(No Model.) 3 Sheets—Sheet 1.

L. L. HEPBURN.

MAGAZINE FIREARM.

No. 560,032. Patented May 12, 1896.

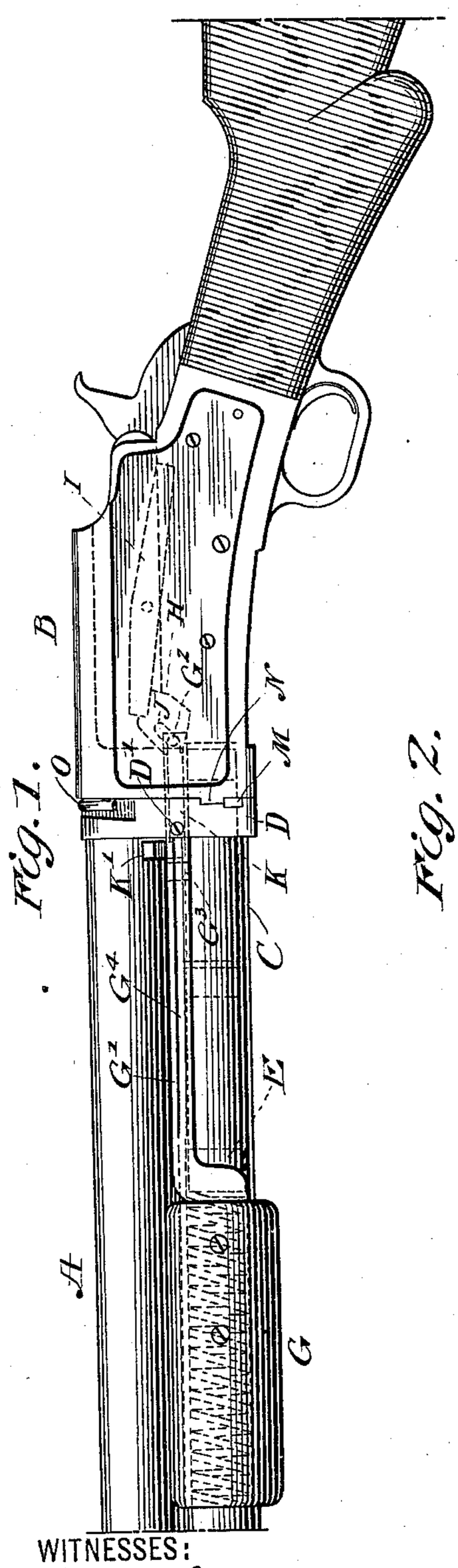

Fig. 1.

