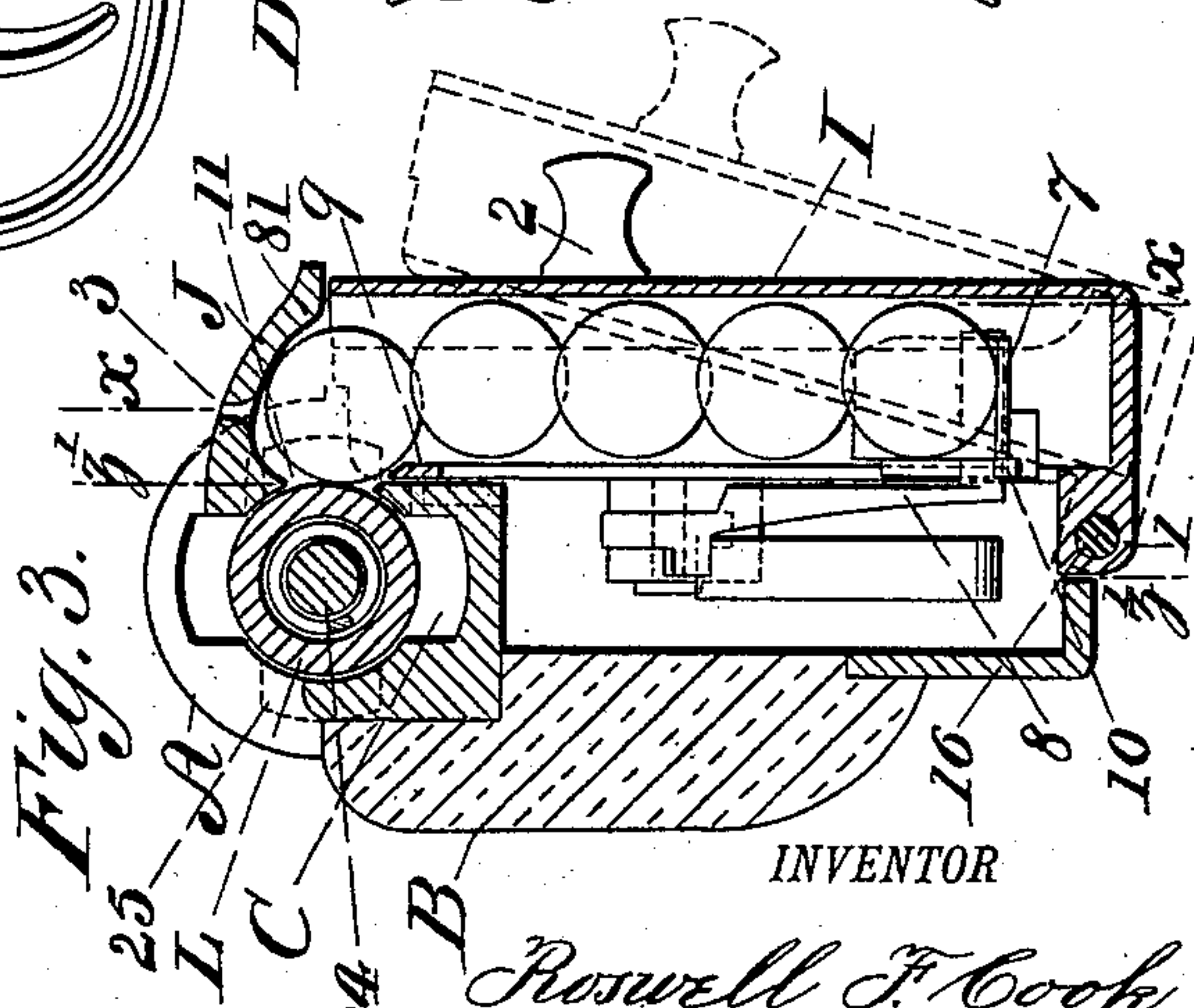
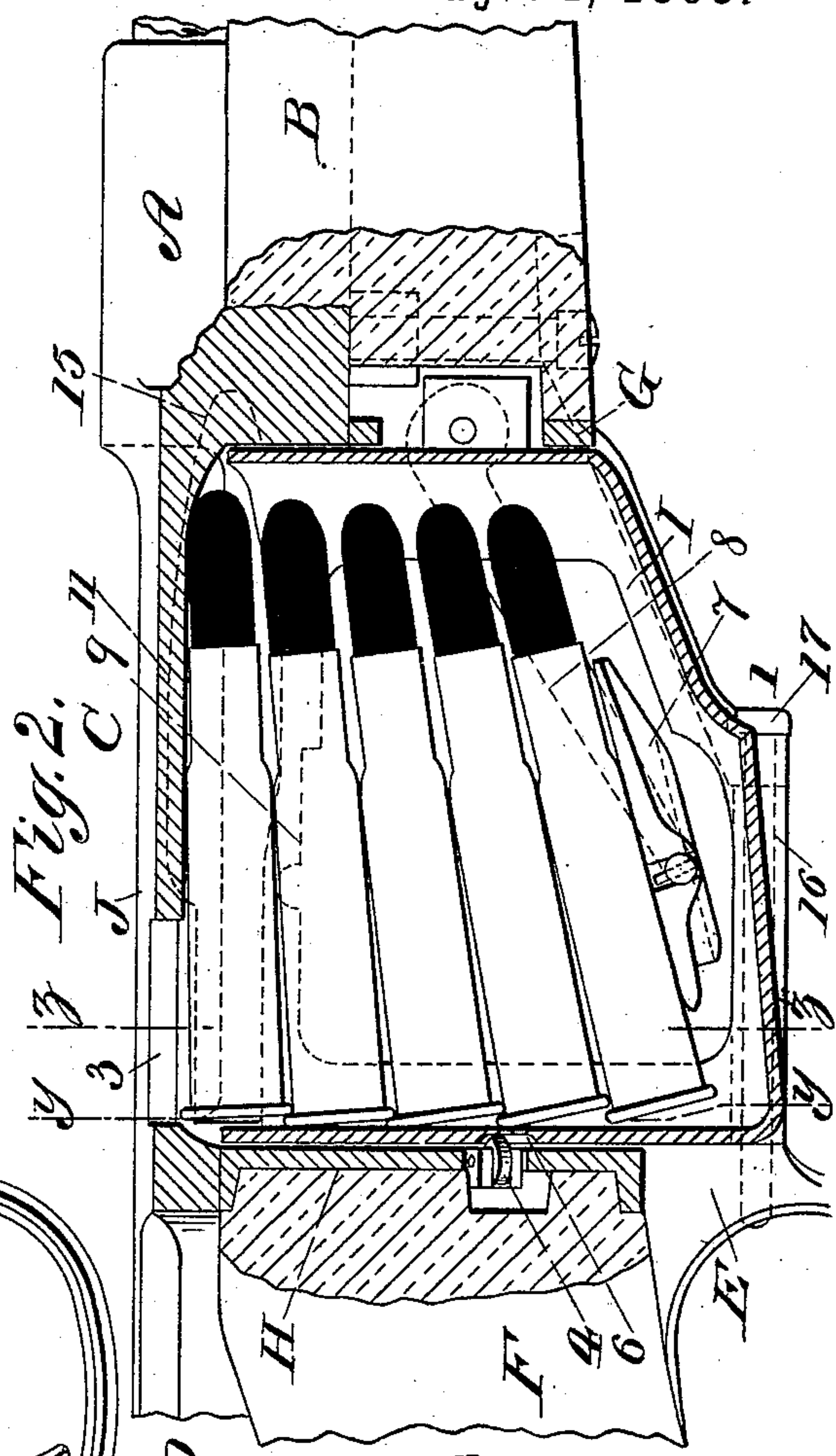


