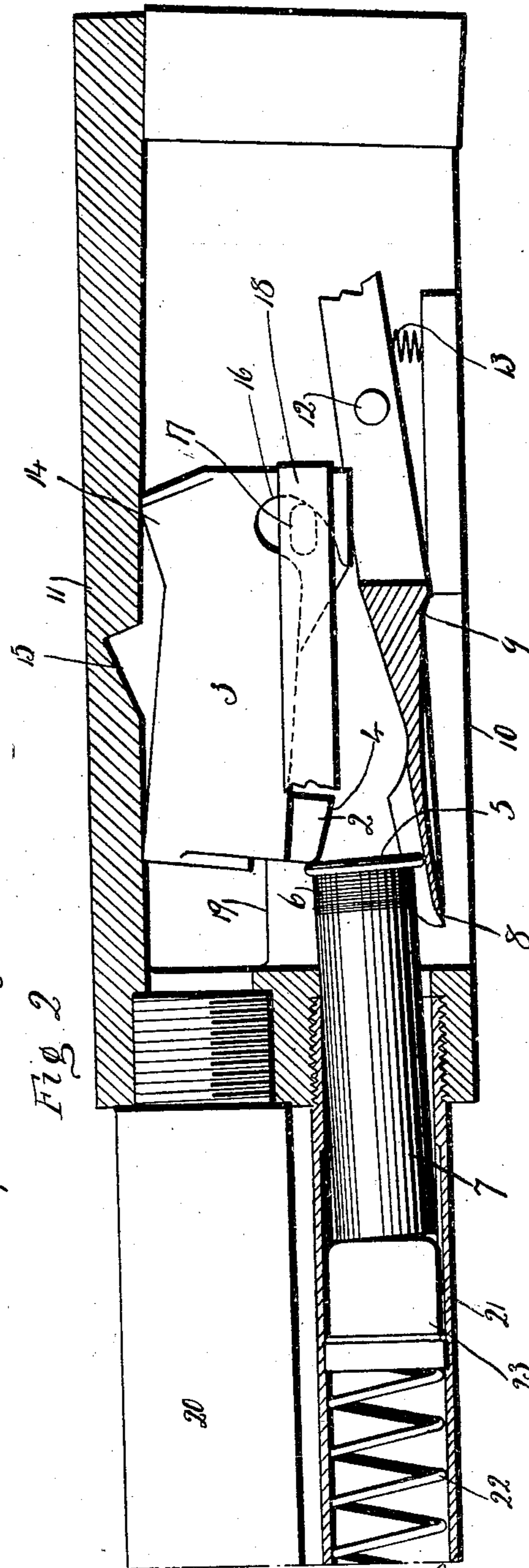


FIREARM.

Patented June 28, 1910.

2 SHEETS—SHEET 1.

962,764.



Witnesses  
C. J. Reed.  
C. L. Reed

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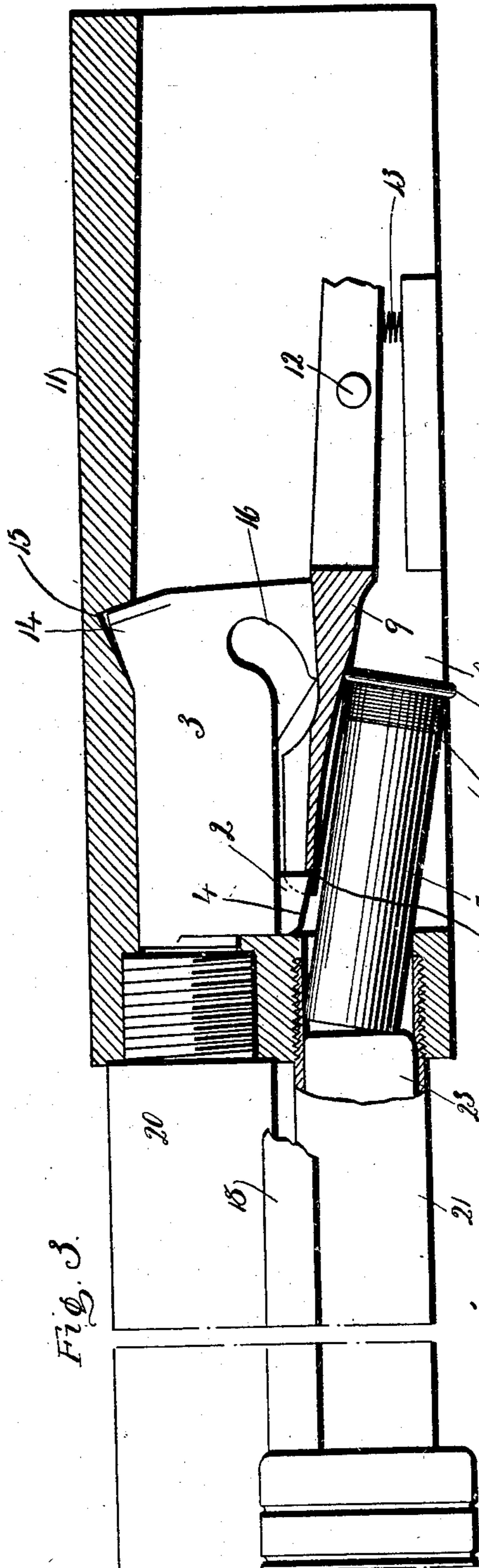