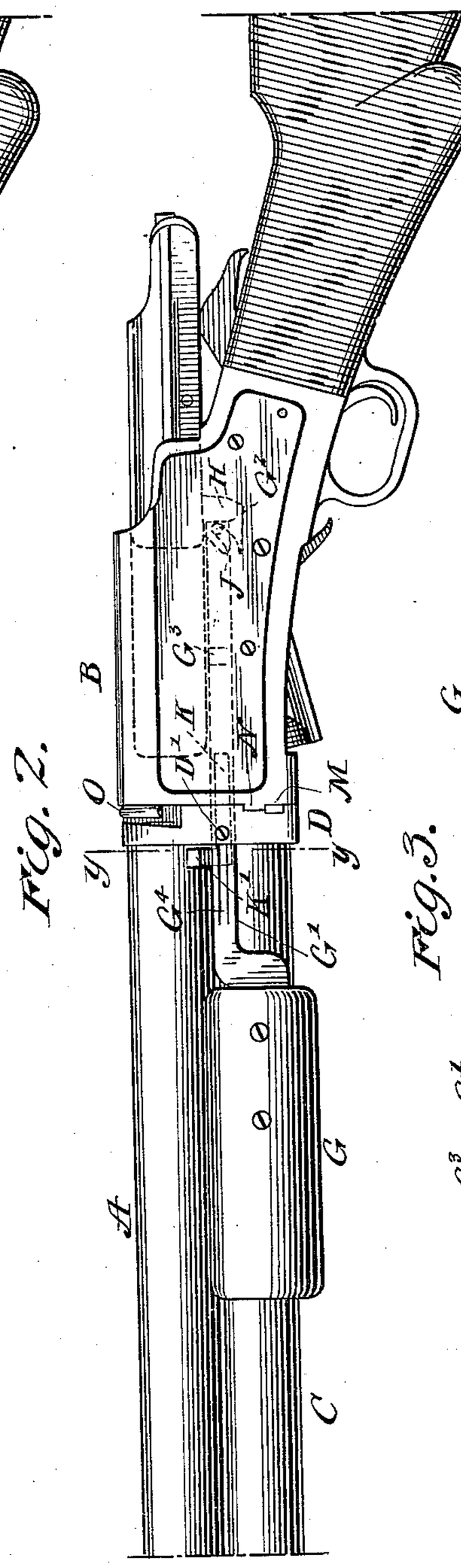

Fig. 2.

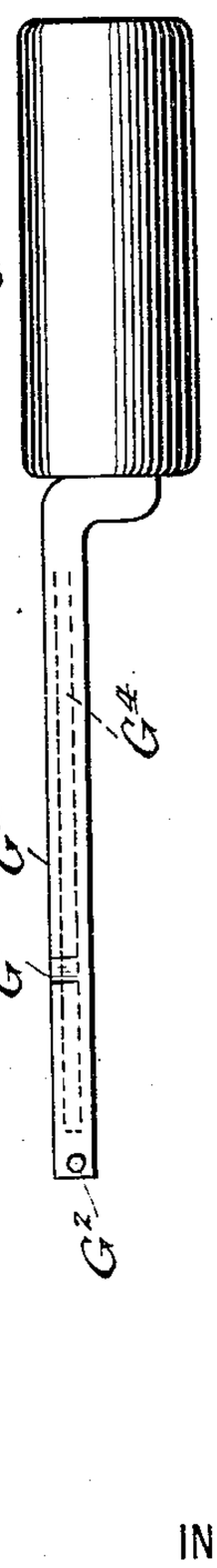

Fig. 3.

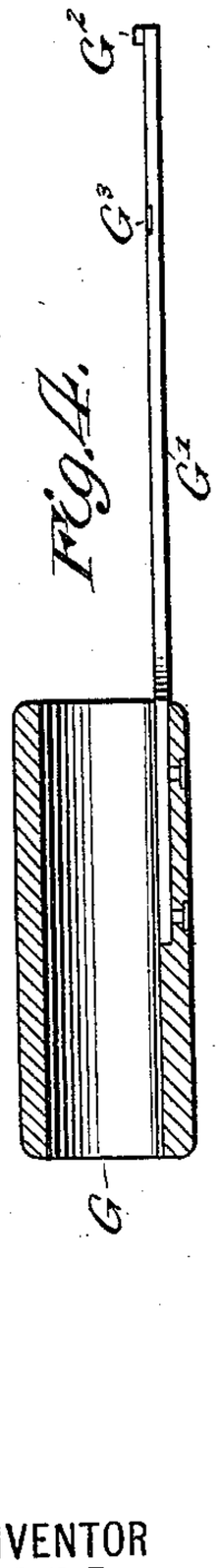

Fig. 4.

WITNESSES:
F. Frank L. Ober
C. B. Eaton

INVENTOR
Lewis L. Hepburn.
BY
R. C. Cumbrell.
ATTORNEY

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L. L. HEPBURN.

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Fig. 5.