6 Sheets—Sheet 1.

No. 539,037.

Patented May 14, 1895.



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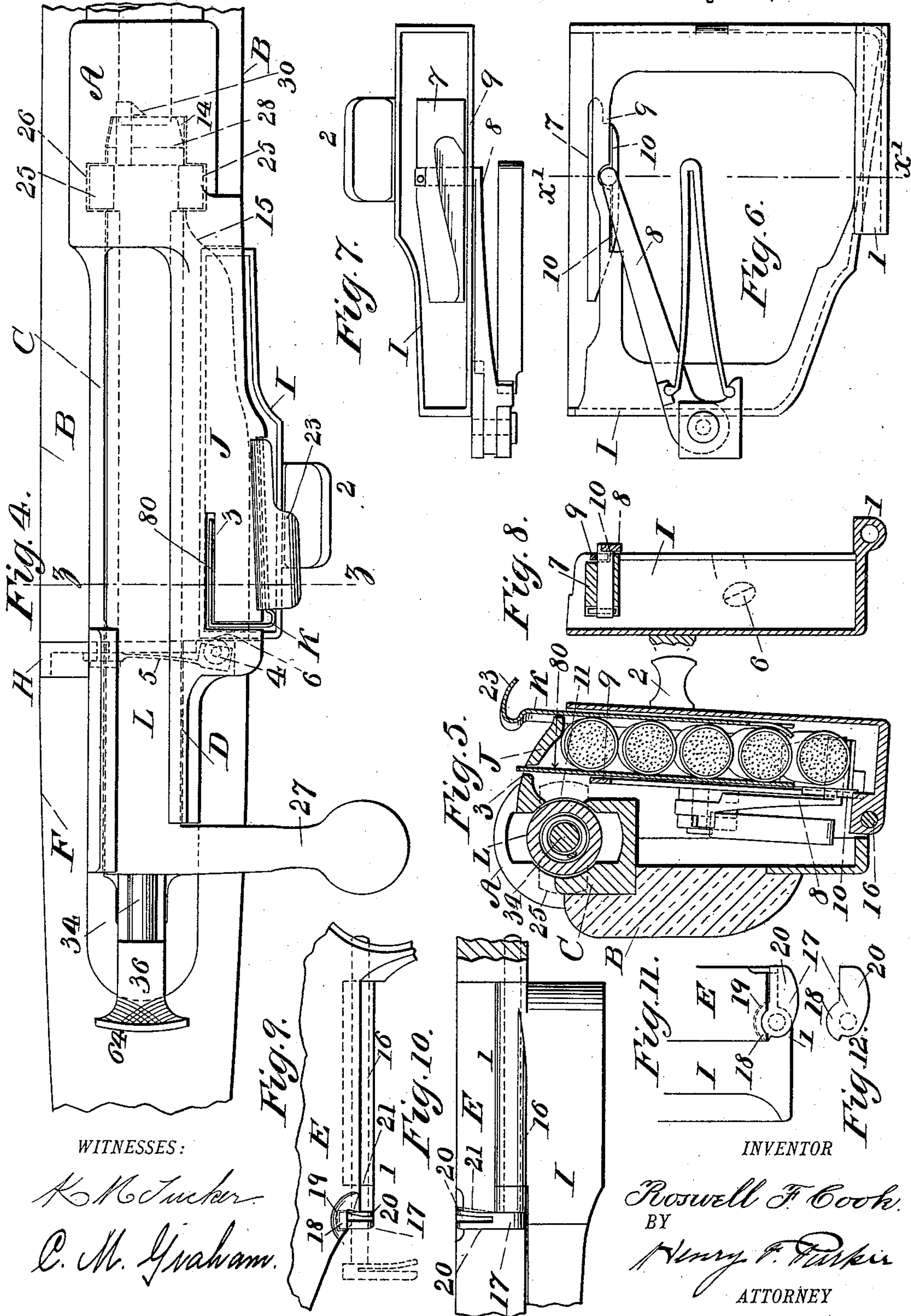
