

No. 726,251.

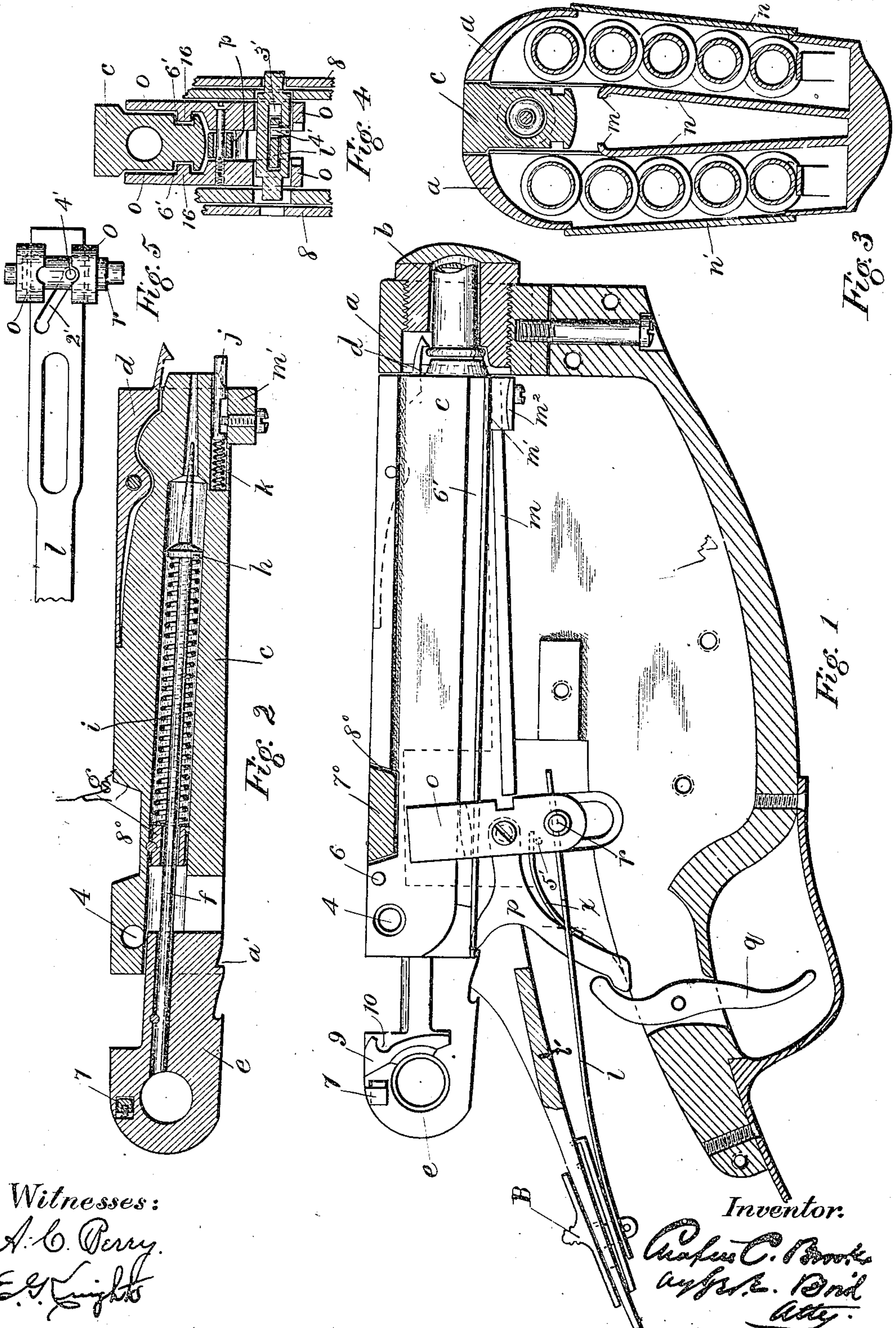
PATENTED APR. 28, 1903.

C. C. BROOKS.
MAGAZINE BOLT GUN.

APPLICATION FILED JULY 20, 1899.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
A. C. Perry.
E. G. Wright

Inventor.

Charles C. Brooks
By J. R. Bond
Atty.