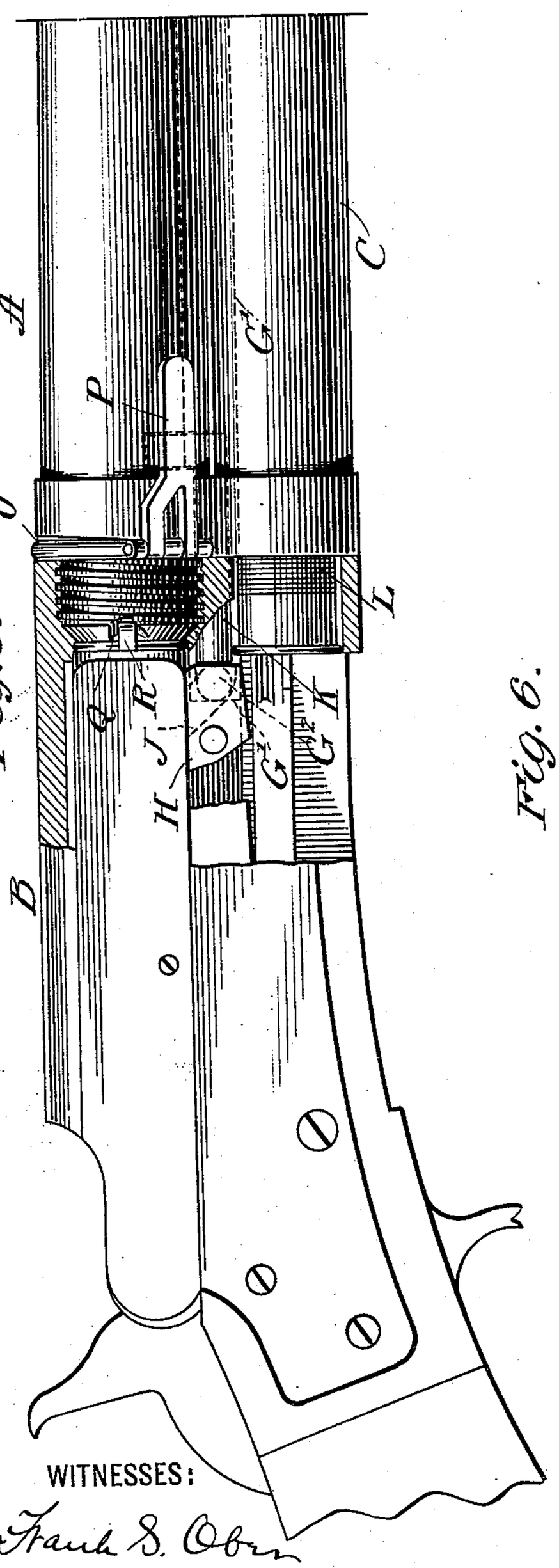
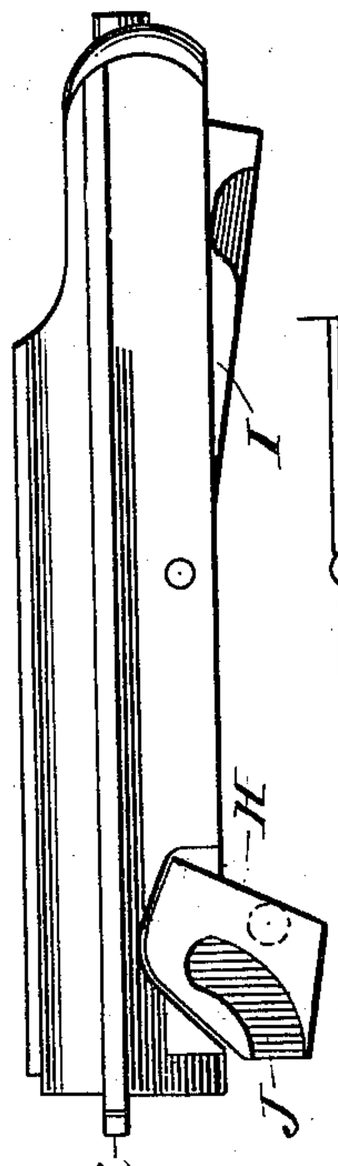


Fig. 6.