Fig. 3.

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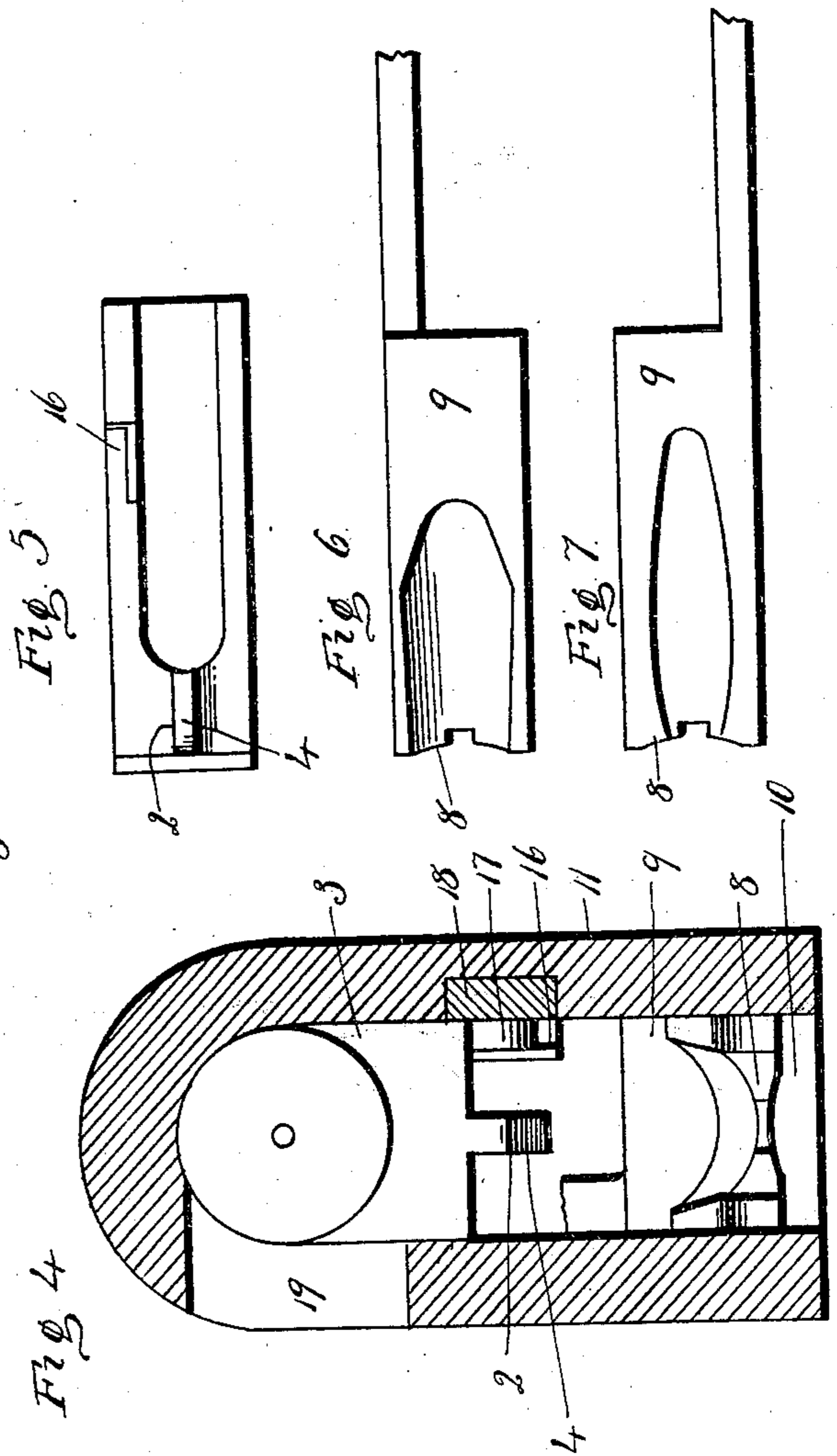