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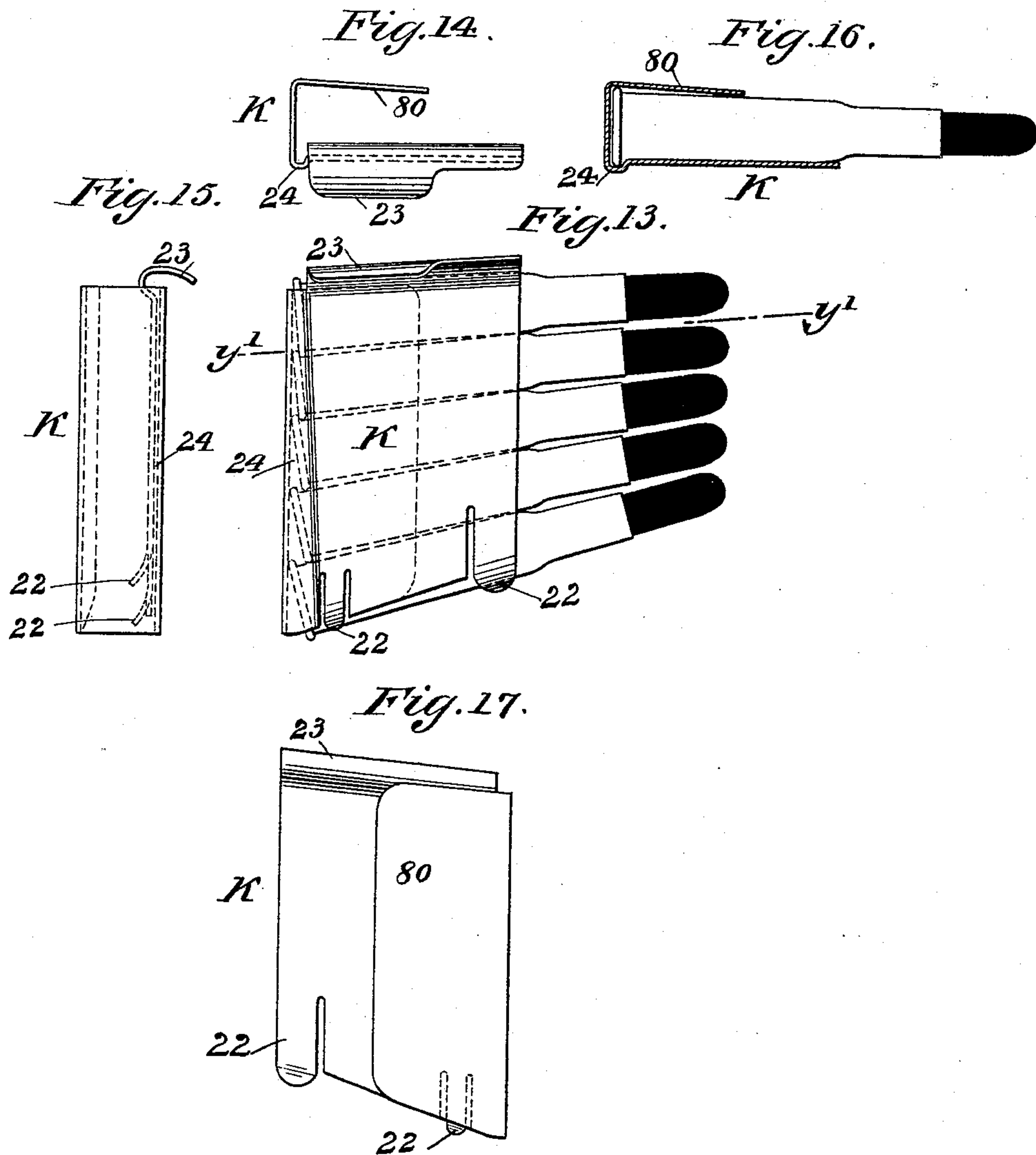
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R. F. COOK.
