

T. C. JOHNSON.

FIREARM.

APPLICATION FILED DEC. 29, 1909.

Patented May 24, 1910.

2 SHEETS—SHEET 1.

959,016.

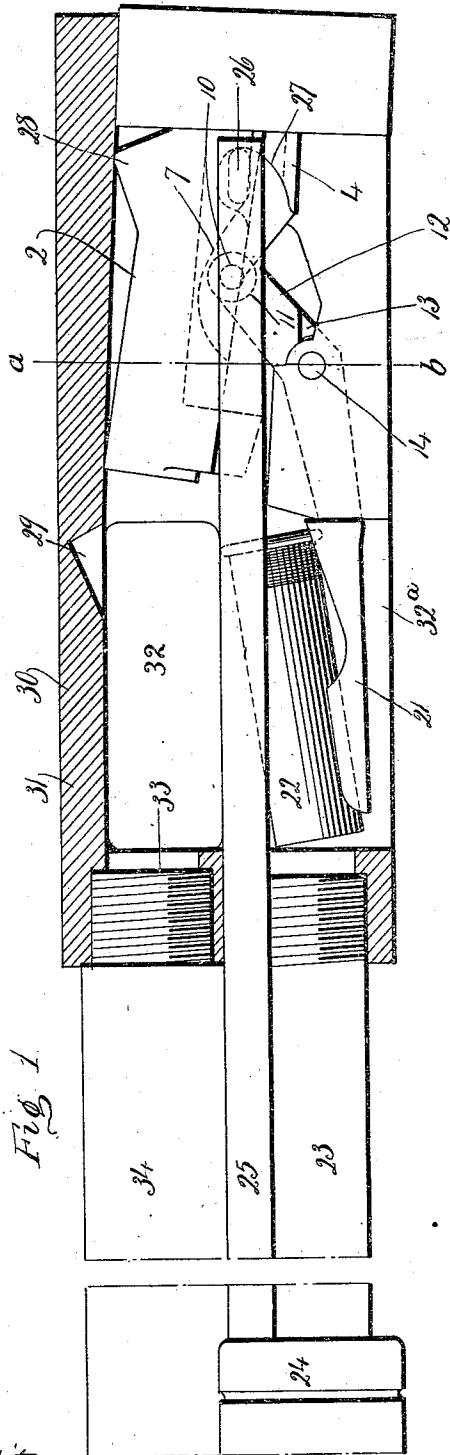


Fig. 1.

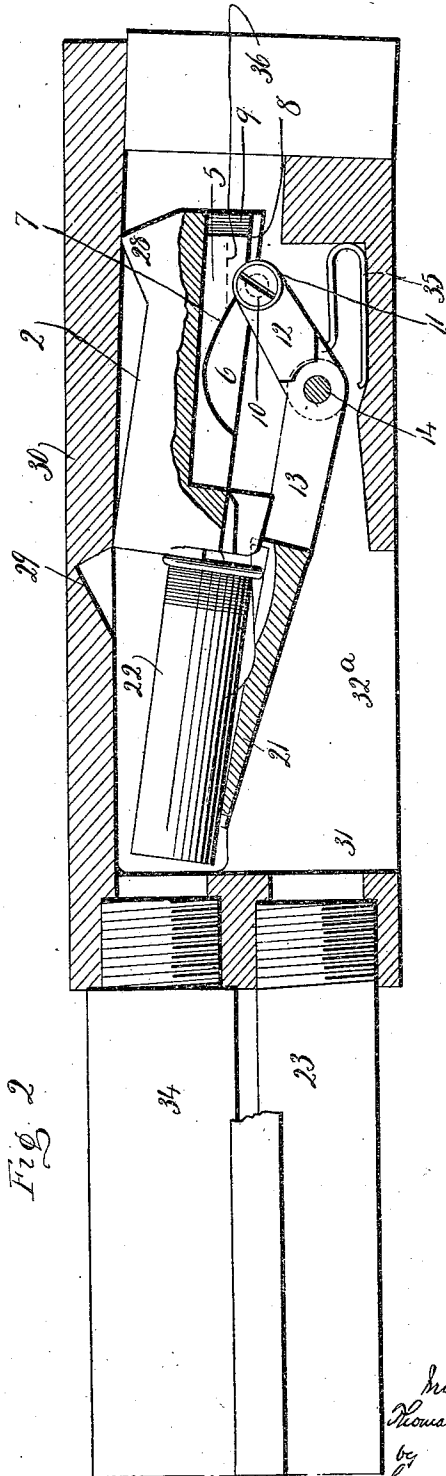


Fig. 2.