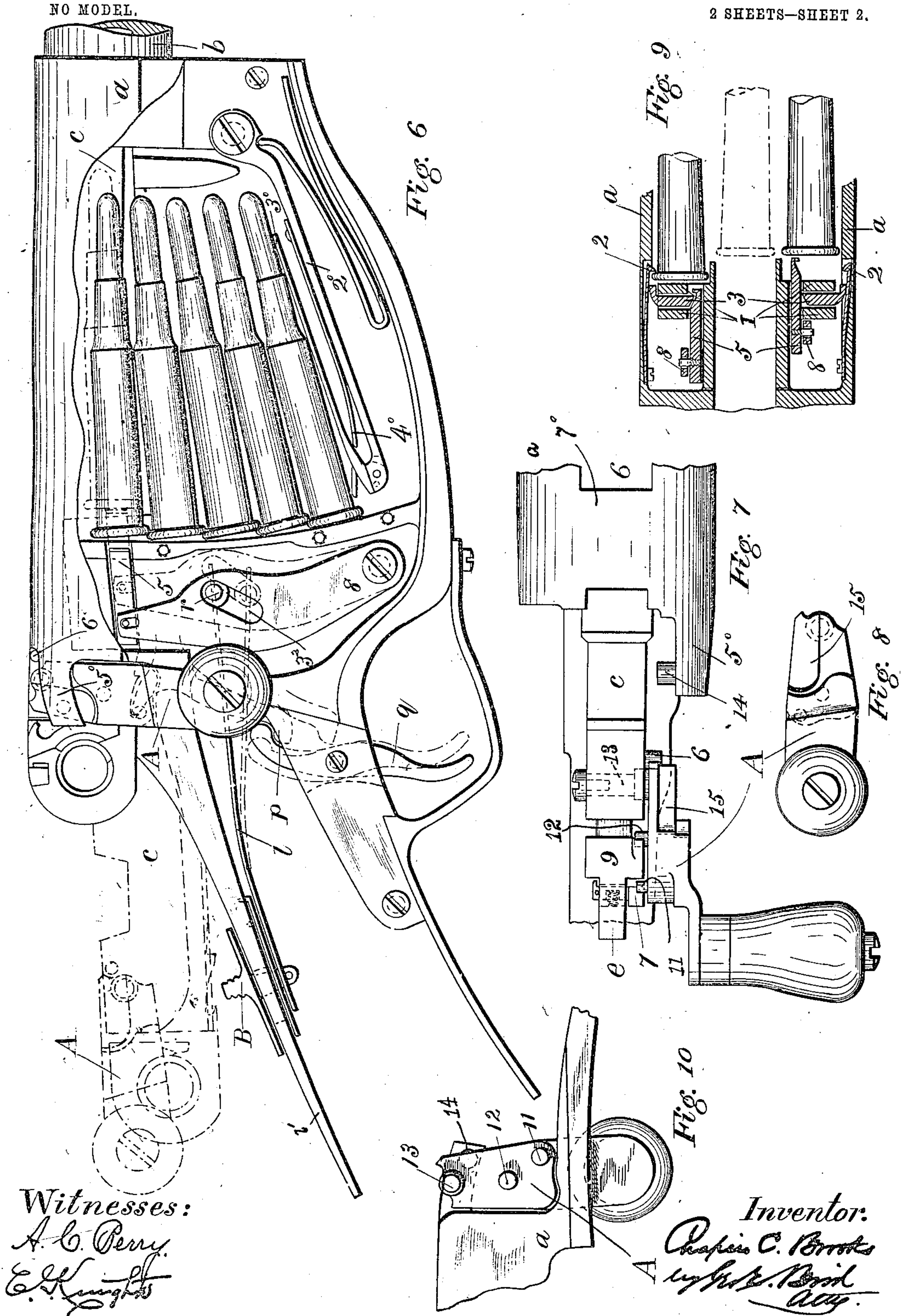
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A. C. Perry
E. L. Knight

Inventor:
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by H. B. Bond
Att.

UNITED STATES PATENT OFFICE.

CHAPIN C. BROOKS, OF WILTON, MAINE.

MAGAZINE BOLT-GUN

SPECIFICATION forming part of Letters Patent No. 726,251, dated April 28, 1903.

Application filed July 20, 1899. Serial No. 724,550. (No model.)