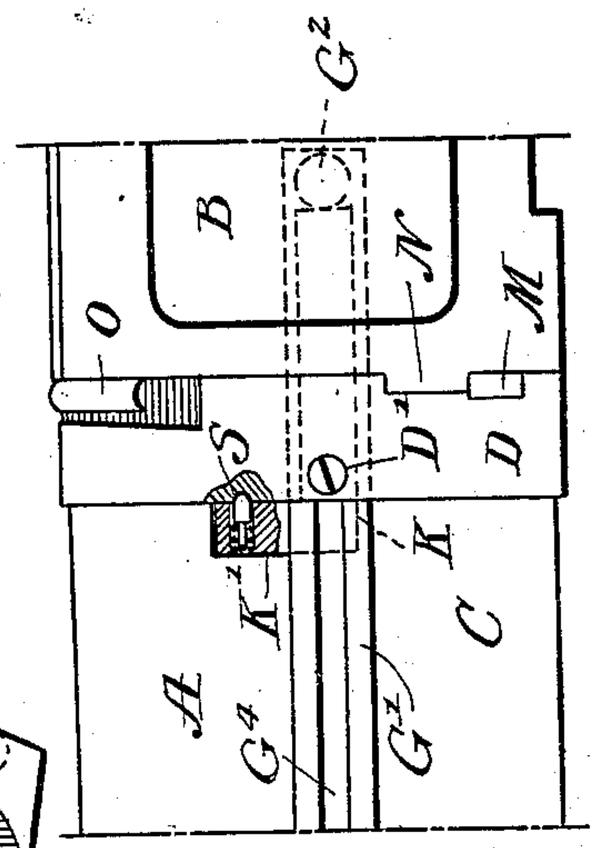


Fig. 7.

WITNESSES:

Frank S. Ober

C. B. Eaton

INVENTOR

Lewis L. Hepburn.

BY

R. C. Mitchell

ATTORNEY

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L. L. HEPBURN.

MAGAZINE FIREARM.

No. 560,032. Patented May 12, 1896.

Fig. 8.

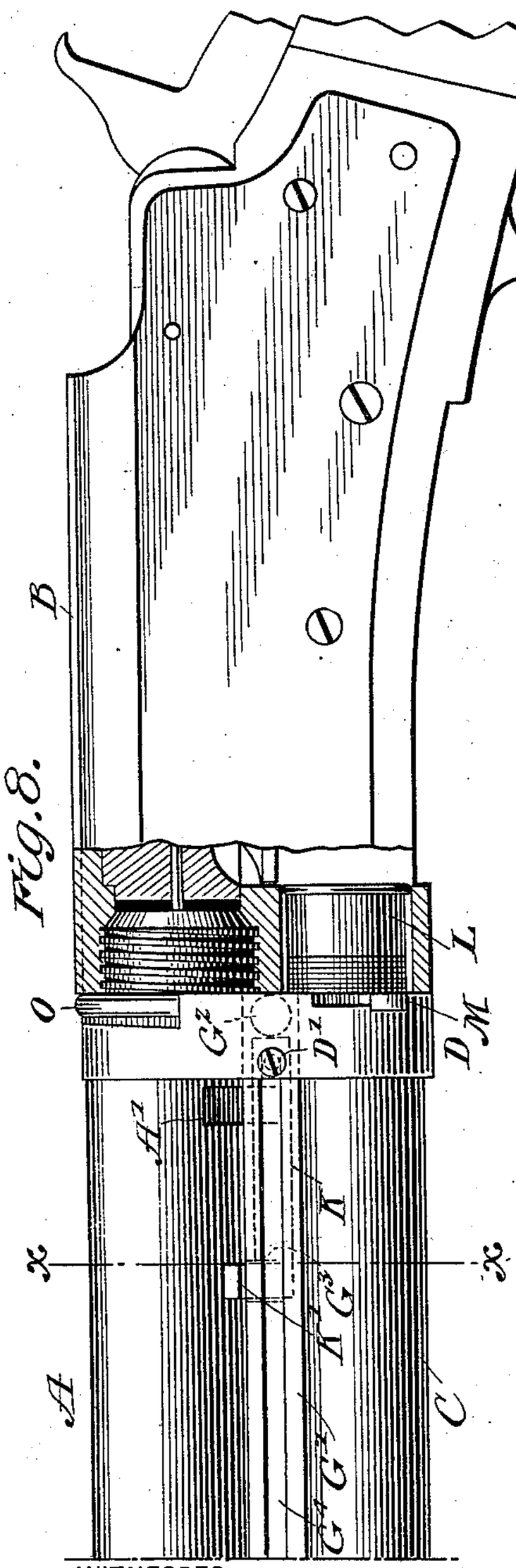


Fig. 13.

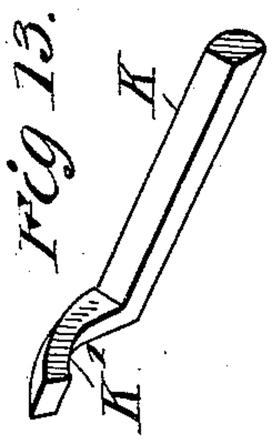


Fig. 12.