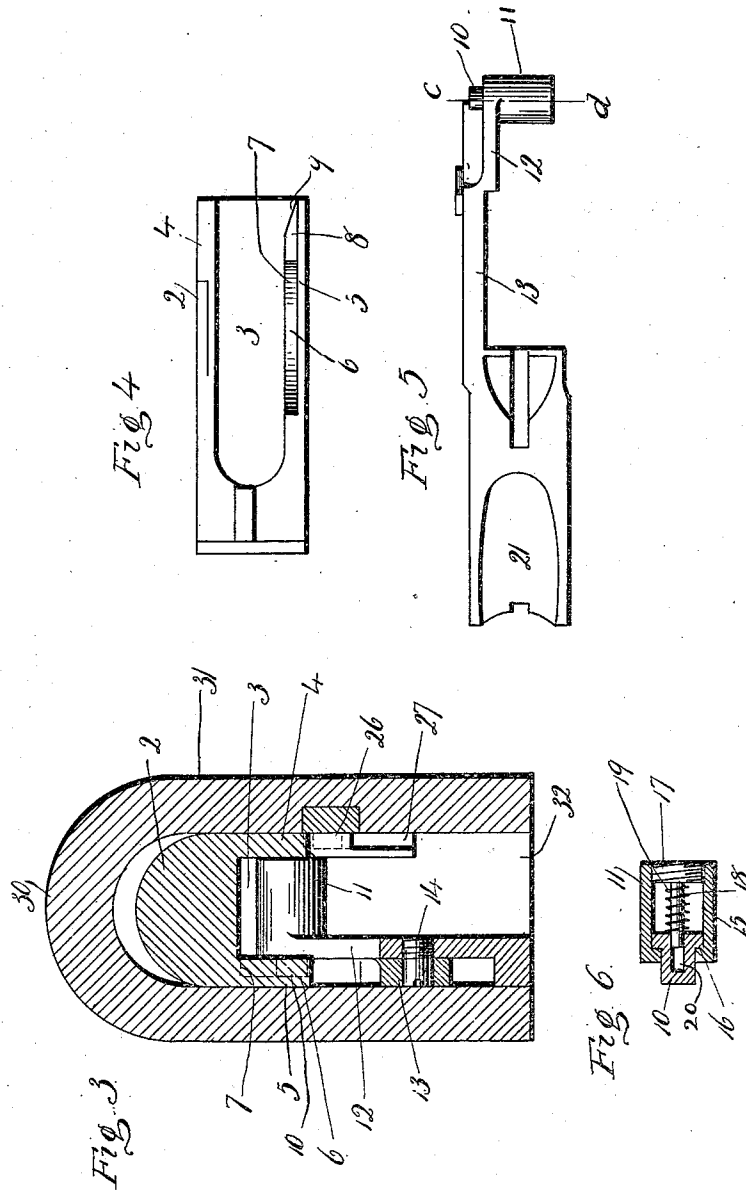
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UNITED STATES PATENT OFFICE.

THOMAS C. JOHNSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WINCHESTER REPEATING ARMS CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

FIREARM.

959,016.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed December 29, 1909. Serial No. 535,409.

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 vertical longitudinal section and partly in side elevation of a shot gun constructed in accordance with my invention, showing the breech-closure at the limit of its rearward excursion and a cartridge entirely fed out upon the pivotal cartridge-carrier. Fig. 2 a corresponding view with the cartridge-carrier shown as swung into its delivering position. Fig. 3 a view of the gun in vertical transverse section on the line *a—b* of Fig. 1 drawn on an enlarged scale and looking from front to rear. Fig. 4 a detached reverse plan view of the breech-closure. Fig. 5 a detached plan view of the carrier. Fig. 6 a sectional view on the line *c—d* of Fig. 5, drawn on the scale of Fig. 3, and showing the spring-plunger mounted in the hub at the end of the upturned rear arm of the carrier.

My invention relates to an improvement in that class of tubular magazine repeating shot guns which employ pivotal cartridge-carriers, and compound movement breech-closures the rear ends of which are raised for locking and lowered for unlocking, the object being to provide simple and reliable means for lifting the forward end of the carrier into its feeding position.

With these ends in view my invention consists in a gun 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, the breech-closure 2 is formed in its under face with a relatively large and deep chamber 3 resulting in the production of side walls 4 and 5. The inner face of the right hand side wall 5 is formed, as best shown in Fig. 2, with a cut or notch 6 producing a lifting-cam 7 which at its rear

end merges into a straight sustaining face 8. The extreme rear end of the inner face of the said wall 4 is beveled to form a clearance-cam 9 located in the vertical plane as distinguished from the lifting-cam 7 which is located in the horizontal plane. The said cams 7 and 9 and the sustaining-face 8 coact with a horizontally arranged spring-plunger 10 mounted in a horizontally arranged hub 11 projecting inward from an upwardly turned arm 12 forming the rear end of the pivotal cartridge-carrier 13 and located to the rear of the pivot 14 thereof. The said hub 11 is formed with a chamber 15 for the reception of the plunger 10 which is provided at its inner end with a retaining shoulder 16 slightly smaller in diameter than the diameter of the chamber 15 which receives a plug 17 having a stem 18 encircled by a plunger-spring 19 and entering a counterbore 20 formed in the plunger which is thus guided by the stem 18 and constantly pressed outward by the spring 19.