To all whom it may concern:

Be it known that I, CHAPIN C. BROOKS, a citizen of the United States, residing at Wilton, in the county of Franklin and State of Maine, have invented a certain new and useful Improvement in Bolt Magazine-Guns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to make and use the same.

My invention relates to bolt magazine-guns; and it consists in an improved frame, an improved breech-bolt, an improved means of operating the same, and an improvement in the means for controlling the magazines and feeding the cartridges from the latter into the gun.

In the drawings, Figure 1 is a side elevation of the portions within the frame, part of the frame and the right-hand magazine being removed, the barrel being shown in vertical longitudinal section. Fig. 2 is a vertical longitudinal section of the breech-bolt, the firing-pin being retracted, as when the gun is cocked. Fig. 3 is a vertical transverse section of the magazine, showing cartridges in position and the breech-bolt closed. Fig. 4 is a vertical transverse section of the breech-bolt and the device controlling the magazines. Fig. 5 is a bottom plan of the arm which operates the device which controls the magazines and the arms *o o*. Fig. 6 is a side elevation of the frame, with part of the frame and cover of the magazine broken away. Fig. 7 is a top plan of part of the frame and breech-bolt, the latter being retracted. Fig. 8 is an elevation of the outer side of the cam-lever *A*. Fig. 9 is a transverse horizontal section of the rear part of the magazines and of the mechanism controlling the movement of the cartridges, and Fig. 10 is a side elevation of the inner side of the cam-lever with adjacent part of the frame.

Referring to the drawings, *a* represents the frame, *b* the barrel, and *c* the breech-bolt.

The frame *a* is shown in Figs. 1, 3, 6, and 7. It has a flattened top with curved sides. In the top is a rectangular longitudinal slot *6^o*, which extends backward from the rear of the barrel to the rear of the magazine, having a bridge or tie *7^o* between the slot *6^o* and the rear of the frame, as seen in Fig. 7. The rear end of the frame has a slight slot to receive

the rear end of the breech-bolt, while the right side of the curved wall is elongated into the ear *5^o*. (See Fig. 7.) On the inner side of this ear is a stud *14*.

The construction of the breech-bolt *c* is shown in detail in Fig. 2. It has the usual cartridge-retractor *d*, a spring-actuated firing-pin *f*, and a cartridge-ejector *j*, actuated by the spring *k*, while *e* is the cocking-head of the firing-pin. Near the rear end of the breech-bolt is a recess *8^o* in its upper surface, which receives the bridge *7^o* of the frame. Fixed to the under side of the breech-bolt beneath the extractor is the piece *m'*, the lower outer edges of which are provided with flanges *m²*. The cocking-head has on the right-hand side a spring-actuated dog *7*, in front of which on the same side is a projection *9*, having in its forward surface a semicircular recess *10*. Upon the under side the cocking-head is provided with a notch *a'* to receive the sear *p*. The rear end of the breech-bolt is provided with a circular transverse perforation *4*, directly in front of which on the right-hand side is a pin *6*. The office of the perforation *4* is to receive the stud *13* of the cam-lever *A*. The inner or left-hand surface of the cam-lever *A*, as seen in Fig. 1, has upon its surface directly beneath the stud *13* a stud *12*, while at the rear of the lower edge is another stud *11*. The outside of the cam-lever *A* is provided with a recess *15*, which terminates at the lower end in a curve. (See Fig. 8.) This recess is designed to receive the stud *14*, already described. (See Fig. 7.)

The magazines, which are located on either side of the gun, are of similar construction and are provided with carrier-arms *2^o* and fingers *3^o*, pivoted at their rear ends to the ends of the carrier-arms *2^o* and actuated by springs *4^o*, respectively, as seen in Fig. 6. Each carrier-arm has its lifting-spring to raise it and its superimposed cartridges. The construction of the magazines and their location with reference to the breech-bolt are shown in Fig. 3, *n n* being the inner walls thereof, terminating at the top in the flanges *m m*, and *n'* *n'* are the doors or covers.