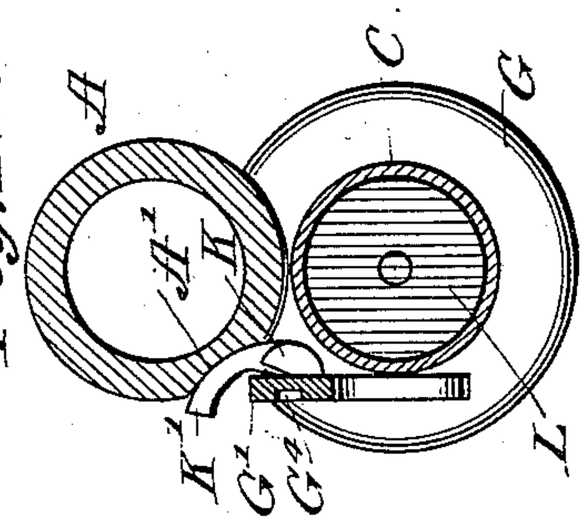


Fig. 11.

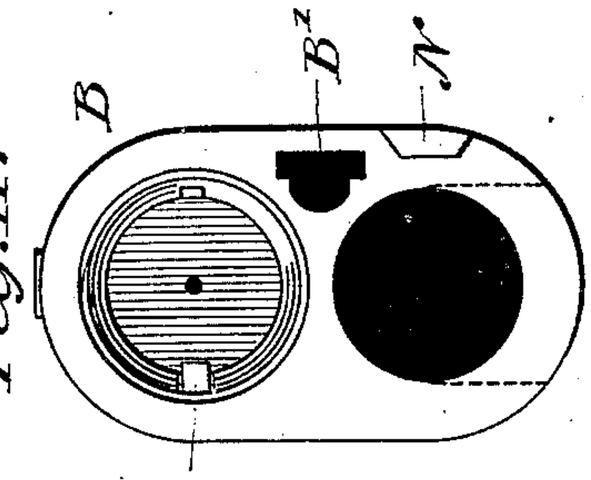


Fig. 10.

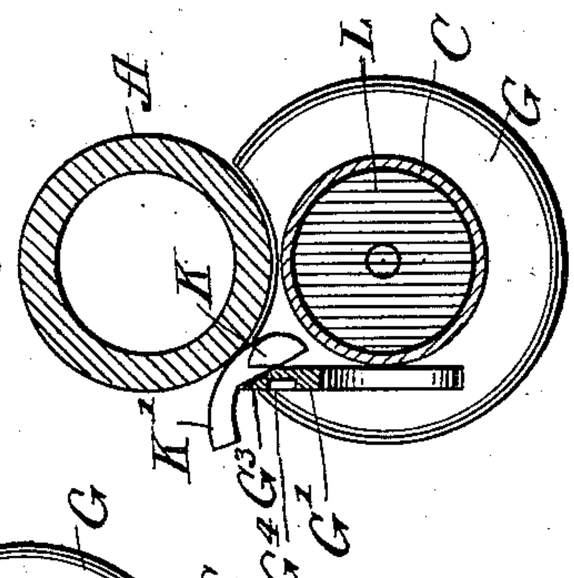
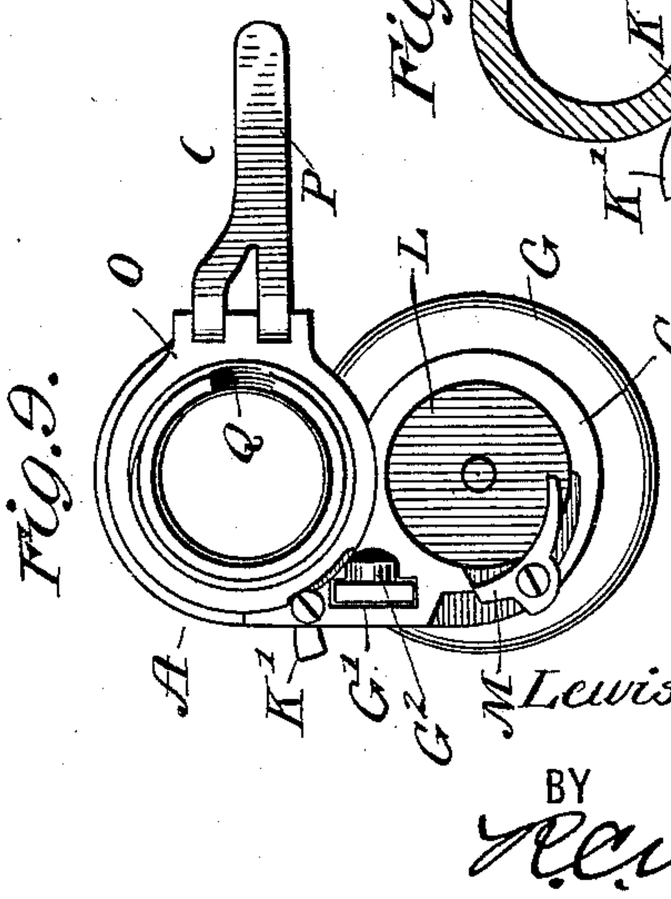