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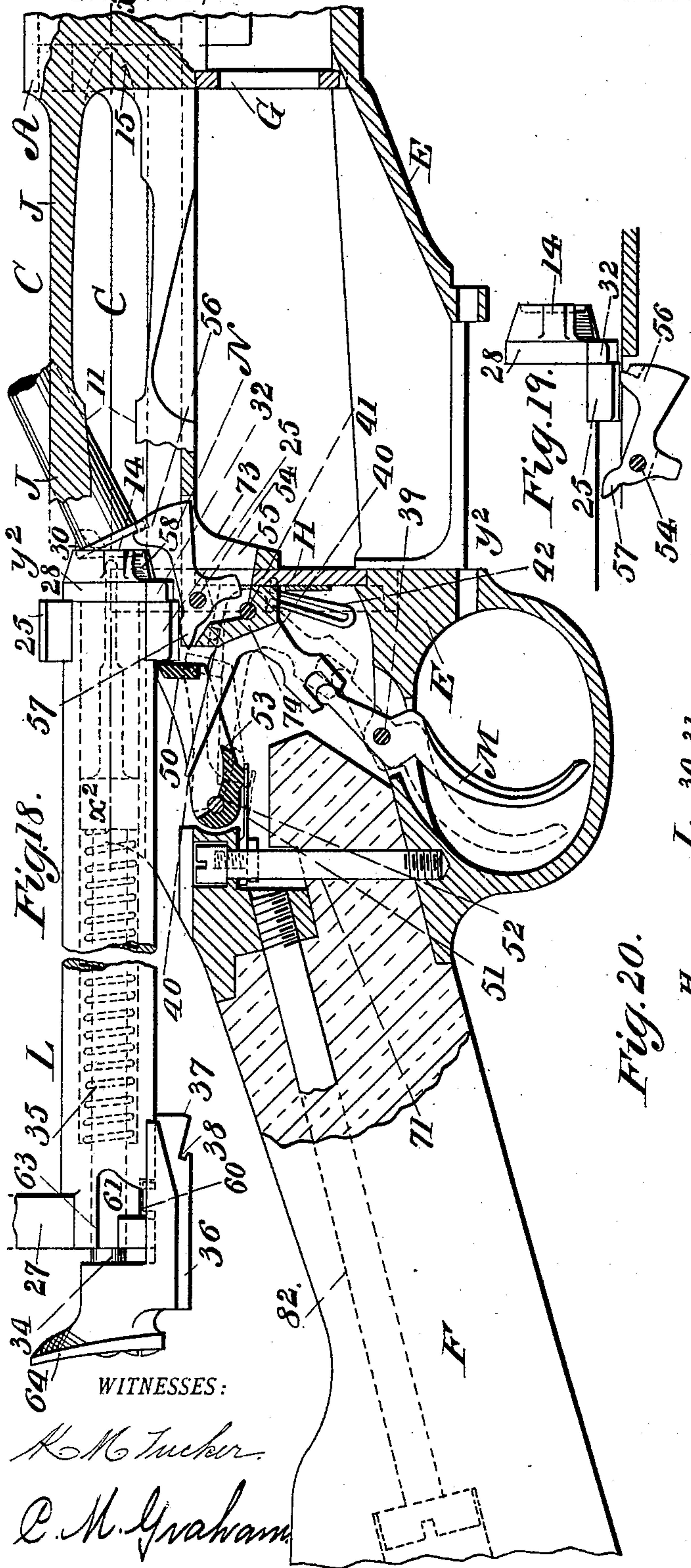
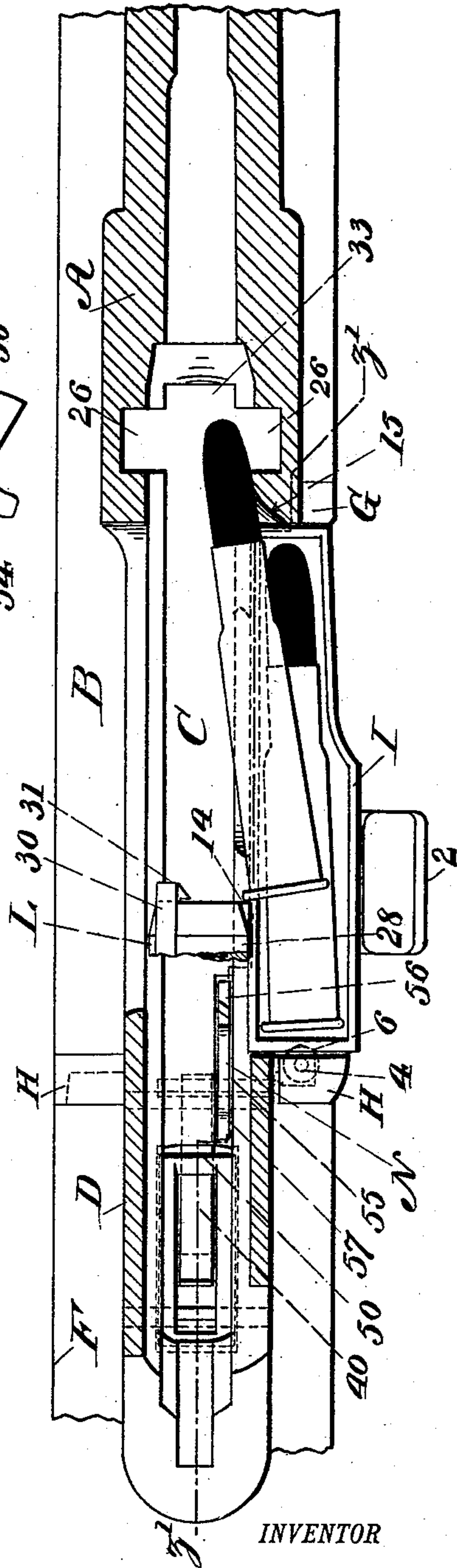