Fig. 4

Fig. 5

Fig. 6

Fig. 7

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# UNITED STATES PATENT OFFICE.

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FIREARM.

962,764.

Specification of Letters Patent. Patented June 28, 1910.

Application filed November 27, 1909. Serial No. 530,081.

To all whom it may concern:

Be it known that I, THOMAS C. JOHNSON, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Firearms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken view partly in side elevation and partly in vertical longitudinal section of a gun constructed in accordance with my invention, the breech-block being shown in its closed and locked position in which it acts in conjunction with the carrier to form a cartridge-stop. Fig. 2 a view showing the breech-block unlocked and just starting rearward, followed by a cartridge from the magazine. Fig. 3 a corresponding view showing the breech-block in its closed and locked position and the carrier swung against it to permit the cartridges to be removed directly from the magazine. Fig. 4 a view in vertical transverse section on the line *a-b* of Fig. 1 and looking from front to rear. Fig. 5 a detached reverse plan view of the breech-block. Fig. 6 a broken plan view of the pivotal carrier. Fig. 7 a reverse view thereof.

My invention relates to an improvement in that class of repeating guns known as bottom-feeding guns from the fact that the cartridges are fed into the gun through a feeding-opening in the bottom of the gun-receiver or frame, the object being to provide simple and reliable means for emptying the tubular magazines of such guns without "working" the cartridges through the mechanism of the gun.

With these ends in view my invention consists in a firearm having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I employ a stop lug 2 depending from the breech-block 3 at the forward end thereof and having a cam-face 4 inclining from front to rear for coaction with the rim 5 of the head 6 of a cartridge 7. The stop-lug 2 is proportioned so as to act as a car-

tridge-stop in conjunction with a rounded bevel or cam 8 formed upon the forward edge of a spoon-like pivotal carrier 9 which moves up and down in a feeding-opening 10 formed in the bottom of the gun-frame or receiver 11, the said carrier 9 being hung upon a horizontal pivot 12 and operated by a spring 13 exerting a constant effort to depress its forward end. It will be observed by reference to Fig. 5, that while the stop-lug 2 is arranged lengthwise with reference to the breech-block, the cam 8 is arranged crosswise with reference to the carrier.

It will be understood that the stop-lug 2 and the cam 8 are constructed and proportioned so as to act in conjunction, as a cartridge-stop in place of all other cartridge stops when the gun is closed and the breech-block 3 is in its closed and locked position. As shown, the breech-block 3 which is of the "compound movement" type, is formed at its rear upper corner with a locking-lug 14 adapted to be entered into a locking-notch 15 formed in the lower face of the solid top of the gun-frame or receiver 11. To provide for raising the lug 14 into the notch 15, and so locking the breech-block 3 in its recoil-taking position, as well as lowering the lug 14 out of the notch 15 for unlocking the breech-block, the same is formed in its left hand side wall with a recessed cam-path 16 upwardly turned at its rear end and receiving an operating-lug 17 projecting into it from the inner face of the rear end of the action-bar or slide 18. The said frame 11 is formed in its right hand side with an ordinary ejection-opening 19 through which the spent shells are laterally ejected. The gun-barrel 20 and the tubular magazine 21 are mounted one above the other in the forward end of the frame 11, the magazine containing the usual helical spring 22 and follower 23 which together exert a constant effort to move any cartridges in the magazine rearward upon the carrier 9.