Fig. 9.



WITNESSES:

Frank S. Ober

G. B. Eaton

INVENTOR

Lewis L. Hepburn.

BY

R. C. Mitchell

ATTORNEY

UNITED STATES PATENT OFFICE.

LEWIS L. HEPBURN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE MARLIN FIRE ARMS COMPANY, OF SAME PLACE.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 560,032, dated May 12, 1896.

Application filed September 28, 1895. Serial No. 563,965. (No model.)

To all whom it may concern:

Be it known that I, LEWIS L. HEPBURN, 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 Magazine-Firearms, of which the following is a full, clear, and exact specification.

My invention relates to an improvement in magazine-firearms of the class in which the breech-block is longitudinally reciprocated by means of a handle adapted to travel parallel to the magazine and forward of the receiver; and my invention consists, primarily, in the novel construction of the mechanical connections between the receiver portion of the firearm and the detachable barrel and magazine portion.

The object of my invention is to provide simple and effective means whereby the barrel and magazine portion of a firearm may be easily and quickly detached from the receiver portion of the firearm to facilitate packing or transportation, said means also affording a positive locking device between the said detachable parts when the same are united ready for use.

A firearm to which this improved mechanism may be readily applied, and in connection with which I shall proceed to describe the improvements herein claimed, is illustrated and described in my previous patent, numbered 528,905 and dated November 6, 1894.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a magazine-firearm containing my invention, the breech being closed. Fig. 2 is a similar view, the breech being open. Fig. 3 is a side elevation of one of the details of my invention. Fig. 4 is a plan view of the details shown in Fig. 3, partly in section. Fig. 5 is an enlarged side elevation of a firearm, a part of the receiver being broken away to show the internal construction. Fig. 6 is a side elevation of the breech-block and locking-bolt, said parts being detached from the receiver portion of the firearm. Fig. 7 is a view taken on the opposite side of the gun illustrated in Fig. 5, showing a modified detail of construction. Fig. 8 is an enlarged side elevation of the opposite side of the gun from that shown in Fig. 5, a portion of the receiver being broken away to reveal the internal construction. Fig. 9 is a rear elevation of the barrel and magazine portion, said portion being detached from the receiver. Fig. 10 is a cross-sectional view of the barrel and magazine portion, taken on the line $x\ x$, Fig. 8. Fig. 11 is an elevation of the forward end of the receiver. Fig. 12 is an enlarged sectional view of the barrel and magazine portion, taken on the line $y\ y$, Fig. 2; and Fig. 13 is a perspective view of one of the details of my invention.

Similar letters refer to similar parts throughout the several figures.

A is a gun-barrel detachably secured to the receiver B by means of screw-threads or their equivalents.

C is a magazine located parallel to the barrel and supported thereby by any suitable means—as, for instance, a band D. Within the magazine is carried the ordinary spring-pressed follower E.

G is a reciprocating handle located adjacent to and traveling parallel with the magazine, and by means of which the mechanism within the receiver is operated.

G′ is a rod carried by the handle G and leading rearward and adapted to pass into the receiver through a perforation B′ in its forward end and communicate with the mechanism therein through the medium of a stud G^2, carried by said rod G′.