Fig. 20.



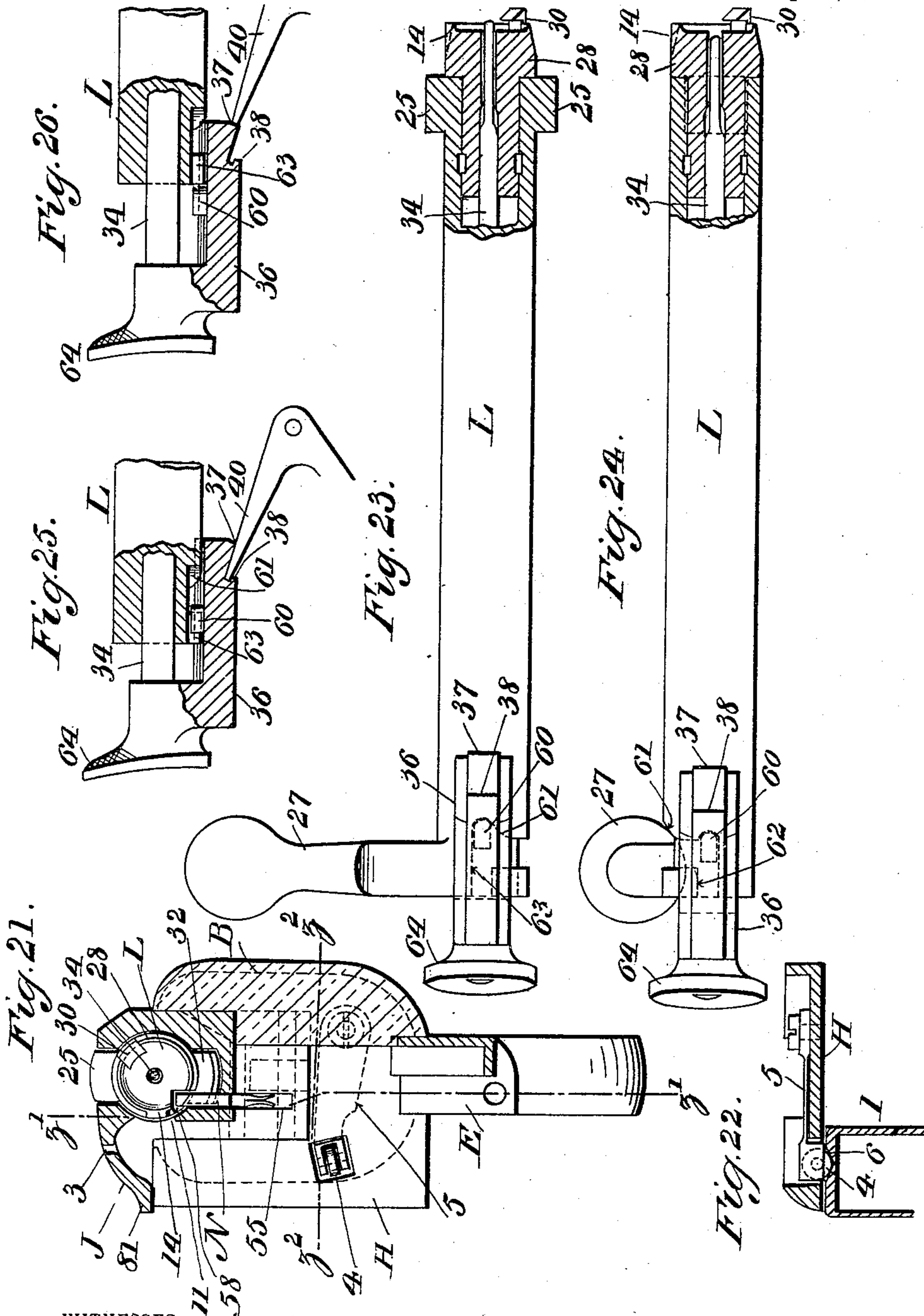
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6 Sheets—Sheet 6.