The tubular magazine 21 is charged with cartridges by pressing them against the lower face of the carrier 9 which is thus caused to swing on its pivot 12 against the tension of its spring 13 until it is stopped by engagement with the breech-block, whereby the rear end of the magazine 21 is cleared for the entrance of the cartridges into it one after the other in line against the tension of

the spring 22. At this time the breech-block 3 must be in its closed and locked position in order to permit the carrier 9 to be swung sufficiently on its pivot 12 to give the required clearance for the feeding of the cartridges into the magazine through the feeding opening 10 in the gun-frame. As soon as inward pressure upon the outer face of the carrier 9 is removed, its spring 13 at once asserts itself to swing the carrier into its normal or closed position in which it is shown in Fig. 1, and in which its cam 8 stands in such relation to the cam-face 4 of the stop-lug 2 that the cams 4 and 8 act in conjunction to prevent any cartridge from being moved rearward under the tension of the magazine spring 22. In other words, the stop-lug 2 of the breech-block 3 now acts through the head of the cartridge in conjunction with the forward end of the carrier 9, to stop the rearward movement of the cartridges in the magazine 21, without the employment of any cartridge-stop considered as a separate and independent feature of the gun mechanism to function when the gun is closed.

In case it is desired for any reason to remove one or more or all of the cartridges in the magazine without working them through the mechanism of the gun as must be done in most guns of the prior art, it is only necessary, under my improved construction, to manually press the carrier 9 to the limit of its upward movement as shown in Fig. 3 against the tension of its spring 13, whereby the head of the rearmost cartridge will be cleared and the cartridge left free to be moved rearward and downward in an inclined path as shown by Fig. 3 under the influence of the magazine spring 22. When the forward end of the cartridge has been cleared from the rear end of the magazine, the cartridge will drop by gravity out of the feeding-opening 10 and be followed by the next cartridge, and so on until all of the cartridges have been removed from the magazine, or so many of them as it is desired to remove therefrom.

The operation of "working" the cartridges one by one through the gun is as follows: As the rear end of the breech-block 3 is swung downward so as to clear its locking-lug 14 from the locking-notch 15, the stop-lug 2 acting against the rim 5 of the rearmost cartridge causes a slight depression of the cartridge against the forward end of the carrier 9. But this depression of the cartridge is only momentary for as soon as the breech-block begins its rearward movement, the cartridge moves upward slightly in correspondence with the pitch of the cam-face 4 of the lug 2, the rearward movement of the cartridge at this time being due to the action of the magazine-spring 22. As the breech-block 3 moves rearward as shown in Fig. 2,

the rear end of the cartridge rides up in front of the stop-lug 2 as well as up the upward incline of the upper face of the carrier 9. This upward movement of the cartridge on the carrier continues until the cartridge has entirely emerged upon the carrier and is at its forward end cleared from the rear end of the magazine. The carrier is then operated in the usual manner for lifting the cartridge bodily into place in front of the breech-block 3 which at the beginning of the closing of the gun forces the cartridge forward into the gun-chamber of the barrel 20.

The mechanism for lifting the carrier has not been shown, but it will be understood that any suitable mechanism for that purpose may be employed.

After the cartridge has been exploded in the gun chamber of the barrel 20, it is extracted therefrom by the breech-block in its rearward excursion and then laterally ejected from left to right through the opening 19 in the frame 11, thus completing the "working" of the cartridge through the gun.

The improvement of my present invention relates primarily to providing means for emptying the magazine when the gun is closed without being compelled to "work" the cartridges through the gun one by one, or to manipulate special cartridge stops mounted in the gun-frame; but my present invention does not concern itself with stops for retaining the cartridges in the tubular magazine of a repeating gun when the breech closure, whatever its form may be, is open.