H is a plate depending from the forward end of a locking-bolt I within the receiver. J is an inclined slot in said plate H, the lower end of which may be open for the purpose of permitting the stud G^2 to be passed thereinto. (See Fig. 6.) This slot J may extend partially or entirely through the plate I, the former construction being preferable in this invention in order that the said plate may not be weakened by opening the slot J at one end. After connecting the barrel to the receiver and moving the rod G′ rearward, so as to insert the stud G^2 into the slot J ready for operation, it is apparent that suitable means should be provided to prevent the said stud from being withdrawn from the slot until it becomes desirable to again detach the barrel from the receiver. To accomplish this end,

I make use of a loosely-mounted retaining-piece K, having an arm K′ projecting therefrom, the shank of the retaining-piece being adapted to lie along the inner side of the rod G′ and to pass through the perforation B′, as indicated in the drawings. When the barrel portion and receiver portion are united ready for use, as indicated in Figs. 1 and 2, the arm K′ of the retaining-piece is dropped into the recess A′ in the barrel, (see also Fig. 12,) in which position the retaining-piece is prevented from longitudinal movement and in which position the rear or inner end of the shank of the said retaining-piece projects into the receiver sufficiently far so that when the parts are assembled and in the position indicated in Fig. 1, in which the breech is closed, the stud G^2 will abut against the inner extremity of the retaining-piece K, which prevents the stud from being withdrawn from the lower open end of the inclined slot J. (See Fig. 5 and dotted outline in Fig. 1.) When the breech mechanism is thrown back, as indicated in Fig. 2, the stud G^2 rides the inclines of the slot J, causing the locking-bolt I to tilt, so that the said stud will have a forward and rear bearing within said slot, thus causing the breech-block to be longitudinally reciprocated by the forward and rearward action of the handle G. When it is desired to detach the barrel portion from the receiver, the handle G is moved, so that a recess G^3 in the rod G′ stands opposite the recess A′ and arm K′ of the retaining-piece. The said arm may then be and is tilted into the said recess G^3, (see Figs. 8 and 10,) freeing it from engagement with the sides of the recess A′ in the barrel. When the retaining-piece is in the position indicated in Fig. 10, the handle G may be advanced until the rod G′ is withdrawn entirely from the receiver B, as indicated in Fig. 8, the stud G^2 freely leaving the inclined slot J, inasmuch as the retaining-piece, being in engagement with the rod G′, moves longitudinally with said rod, which withdraws it entirely from the receiver. If desirable, a longitudinal slot G^4 may be formed in the outside of the rod G′, said slot extending substantially the entire length of the arm, but not entirely through the forward or rear end of the same, (see dotted lines in Fig. 3,) so that, by means of a screw D′, carried by the band D, the said arm G′ is prevented from being entirely withdrawn from the opening in said band adjacent to the opening B′ in the receiver, the end of the screw D′ projecting through the said band and slightly into the slot G^4.

So far as the position of the rod G′ and retaining-piece K affects the rotation of the barrel by acting as a bolt when projected into the receiver, they are, when in the position indicated in Fig. 8, in a proper position to permit the free rotation and detachment of the barrel or magazine portion from the receiver portion. As, however, the follower E or a cartridge-head (should there be cartridges within the receiver) would normally stand in a position indicated by the head of the cartridge in Fig. 8, the said follower would act as a bolt to prevent the rotation of the barrel. It is therefore essential that the extremity of the follower be held back at least flush with the rear edge of the band D in order to permit the detachment of the parts. I therefore provide a pawl M, spring-pressed, to normally move into the position indicated in Fig. 9, in which position it will engage the head of said follower (or a cartridge, as the case may be) to hold the same entirely within the magazine.

N is a shoulder projecting from the forward end of the receiver B and adapted, when the parts are assembled ready for use, to trip the pawl M, so as to permit the cartridges or the follower to freely move in the direction of the receiver. To more perfectly lock the joint between the barrel and the receiver, I make use of a cam-ring O similar to that described in a previous patent granted to me on May 1, 1894, and numbered 518,950, and by means of which the said parts are uniformly wedged around the screw-threaded extremity of the barrel. In the present invention, however, the said cam-ring is provided with a hinged lever P, which is adapted, when the parts are in position for use, to lie parallel to the barrel and out of the way, as indicated in Fig. 5. This cam-ring O, in connection with the rod G′ and retaining-piece K, coöperatively act to produce an absolutely tight-fitting and immovable joint between the barrel and magazine portion and the receiver portion.