R. F. COOK.
MAGAZINE FIREARM.

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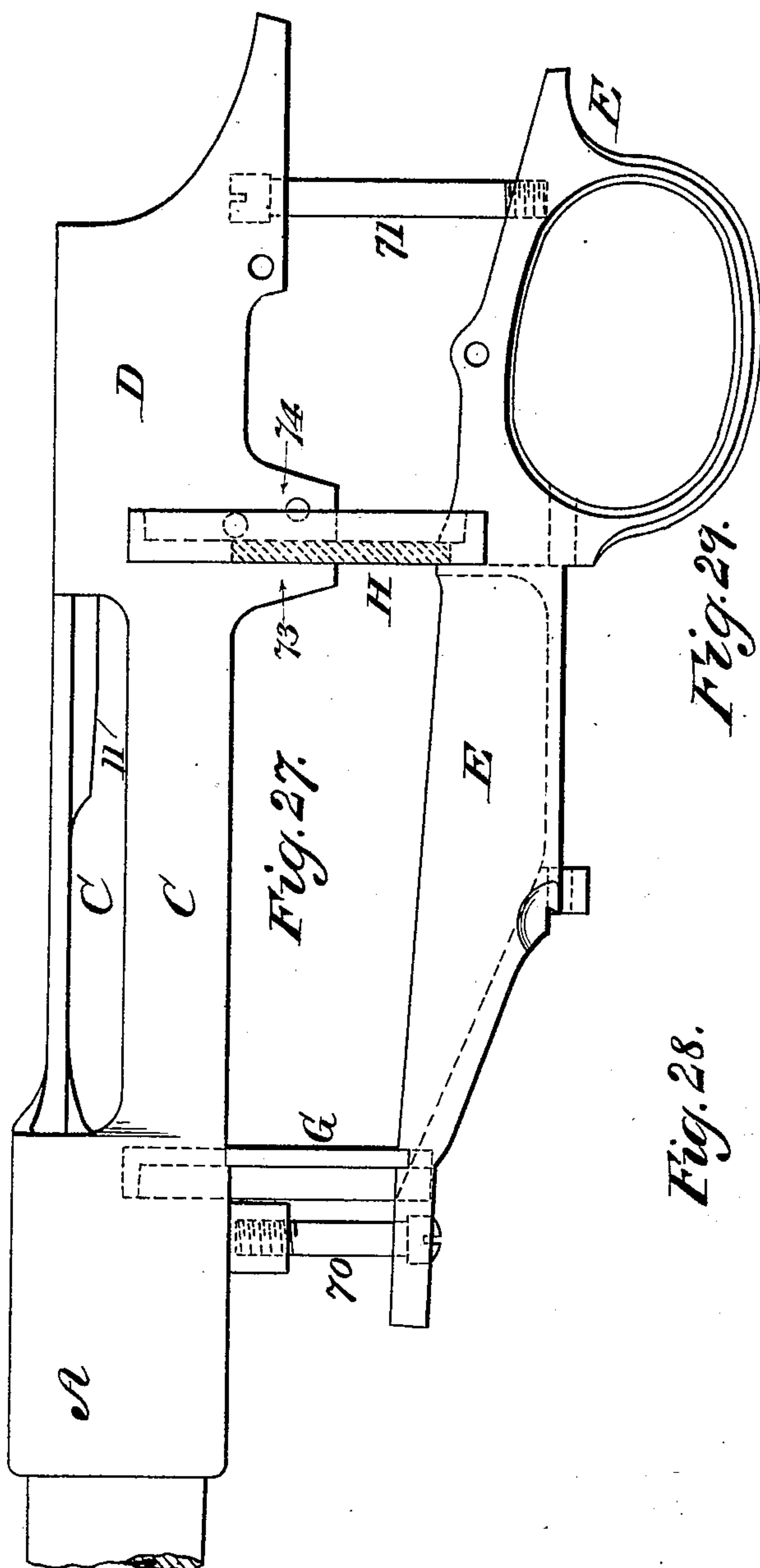


Fig. 29.