By reference to Fig. 1 of the drawings, it will be seen that the inclined lower edge or cam-face 4 of the stop-lug 2 depending from the forward end of the breech-block 3, engages with the rim 5 of the head 6 of the cartridge 7 at a point slightly in advance of the engagement of the said rim 5 by the cam-face 8 formed upon the forward edge of the carrier 9 so that in case the block is lowered for being unlocked preparatory to being moved back to open the gun, with a cartridge interposed between the block and the carrier, the head of the cartridge will ride down over the forward end of the carrier for a distance equal to the lowering of the front end of the block, and as it moves downward as described, it will also move slightly forward. Conversely, and for the same reason, when the carrier is manually pushed upward for removing the cartridges from the tubular magazine, the cam 8 at its forward end will ride up over the rear face of the head of the cartridge which will be pushed slightly forward in consequence. The inclined face 4 of the lug 2 and the cam 8 must therefore be constructed as to form and pitch and so related as to secure the results just mentioned. Obviously the compound breech-block 3 cannot be lowered

when the gun is closed and the under portion of the block is engaged with a cartridge, unless the cartridge is free to move downward with respect to the carrier, since otherwise the carrier would be broken or bent. Obviously, also, the cam 8 at the forward end of the carrier must be formed so as to not only normally stop the rearward movement of the cartridges, but also force them forward when upward pressure is applied to the lower face of the carrier to swing the same out of the way for the discharge of the cartridges from the tubular magazine.

I claim:—

1. In a repeating firearm, the combination with a gun-frame or receiver having a solid top the under face of which is formed with a locking-notch, of a gun-barrel, a tubular magazine located below the said gun-barrel, a sliding operating-handle mounted upon the said magazine, an action-bar carried by the said handle and extending rearwardly therefrom, a breech-block provided at its upper rear corner with a recoil-taking shoulder adapted to be entered into the said notch, and connected with the rear end of the action-bar for being moved downward at its rear end to unlock, then back and forth and upward at its rear end to lock, a stop-lug having a cam-face depending from the lower face of the forward end of the breech-block, and a pivotal cartridge-carrier provided at its extreme forward end with a cam, the said lug and cam being constructed and arranged to permit a cartridge engaged therewith to move downward with respect to the front end of the carrier to allow the breech-block to be moved downward at its rear end in being unlocked, and to permit the cartridge to move upward to permit the carrier to be manually swung upward to allow the magazine to be emptied.

2. In a repeating firearm, the combination with a gun-frame having a solid top the under face of which is formed with a locking-notch, of a gun-barrel, a tubular magazine located below the barrel, a sliding operating-handle mounted upon the said magazine, an action-bar carried by the said handle and extending rearwardly therefrom, a breech-block provided at its rear upper corner with a recoil-taking shoulder adapted

to be entered into the said notch, and connected with the rear end of the action-bar for being moved downward at its rear end to unlock, then back and forth and then upward at its rear end to lock, and a pivotal cartridge-carrier, the lower forward end of the block and the forward end of the carrier being respectively provided with cams located to the rear of the said tubular magazine and normally engaged by the head of a cartridge when the gun is closed, the said cams being positioned in respect to each other to permit a cartridge engaging therewith to be moved downward when the rear end of the block is moved downward to unlock, and upward when the carrier is swung upward to empty the magazine.

3. In a repeating firearm, the combination with a gun-frame having a solid top the under face of which is formed with a locking-notch, of a gun-barrel, a tubular magazine located below the said gun-barrel, a sliding operating-handle mounted upon the said magazine, an action-bar carried by the said handle and extending rearwardly therefrom, a breech-block provided at its upper rear corner with a recoil-taking shoulder adapted to be entered into the said notch, and connected with the rear end of the action-bar for being moved downward at its rear end to unlock, then back and forth and upward at its rear end to lock, and a pivotal cartridge-carrier, the forward lower corner of the breech-block and the forward end of the carrier being formed with cams which are engaged with the head of a cartridge when the gun is closed, the cam of the block being constructed to engage with the edge of the head of the cartridge, while the cam of the carrier is constructed to engage with the edge and the rear face of the head of the cartridge, whereby the cartridge is moved downward when the block is moved downward to unlock and upward when the carrier is swung upward to empty the magazine.

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

THOMAS C. JOHNSON.

Witnesses:

FREDERIC C. EARLE,  
CLARA L. WEED.