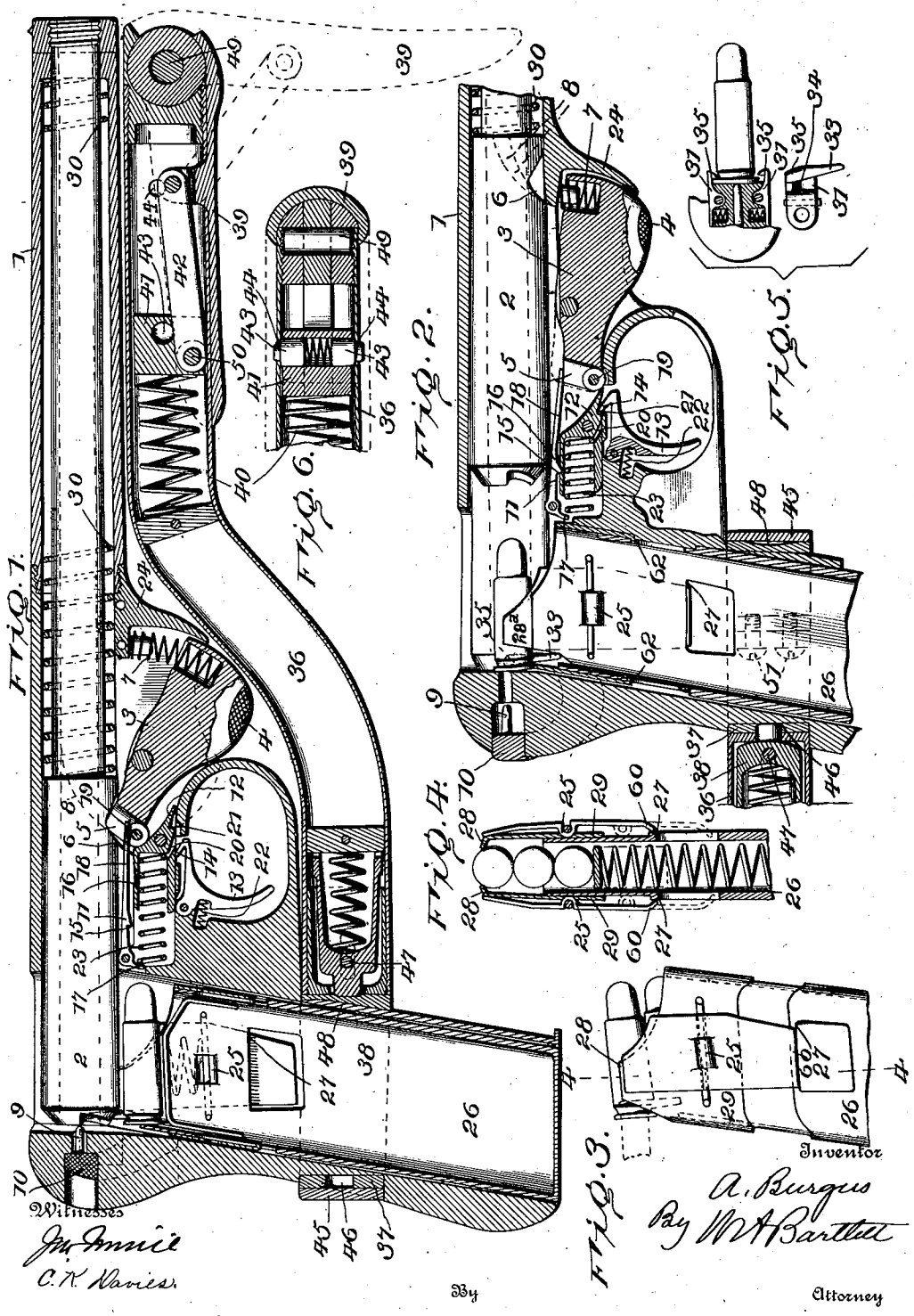
No. 666,084. Patented Jan. 15, 1901.

A. BURGESS.

AUTOMATIC GUN.

(Application filed Nov. 3, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

AUTOMATIC GUN.

SPECIFICATION forming part of Letters Patent No. 666,084, dated January 15, 1901.

Application filed November 3, 1900. Serial No. 35,376. (No model.)

To all whom it may concern:

Be it known that I, ANDREW BURGESS, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Automatic Guns, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to firearms of the automatic magazine class.

The object of the invention is to produce a magazine gun or pistol in which the force of the discharge slides the barrel forward and partially controls that movement by an inertia-brake and cocking device, also a magazine with special holding and feeding device and a folding stock, together with other improvements and combinations of parts in automatic firearm mechanism.