The mechanism for advancing and throwing the cartridges in front of the breech-bolt *c* when the latter is retracted is situated in the rear or near the rear of the cartridge

boxes or magazines. It consists of a cartridge-pusher 5, which plays in an appropriate slot in the frame or rear wall of the magazine and which at its forward end is provided with a notch, as seen in Fig. 9. To the rear end of each cartridge-pusher 5 is pivoted a cam-lever 8. Each of these cam-levers is pivoted at the lower end to the rear of the frame of the magazine (see Fig. 6) and has about midway of its length the oblique slot 3². Within the slots 3² plays the shaft *r*, (see Figs. 1 and 6,) which is arranged to move from right to left in appropriate apertures in the lower ends of the arms *o o*. (See Fig. 4.) The upper ends of these arms *o o*, which depend between the walls *n n* of the magazine, are each provided on the inner side with projections 15 16, adapted to enter the groove 6' in the edge of the breech-bolt *c*.

l is an arm adapted to slide beneath the tang *l'* of the frame, the rear end being provided with a button *B*, operative from the top of the tang. The button should be provided with a projection adapted to fit depressions in the tang, the latter being so located as to receive the projection at either end of the sweep of the button. Midway of the length of the arm *l* is a longitudinal slot *l'* (see Fig. 5) to permit the passage of the sear *p*, while the forward end is provided with an oblique slot 2'. The forward end of the arm *l* passes through a horizontal slot 3' (see Fig. 4) in the shaft *r*, and a pin 4' extends from the surface of the slot 3' through the slot 2' in the arm *l*.

Opposite each of the cartridge-pushers 5 and attached to the frame *a* is a spring-hook 2, the frame being recessed at its front for the reception of the same. (See Fig. 9.) Between the hook 2 and the cartridge-pusher 5 is a slide 3, with beveled ends. This slide is kept in position by means of the transverse walls *l l*.

The sear *p* is pivoted between and carried by the arms *o o*. (See Figs. 1 and 4.) The spring *x*, which actuates the sear *p*, is fixed at its rear to the under side of the lower arm of the sear, while the forward end of the spring rests upon a pin 5', extending between the arms *o o*. (See Fig. 1.)

The trigger *q* is preferably of the shape shown in Fig. 1, provision being made for the lower arm of the sear by a recess in the front of the trigger.

The operation of the gun is as follows: Assume the magazine to be filled with cartridges, as shown in Fig. 3, the breech-bolt to be closed, and the button *B* pushed forward, throwing the right-hand magazine into use. The breech-bolt then will be in the position shown in Fig. 6, and the uppermost cartridge in each magazine will be in position of that shown in the left-hand magazine of Fig. 9—that is, the head of each cartridge will be held by the hook 2. The handle of the cam-lever *A*, which is in its normal position when the gun is closed—that is, with its length at right angles to that of

the length of the breech-bolt—is now grasped by the hand of the operator and drawn backward. The effect of this movement is to carry the cam-lever *A* into a position in which its length will be in the same line with that of the breech-bolt, and when this position of the cam-lever *A* has been assumed the breech-bolt has been depressed out of its slot in the frame by the action of the stud 14 upon the recess 15 of the cam-lever. As the rear end of the cam-lever is thus elevated the stud 12 passes up on the inclined surface of the projection 9 upon the cocking-head until it enters the recess 10, when the stud 11 will have passed between the rear wall of the projection 9 and the dog 7 and above the latter when the dog actuated by its spring passes beneath the stud 11. The lever *A* is thus held rigidly in position, the semicircular recess 10 preventing its being lifted and the dog 7 its depression. The cocking-head at this point in the operation has been sufficiently retracted to withdraw the firing-pin wholly within the breech-bolt at the front end, so that possibility of its coming in contact with a cartridge is avoided. At the moment that the breech-bolt is depressed out of its slot in the frame the arms *o o* are also depressed, and the downward motion of the shaft *r* within the slot 3² of the right-hand lever 8 advances the lever 8, which carries forward the cartridge-pusher 5 of the right-hand magazine, the beveled edge of which, operating upon the beveled end of the slide 3, forces the hook 2 into its recess, thus liberating the cartridge at the same time that the pusher 5 pushes it forward beyond the inner wall of the magazine. The cartridge now rests against the breech-bolt and is ready to be forced into the space occupied by the latter as soon as it is withdrawn, as seen in the right-hand magazine of Fig. 9. The breech-bolt is now further retracted until it is fully withdrawn, when the cartridge, raised by the force of the carrier-arm 2⁰ and finger 3⁰, is carried by reason of the inclined wall of the frame into the space just vacated by the breech-bolt and rests upon the top of the walls *n* of the magazine. The cartridge is now in position to be thrust into the barrel upon the return of the breech-bolt. The cam-lever *A* is now forced forward, reversing the operation of withdrawing the breech-bolt, and the surface of the recess 15 passes under the stud 14, and at the same moment the sear *p* catches in the notch *a'* in the cocking-head *c*. Further pressure carries the lever *A* forward, the cocking-head being held by the sear, until the stud 11 passes in front of the projection 9, when further pressure upon its handle depresses the lever *A*, the stud 14 acting as a fulcrum for the recess 15, and at the same time the shoulder of the cam-lever *A*, striking the prolongation of the tang of the frame, elevates the breech-bolt into its opening in the frame and the breech-bolt is in position for firing. The gun is now discharged and the operation repeated until,