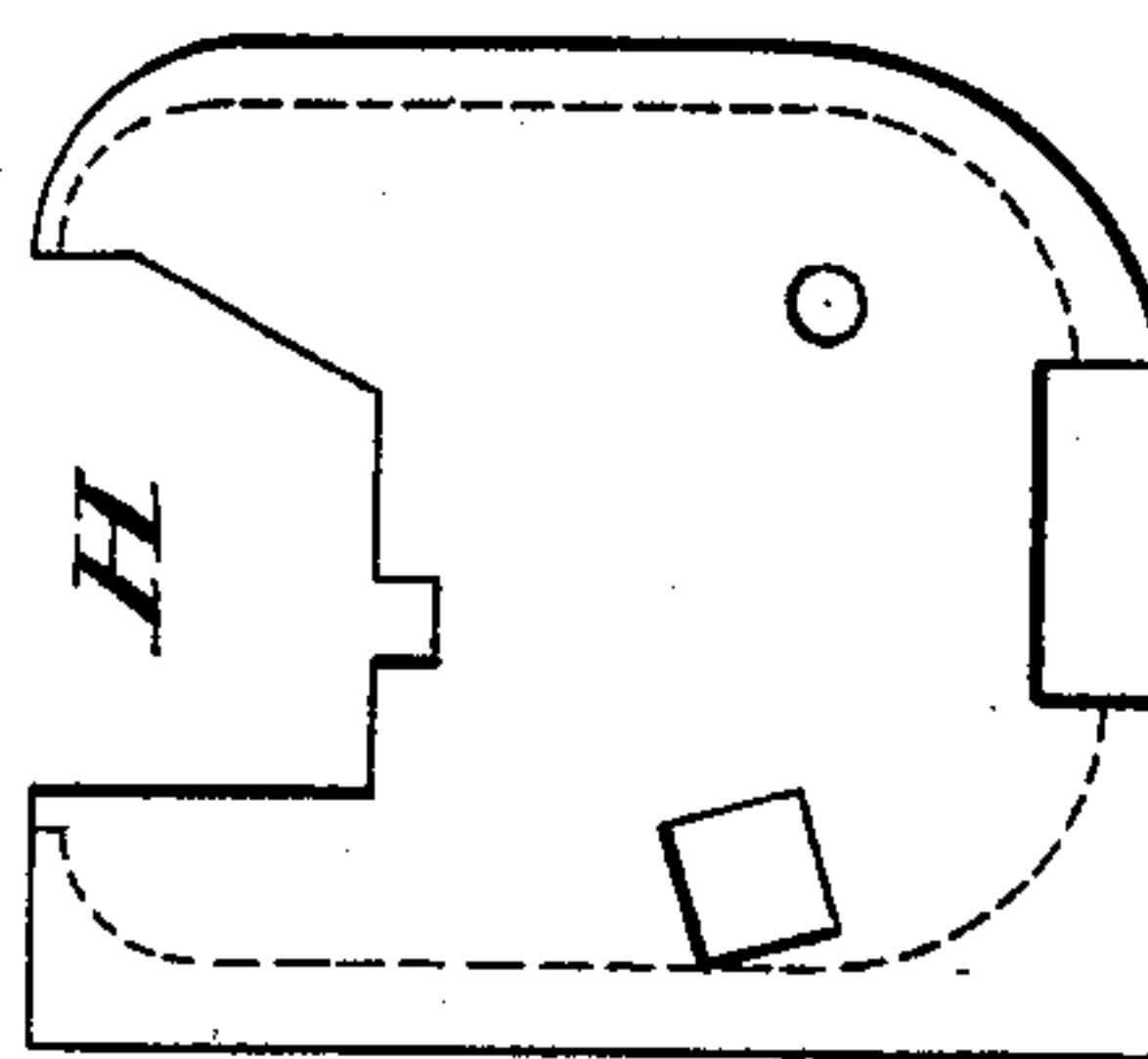
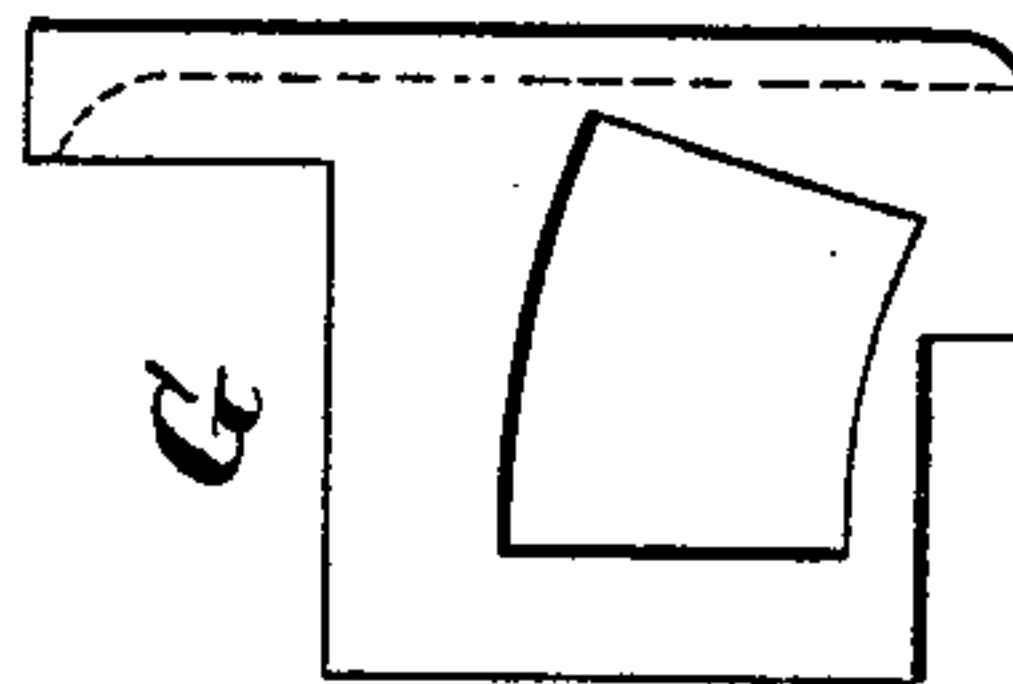


Fig. 28.



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UNITED STATES PATENT OFFICE.

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MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 539,037, dated May 14, 1895.

Application filed May 29, 1894. Serial No. 512,840. (No model.)

To all whom it may concern:

Be it known that I, ROSWELL F. COOK, a citizen of the United States, and a resident of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Magazine-Firearms, of which the following is a specification.