Figure 1 is a vertical longitudinal section of a firearm in closed or firing position embodying my present invention. Fig. 2 is a view similar to Fig. 1, but partly cut away, and with the barrel forward or in open position and a cartridge raised to feeding position. Fig. 3 is a side elevation of the top parts of the box-magazine detached and holding the cartridges. Fig. 4 is a vertical cross-section on the line 4 4 of the magazine of Fig. 3. Fig. 5 is a top plan and side elevation of the guiding cartridge-extractors, and Fig. 6 is a longitudinal horizontal section viewed from the top of butt-plate and connection to folding stock.

The frame 1 is of any suitable construction to support the working parts and is hollow and cylindrical at the top to confine the barrel to a reciprocating movement.

The barrel 2 is of usual construction and is driven forward in the frame by the force of discharge in firing the gun and is actuated by a spiral spring 30, as is common; but an inertia-brake or retarding and partial locking device 3 is arranged to resist the initial opening movement.

The brake or locking piece 3 is pivoted in the frame below the barrel and has a heavy lower extension 4 and an upper arm or cam-piece 5 to bear rearwardly against a shoulder 6 in the barrel, and a spring 7 turns the brake or lever into such engagement, as in Fig. 1.

The barrel-shoulder 6 is cut so obliquely back that the cam-arm 5 of the brake does not lock the barrel firmly forward, but said cam will be forced to slide down by the backward movement of the barrel, and thereby turn upward the heavy inertia extension 4. This taking place at the moment of the first forward impulse of the barrel, the power required to quickly move the inertia-piece a great deal faster than the barrel is so great as to materially delay or retard the first part of the barrel movement. While such delay is not always necessary, it becomes so when a long light barrel is used or in firing some kinds of ammunition to give time for the escape of the gas and sufficiently reduce the pressure.

The retarding effect of the inertia-piece can be increased by carrying the shoulder 6 to more abrupt resistance by lessening its curvature at its lower end, as shown, and the curves are indicated in dotted lines 8 in Fig. 2. The top of the shoulder 6 must be sloping enough to allow it to cam out the arm 5, but when said arm is once started it may be moved down a steeper incline.

The firing-lock is housed in the frame rearward of the brake 5 and consists of a firing-pin 9, striker 10, sear 11, striker-head 12, and trigger 13, and the said striker-head is in position, as in Fig. 1, to be engaged by the brake as it is turned by the barrel movement to thereby be cammed back to cocked position, as shown in Fig. 2, to be there engaged as shown, by the sear 11 and also by trigger-hook 14.

The sear is pivoted in the frame below the barrel and has a point 15 to engage in a notch 16 of the striker-head. A short pendent arm 17 of said sear is pressed back by recoil of mainspring to insure such engagement when the brake is turned, as in Fig. 2; but said sear has also a long forward arm 18, which extends forward through cuts in the locking-shoulder and brake when the breech is closed; but at the extreme upward position of the arm 5 of the brake-pin 19, carried by the brake, engages and turns up the sear to disengage its point 15 from notch 16 in the striker-head. The striker will then be held cocked by this sear when the breech is unlocked and be free from said sear whenever the breech is closed. The striker-head is also provided

with half-cock notch 20 and full-cock notch 21. The trigger is pivoted in the frame and has a hook 14, and is turned forward by the spring 22 to engage and hold back said striker-head. In Fig. 2 it is shown engaging in the full-cock notch 21, and will thereby hold the striker cocked even after the brake shall release the sear 11, and the gun is then fired by a pull on the trigger, which rocks it and turns its hook out of engagement with the notch 21 of the striker, which striker then springs forward by force of the mainspring 23 to drive the firing-pin forward.

The heavy lower arm 4 of the brake 3, projecting forward of the trigger-guard, can be conveniently pressed upward by hand to cock the lock without movement of the barrel, and the brake spring 7 returns the brake to engage the barrel, and said spring gives the brake greater power of resistance to the barrel by its strong but yielding pressure. The resistance of the mainspring in cocking also has a similar effect; but the inertia effect is more immediate to delay the initial movement of the barrel, as described.

The piece 24 is fixed into the frame forward of the inertia-brake removably, and the front part of the frame is screwed on, so that by removing these parts the barrel and its lug 6 can be readily inserted from the front or pulled out of the frame.