Q is a recess in the rear end of the barrel A, one edge of which recess is beveled for the purpose of permitting the spring extractor-hook R, which normally rests in the recess Q, to ride up on the edge of the said barrel when the same is rotated for the purpose of detachment. If desirable, a spring-stud S may be provided in the arm K′ of the retaining-piece (see Fig. 7) to engage with a notch in the adjacent side edge of the recess A′ in the barrel when the parts are assembled for use, the function of said spring-stud S being to provide an additional means to prevent the said arm K′ from tipping out of engagement with said notch A′.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a magazine-firearm having a barrel and magazine portion detachably secured to the receiver, a rod supported by said barrel and magazine portion and free for longitudinal movement, a perforation in the forward end of the receiver in line with said rod, and an independent retaining-piece K for preventing disengagement with the end of said rod from the breech mechanism.

2. In a magazine-firearm a barrel and magazine portion detachable from the receiver, a longitudinally-reciprocating rod supported

by said barrel and magazine portion, a plate depending from the locking-bolt and provided with an open-ended slot, a stud G^2 on said rod moving in said slot and means to prevent accidental disengagement of the same.

3. In a magazine-firearm having a barrel and magazine portion detachably secured to the receiver by rotation, a longitudinally-reciprocating rod supported by and traveling parallel to said barrel and magazine portion, longitudinally-reciprocating breech mechanism, an open-ended slot J in said breech mechanism, a stud G^2 on the reciprocating rod, a perforation B′ in the forward end of the receiver to admit said rod, and means for detachably connecting the end of the said reciprocating rod with the open-ended slot in the breech mechanism, substantially as and for the purpose specified.

4. In a magazine-firearm a barrel detachable from the receiver portion, said barrel supporting a magazine and a longitudinally-reciprocating rod, a perforation in the forward end of the receiver to admit the said rod, a reciprocating breech-block carrying a tilting locking-bolt having a depending plate H, an inclined slot J in said plate open at the lower end to receive a stud carried by said rod, and means to prevent said stud from accidental disengagement with said plate.

5. In a magazine-firearm having a barrel detachable from the receiver by rotation, a magazine rigidly supported by said barrel, a longitudinally-reciprocating rod supported by said barrel, a perforation B′ in the forward end of the receiver to admit said rod which is detachably connected to the breech mechanism within the receiver, a retaining-piece adjacent to but independent of said rod and passing into or through said perforation B′, all arranged substantially as and for the purpose specified.

6. In a magazine-firearm having a barrel and receiver portion detachable from the magazine by rotation, a rod G′ supported by said barrel and receiver portion, said rod being susceptible of longitudinal movement, entering a perforation in the forward end of the receiver and detachably connected to the breech mechanism, a retaining-piece K having an arm K′ which when in engagement with a recess A′ in the barrel prevents accidental disengagement of the said rod G′ from the breech mechanism, a recess G^3 in the rod adapted to receive the arm K′ to permit a withdrawal of the rod and retaining-piece entirely from the receiver.

7. A magazine-firearm comprising a barrel and magazine portion detachably secured to the receiver portion by rotation, a cam-ring loosely mounted around the threaded portion of the barrel and adapted to occupy the space between the receiver and barrel portions, a lever P hinged to said cam-ring O at a point closely adjacent to said barrel and adapted when the parts are assembled to swing into the space between the barrel and magazine portions.

8. In a magazine-firearm having a barrel and magazine portion detachably connected to the receiver, a longitudinally-reciprocating rod G′ supported by said barrel and receiver portion and detachably connected to the breech mechanism within the receiver, a retaining-piece for the purpose described, an arm K′ projecting from said retaining-piece carrying a spring-pressed stud S, a recess A′ in the barrel, having in its side wall adjacent to the stud S a depression adapted to receive said spring-stud, and a recess G^3 in said rod G′, all substantially as and for the purposes set forth.

LEWIS L. HEPBURN.

Witnesses:
R. C. MITCHELL,
JAS. S. OSWALD.