when the gun has been fired five times or more, the right-hand magazine becomes exhausted and it is necessary to refill the right-hand magazine or draw upon the left-hand magazine. The left-hand magazine has hitherto been locked, and if it is desired to draw upon it it is necessary to push forward the button B on the lever *l*, which has the effect by reason of the play of the pin 4' in the oblique slot 2' in the lever *l* to carry the shaft *r* into the slot 3' in the left-hand cam-lever 8. The left-hand magazine is thus called into action, as the right-hand cam-lever 8 no longer operates and the function performed by it heretofore is consequently performed by the left-hand cam-lever 8. The forward end of the breech-bolt as it is retracted and returned slides upon the flanges *m m* of the walls *n n* of the magazines, the flanges *m*² of the piece *m*² keeping it in position. The breech-bolt may be further guided in its movement into and from its recess in the breech-bolt opening by a flange or similar means attached to the frame in the rear of the breech-bolt when closed and adapted to enter the longitudinal groove 6' in the breech-bolt.

What I claim is—

1. In a gun, the combination of movable arms and a depressible retractable breech-bolt, the latter provided with a longitudinal groove adapted to receive projections upon the inner sides of the former and a sear pivoted between and carried by said arms, substantially as described.

2. In a gun, the combination of a breech-bolt having a spring-actuated firing-pin and cocking-head with a cam-lever whereby the breech-bolt may be depressed from its recess in the frame and retracted and means whereby the cocking-head may be partially retracted when said bolt is depressed, substantially as described.

3. In a gun, the combination of a breech-bolt having a spring-actuated firing-pin and cocking-head, a cam-lever whereby the firing-pin may be retracted in the breech-bolt while the breech-bolt is being depressed and means whereby said lever and said firing-pin may be

locked when the firing-pin has been retracted as aforesaid, substantially as described.

4. In a gun, the combination with a breech-bolt having a spring-actuated firing-pin and cocking-head, a cam-lever whereby the breech-bolt may be first depressed and then retracted from its recess in the frame and then returned and elevated in said recess and means for locking said lever while said bolt is depressed, substantially as described.

5. In a gun, the combination of movable arms and a depressible retractable breech-bolt, the latter provided with a longitudinal groove or grooves adapted to receive projections on the inner sides of the former, magazine or magazines at the side of the breech and means, operated by the movement of said arms, whereby the uppermost cartridge of the magazine is advanced ready for delivery into the receiver, substantially as described.

6. In a gun provided with a magazine on each side of the breech-bolt, means for feeding from either of said magazines actuated by the withdrawal of said bolt, substantially as described.

7. In a gun provided with a magazine on each side of the breech-bolt, means for feeding from either of said magazines actuated by the depression and withdrawal of said bolt and means for connecting said operative mechanism with either magazine, substantially as described.

8. In a gun provided with a magazine at the side of the breech-bolt, means for holding the uppermost cartridge in said magazine until the breech-bolt is depressed, and means whereby the said cartridge is released by the depression of said bolt and advanced along the side of the breech-bolt whence upon withdrawal of said bolt it enters the receiver, substantially as described.

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 15th day of July, A. D. 1899.

CHAPIN C. BROOKS.

In presence of—

GEO. E. BIRD,
A. C. BERRY.