The magazine has a telescoping top, as described in my application, Serial No. 34,059, of October 23, 1900. The upper section of the magazine has elastic clasping-jaws 28, between which the cartridge is lifted by the follower, and by the upward pressure of the follower the extensible or telescopic section of the gun-magazine is lifted until the catches 62, engaging the fixed part of the magazine, prevent further rising of the extensible section; but I do not here provide the spring-jaws so strong as to hold against the force of the magazine-spring, but brace or reinforce them by side levers 25 25. These levers 25 25 are pivoted one on each side of the extension-top of the magazine, and their upper arms extend up outside of the jaws on the magazine. The magazine-base 26 has holes to allow the lower turned-in ends of the levers to enter when the magazine extension has been forced down, as in Fig. 1. When said extension is raised by the magazine-spring or otherwise, as in Figs. 2, 3, and 4, said extension carries the levers 25 with it, raises their lower turned-in ends 60 to cam against shoulders 27 27 of the magazine-base, and thereby turn said ends 60 outward, which causes the top arms to turn inward to press inward on the jaws 28 28 and firmly clasp said jaws on the top cartridge. The cartridge is thus held so it cannot escape when the barrel moves forward and the magazine-spring raises the cartridges and extension 29.

The top front of the levers 25 preferably extend a little above the jaws 28, so that when the barrel springs back it tends to press the levers and the jaws apart and downward, and the inner inclines on the lower ends of the lever-arms of the levers then beginning to leave the shoulders 27 27 of the magazine-base as the barrel takes in the feeding-cartridge said cartridge is easily released and inclosed by the barrel with but little loss of the power of the return-spring 30.

The magazine-well in the handle of the frame is broadened in its central portion to admit the greater width of the above-described magazine.

It is obvious that the jaws 28 28 may be entirely dispensed with and the levers comprise the jaws, to act in the same manner and to the same purpose.

The guide-extractors 31 31 are pivoted on each side of the recoil-shoulder 32 and have downward-extending hooks 33 that the cartridge-flange enters between while yet in the magazine-jaws, and said cartridge rising obliquely is guided up by said inclined hooks against the recoil-shoulder, to there be stopped by said recoil-shoulder and the inwardly-narrowing part 34 of said extractors.

As the cartridge-shells are extracted by the extreme upper top of the hooks 35 they do not confine said shells downward, but admit of their free ejection by the next rising cartridges.

It is very desirable in this class of arms to sometimes be able to rest it against the shoulder, and I here provide a folding stock consisting of a cylindrical base 37 on the magazine-stock, on which a tubular arm 36 rotates. A spring-catch 38 holds this arm in open or folded position. A shoulder on the butt-plate 39 is held in folded or operative position by the spring 40 and follower 41, which carries the link 42.

As the magazine extends vertically in the magazine-stock it forms the center of the pivot or swivel about which the shoulder-stock may swing in a horizontal plane to extended position behind said magazine-stock or to folded position under the barrel of the gun.

By grasping the butt-plate 39 the shoulder-stock may be extended from its position shown in Fig. 1 to that indicated in Fig. 2 by one easy movement. The butt-plate first turns down, as shown in dotted lines in Fig. 1. When the follower 41, which is connected to the butt-plate by the link 42, moves forward, carrying its spring-pins 43 43 to their engaging holes 44 44 in the tubular arm 36, and these pins spring into said holes, as shown in Fig. 6, the said butt-plate is thereby and by the link 42 firmly braced open. With the butt-plate in position of dotted lines in Fig. 1 a quarter-turn of the arm 36 rotates its loop 45 on its fixed circular base 37, to bring its spring catch-pin in position to enter the hole 46 of the base, and thereby firmly hold its loop 45 and fix the arm in its rearward extended position.

To hold the stock, the lock-pin 38 is first

pressed out of the hole 46 by the thumb-piece 47, (which traverses the lock-pin and has limited movement in the slot of the arm 36.) Then the arm 36 is turned forward under the barrel of the gun, when the lock-pin 38 enters the shallow notch 48 of the base to hold it folded with elastic force. The spring-pins 43 43 are then pressed inward from their holes 44 44 in the arm 36 to release the butt-plate, which may then be folded upward, as in Fig. 1, and the forward pivot of the link 42 (which attaches it to the butt-plate) reaching above the line of the butt-plate hinge 49 and the pivot 50 of the link 42 (in the follower) the force of the spring 40 then holds up the butt-plate by its elastic pressure, as in Fig. 1.

The stock-loop 45 is clamped to the base 37 by screws, as 51 51, or in any other convenient manner.

I have described the gun in the best form now known to me.

I do not limit many features to the precise constructions shown and described, as the same may be modified within the limits of my invention, as indicated by the claims herein.

What I claim is—

1. In an automatic gun, a frame and a longitudinally-moving barrel, and an inertia-brake bearing on the barrel to resist its initial forward movement, in combination substantially as described.

