, there is always a tooth in a slot or groove of the cylin-  
 40 der 26, since one tooth never leaves a slot or groove until another has entered an adjoining slot or groove. In this manner and under this construction the cylinder is positively locked at all times, notwithstanding that the  
 45 action of the teeth of the cam-wheel in passing through the slots or grooves 27 tends to revolve the cylinder to a desirable extent at predetermined intervals.

The cartridges F are placed in suitable re-  
 50 ceptacles E, connected together to form a chain or belt, and the casings of the upper cartridges enter the spaces at the upper portion of the star-wheel 29, and as the star-wheel is turned by the movement of the cylinder 26  
 55 the chain of cartridges is moved also. The uppermost cartridge in the chain, as shown in Fig. 1, is so placed that when the charge is exploded the bullet or projectile will pass directly into the barrel of the weapon.

60 In Fig. 1 the cam-wheel C is shown in a position to just release the hammer and effect a firing of the charge, and one of the teeth is shown in the forward end portion of the groove, while the tooth which is to release  
 65 itself from the hammer is shown as just entering a second groove in the cylinder, and a

third tooth is shown extending out to be utilized as a trigger and the fourth tooth as being in position to engage with the breast of  
 70 the hammer to produce another discharge as soon as the trigger-tooth is drawn rearward. Just after firing or immediately after the release of the hammer the tooth which enters the cylinder 26 will turn the cylinder sufficiently  
 75 to cause the chain of cartridges to move, and the discharged shell will be carried to one side of the star-wheel 29 and a loaded shell will be brought to the upper pocket in the star-wheel and immediately at the breech of the  
 80 barrel.

During the act of firing the explosion does not exert a tendency to throw the barrel up, but the force of the explosion is in a horizontal plane and directly against the grip. As  
 85 stated, the grip or stock is so constructed that it can be opened at the breech quickly, and the chain or belt of shells can be instantly withdrawn and replaced with one fully charged. The vertical portions of the chain of cartridges  
 90 E are prevented from coming together by a partition 31, which is attached to the forward wall 10 of the grip or stock.

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

1. A firearm provided with a spring-actuated hammer having a forwardly-extending breast, a cartridge-feed mechanism provided with channels, a wheel formed with cam-teeth  
 100 arranged to successively engage with said breast, which teeth also successively enter the channels in the feed mechanism, a tooth of said wheel being always in locking and actuating contact with a wall of a channel of  
 105 the feed mechanism, whereby to turn said mechanism to bring a fresh cartridge in a firing position and lock the mechanism against other actuating influences.

2. In a firearm, the combination, with a cartridge-feed mechanism, consisting of a cyl-  
 110 nder mounted to revolve and provided with circumferentially-arranged spiral grooves or slots, and a cartridge-supporting device connected with the cylinder, of a wheel formed with cam-teeth, which teeth enter the grooves  
 115 or slots in the cylinder, one tooth entering a groove before a preceding tooth leaves a groove in the cylinder, whereby to rotate the cylinder and provide a positive lock therefor during the firing operation.

3. In firearms, the combination, with a casing, a feed mechanism mounted to revolve in  
 120 said casing, which mechanism consists of a cylinder having circumferentially-arranged spiral grooves or slots, and a support for a cartridge-carrying belt or chain connected with the said cylinder, and a spring-actuated  
 125 hammer a portion whereof extends adjacent to the feed mechanism, of a wheel mounted to revolve in the casing and formed with a series of cam-teeth, said teeth being adapted  
 130 to successively enter the grooves in the cyl-



inder for the purpose of revolving the same,  
one tooth entering a groove in the cylinder  
before a preceding tooth leaves it, the enter-  
ing tooth being in trip and releasing engage-  
5 ment with the hammer, for the purpose speci-  
fied.

In testimony whereof I have signed my

name to this specification in the presence of  
two subscribing witnesses.

WALTER J. TURNBULL.

Witnesses:

J. FRED. ACKER,

EVERARD BOLTON MARSHALL.