At its forward end the carrier is formed with a spoon-like arm 21 for the reception of the cartridges 22 which are fed upon it from front to rear from the tubular magazine 23 which is furnished as usual with a follower and follower-spring neither of which is shown. The tubular-magazine 23 supports the sliding action-handle 24 which carries an action-bar 25 having at its rear end an inwardly projecting operating-lug 26 which works in a cam-path 27 formed in the outer face of the left hand side wall 4 of the breech-closure 2 for operating the same back and forth and up and down as required for locking and unlocking. The breech-closure 2 is formed at its rear end with a locking-lug or nose 28 entering a locking-notch 29 formed in the solid top 30 of the gun-frame or receiver 31, the right hand wall of which is provided with an ejection-opening 32, and the bottom of which has a feeding-opening 32^a.

Assuming the breech-closure and carrier to be in the positions shown in Fig. 1, just as soon as the breech-closure starts on its forward excursion, its cam 7 will engage with the upper face of the spring-plunger 10, whereby the carrier 13 will be swung on its pivot 14 so as to depress its arm 12 and elevate its spoon-like arm 21 as shown in Fig. 2, whereby the cartridge 22 upon it is lifted into position to be pushed into the

cartridge-chamber 33 in the gun-barrel 34 by the forward end of the breech-closure 2 as the same moves forward into its closed position. As the breech-closure moves forward the cam 7 discharges its lifting-function as described and is succeeded in operation by the sustaining-face 8 which rides over the plunger 10 and maintains the carrier in its feeding position until after the cartridge has been sufficiently entered into the chamber 33 to provide for the full control of the cartridge thereafter by the forward movement of the breech-closure. As soon as the rear end of the sustaining-face 8 passes over the plunger 10, the carrier-spring 35 at once asserts itself to rock the carrier on its pivot 14 into its cartridge-receiving position as shown in Fig. 2, whereby the upturned arm 12 of the carrier is lifted into line with the cam 9 of the breech-closure, so that when the breech-closure moves back into its open position the cam 9 will engage with the end of the plunger and force the same back into its retired position so that the bolt is left unobstructed to move rearward without disturbing the carrier. As the bolt moves rearward as described, the smooth surface of that portion of the inner surface of the wall 4 of the breech-closure lying between the cams 7 and 9 rides over the end of the plunger along the path indicated by the broken line 36. As soon as this surface has passed over the plunger, the spring 19 thereof asserts itself to project the plunger into position in front of the cam 7. It will thus be seen that the cams 7 and 8 coact with the spring-plunger 10 to produce what virtually amounts to what is known by mechanics as the "island movement".

I claim:—

1. In a repeating firearm, the combination with a compound movement breech-closure, the rear end of which is raised and lowered for being locked and unlocked, and the lower face of which is chambered and which is formed with a lifting-cam, a clearance-cam, and a sustaining-face; of a pivotal car-

tridge-carrier provided at its rear end with an arm extending upwardly into the chamber of the breech-closure, and a spring-plunger mounted in the said arm in position to coact with the said cams and face of the breech-closure.

2. In a repeating firearm, the combination with a compound movement breech-closure, the rear end of which is raised and lowered for being locked and unlocked, of a pivotal cartridge-carrier having at its rear end an upwardly extending arm, and a spring-plunger mounted in the said arm and coacting with the breech-closure for the operation of the carrier.

3. In a repeating firearm, the combination with a compound movement breech-closure, the rear end of which is raised and lowered for being locked and unlocked, and which is formed in its lower face with a chamber one of the side walls of which is formed with a lifting-cam, a sustaining face and a clearance cam; of a pivotal cartridge-carrier having a spoon-like arm at its forward end, and at its rear end an upwardly extending arm terminating in a chambered hub, and a spring-actuated plunger mounted in the said hub in position to coact with the said cams and sustaining face.

4. In a repeating firearm, the combination with a compound movement breech-closure the rear end of which is raised and lowered for being locked and unlocked and which is formed in its lower face with a chamber one of the side walls of which is formed on its inner face with a lifting-cam; of a pivotal cartridge-carrier coacting at its rear end with the said cam in the forward movement of the breech-closure for lifting the forward end of the carrier into its cartridge-delivering position.

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

THOMAS C. JOHNSON.

Witnesses:

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