2. In an automatic gun, the combination of a frame, a longitudinally-movable piece by which the gun-breech is opened and closed, and an inertia-brake acting on such movable piece to resist the initial opening movement, substantially as described.

3. In an automatic gun, a frame, the barrel reciprocating therein and provided with an inclined abutment, and a brake-piece hung in the frame and engaging said inclined abutment, and pressed thereby out of its line of resistance to the forward movement of the barrel, in combination substantially as described.

4. In an automatic gun, the frame and sliding barrel, an inclined abutment on the barrel, an inertia brake-piece engaging said abutment and moved thereby as the barrel moves forward, and a striker engaged and cocked by the movement of the inertia-piece, all combined substantially as described.

5. In a gun of the character described, the combination of a frame, barrel, and an inertia brake-piece operating to retard the barrel movement as described, a striker cocked by the movement of said inertia brake-piece, and a sear acting on the striker to hold it cocked, said inertia-piece acting to release the sear as the barrel closes, substantially as described.

6. In an automatic gun, the combination of a frame, barrel, and inertia brake-piece acting on the barrel as described, the striker cocked by said inertia-piece, the sear engaging the striker and disengaged therefrom by the inertia-piece, and a trigger controlling the movement of the striker when engaged therewith, substantially as described.

7. In an automatic gun, the frame, the reciprocating barrel having an inclined abutment thereon, and a weighted lever pivoted in the frame and having an inclined face engaging said abutment, to be pressed aside thereby and act as a brake to the barrel, and a spring acting on said weighted lever to restore it to normal position, all combined substantially as described.

8. In an automatic gun, the frame, reciprocating barrel having an inclined abutment thereon, and an inertia brake-lever having cam engagement with said abutment, the striker engaged and cocked by said brake-lever, and means for holding the striker in cocked position, all combined substantially as described.

9. In a gun as described, a box-magazine having an extensible portion provided with cartridge-clasping jaws, and clamping-levers carried by the magazine extension and acting to reinforce said jaws, all combined substantially as described.

10. In a gun as described, the box-magazine having an extensible portion, cartridge-clasping jaws carried by the extensible portion of the magazine, clamping-levers pivoted to the extensible portion of the magazine and acting to reinforce said jaws, and bearing-shoulders on the magazine proper by which said levers are operated as the magazine is extended, all combined substantially as described.

11. In a gun as described, a box-magazine having an extensible portion, clasping-levers carried by the extensible portion of the magazine and engaging the fixed portion, thus acting to grasp and hold the feeding-cartridge by the relative movement of the extensible portion and the magazine-base, substantially as described.

12. In a gun as described, the combination with a magazine having an extensible section, of cartridge-clamps carried by said extension, and means whereby the clamps are operated to close on the top cartridge by the upward movement of the extension.

13. In a firearm of the class described, the frame and longitudinally-reciprocating barrel, a box-magazine under the barrel having an upper extension carrying cartridge-clasps, which extension is engaged and depressed by the rearward movement of the barrel, said upper section of the magazine being connected to the lower section by stops which limit the relative movement thereof, all combined substantially as described.

14. In a firearm of the character described, a reciprocating barrel, a box-magazine having an upper telescopic extension provided with cartridge-clasping jaws, and levers carried by the extension and acting to reinforce said jaws, all combined substantially as described.

15. In a gun as described, the reciprocat-

ing barrel, the box-magazine having telescopic extension, levers carried by the extension and acting to clasp the cartridge, and inclines on the fixed magazine-section with which the levers engage, substantially as described.

16. In a gun of the class described, the reciprocating barrel, the upwardly-feeding magazine under the rear of the barrel, and the twin extractors pivoted in the frame and having downwardly-extending arms, inclined as described, to engage the flange of the top cartridge and guide the same backward to the recoil-abutment, all in combination.

17. In a gun as described, the stock containing the magazine, a cylindrical portion forming the outside of the magazine, and a shoulder-stock swiveled to said magazine-stock so as to fold under the barrel on a vertical pivot, substantially as described.

18. In a gun as described, the magazine-stock containing a vertically-feeding magazine, a shoulder-stock swiveled thereto so as to swing about the magazine as an axial center, and means for holding said shoulder-stock in its folded or extended position, substantially as described.

19. In a gun as described, the magazine-stock, the shoulder-stock swiveled thereto so as to swing about the magazine as an axis, and the butt-plate hinged to said shoulder-stock, so as to be folded toward the barrel when the shoulder-stock is turned forward, all substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW BURGESS.

Witnesses:
HARVEY T. WINFIELD,
W. A. BARTLETT.