My invention relates to magazine guns in which the cartridges are presented sidewise to the receiver, preparatory to being fed longitudinally into the breech, by a breech-bolt or block; and it consists in providing a fixed magazine cover projecting outwardly from the receiver at one margin of the opening at which the cartridges are presented, and a laterally movable magazine having its mouth movable into or out of coincidence with said cover, which latter serves as an abutment to guide and regulate the feed of the cartridges one by one, which are pushed sidewise toward said cover by means of the spring follower in the magazine.

My invention also consists in utilizing said fixed cover, by means of a suitable formation of opening therein, for the purpose of retaining the pack of cartridges in the magazine, while the cartridge holder or clip may be partially or wholly withdrawn through said cover, to use the gun as a magazine or single loader, and in utilizing said cover for certain other useful purposes as will hereinafter appear.

My invention also comprises certain novel constructive features, namely: whereby the cartridge shell is ejected by intercepting its longitudinal path during the extracting movement of the bolt, also whereby the breech-bolt, and the magazine may be removed without the use of tools, and whereby the action is locked at half-cock so as to prevent either the firing or extraction of a cartridge in the breech until the action is brought to full-cock; and in order to enable others skilled in the art to which my invention appertains, to understand and use the same, I will proceed to describe the details of its construction, explain its operation, and subsequently point out in the appended claims its novel characteristics.

Referring to the accompanying drawings, in which like characters of reference indicate corresponding parts throughout the several

views, Figure 1 is a partial side elevation on the magazine side of the gun; Fig. 2, a partial side elevation, partly in section, at $x x$, Fig. 3; Fig. 3, a cross-section at $y y$, Fig. 2, looking forward; Fig. 4, a partial plan view showing the position of the magazine before the cartridge clip or holder is removed; Fig. 5, a cross-section at $z z$, Figs. 2 and 4, looking forward, showing a corresponding position of the magazine and clip; Fig. 6, a detail view showing the inside elevation of the magazine detached and emptied of cartridges; Fig. 7, a plan view of Fig. 6; and Fig. 8, a cross-section of Fig. 6, at $x' x'$. Figs. 9 to 12, inclusive, are detail views of a device for securing or removing the hinge-pin of the magazine without the use of tools, Fig. 9 showing a side view, Fig. 10 an inverted plan view, and Fig. 11 a front end view, of the hinge-joint, and Fig. 12 showing an end view of the pin. Fig. 13 is a side view of the cartridge holding clip with a pack of cartridges assembled therein; Fig. 14, a plan view of Fig. 13; Fig. 15, a rear end view of Fig. 13; Fig. 16, a horizontal section at $y' y'$, Fig. 13; and Fig. 17, an elevation of the reverse side of the clip from that shown in Fig. 13. Fig. 18 is a central sectional elevation taken at $z' z'$, Figs. 3, 20, and 21; Fig. 19, a detail view showing a different position of the ejector from that shown in Fig. 18; Fig. 20, a horizontal section taken at $x^2 x^2$, Fig. 18; Fig. 21, a cross-section at $y^2 y^2$, Fig. 18, looking rearward; and Fig. 22, a detail view showing in horizontal section at $z^2 z^2$, Fig. 21, a device tending to retain the magazine in a closed position. Fig. 23 is an inverted plan view, partly in section, of the breech-bolt with the firing-pin advanced, the parts being shown in position such as they occupy after the bolt has been locked into the breech-mortise and the cartridge fired. Fig. 24 is a similar view showing the position of the parts after the breech-bolt has been rotated a quarter-turn preparatory to extracting the shell. Fig. 25 is a side view, partly in section, of the rear portion of the breech-bolt, showing the cocking-piece of the firing-pin at half-cock; and Fig. 26, a similar view at full cock. Fig. 27 is a side elevation of the framework of the receiver and adjacent parts, showing the side reverse to that in Fig. 1; Fig. 28,

a detail view looking forward at the face of the front transverse plate, and Fig. 29 a detail view looking rearward at the face of the rear transverse plate.

5 A, in the several figures, represents the breech of the barrel; B, the fore-end; C, the receiver; D, the action frame; E, the trigger plate, and F the stock.

10 G, is the forward transverse plate and H, the rear transverse plate uniting the framework, and between said plates and hung on the side of the receiver C, is a permanent magazine I.

15 The magazine I, is pivoted on a hinge 1, and operated by a handle 2.

20 The fixed magazine cover J, integral with the breech and action frame, is provided with a slot 3, corresponding in shape to the horizontal cross-sectional shape of the cartridge assembling clip or holder K, through which slot the clip may be withdrawn, leaving the pack of cartridges in the magazine.

25 A closing roller 4, mounted on a spring 5, entering a V-shaped notch 6, in the end of the magazine tends to move and retain the same in a closed position after being partially closed by hand.

30 The interior of the magazine is provided with a follower 7, swiveled on a spring actuated lever 8, pivoted to the magazine. The follower is thus adapted to conform to the varying positions of the cartridges, and when at its highest point of movement, comes into contact with the stop bar 9, of the magazine
35 by means of the shoulders 10, of said follower, holding the same firmly in a horizontal position.

40 The interior surface of the cover J, is inclined upward toward the receiver C so as to guide the top cartridge toward the breech-bolt L, and the opening 11, from the magazine into the side of the receiver is narrower at its rear portion than the head of the cartridge, and enlarged at its forward portion so
45 as to admit the cartridge to the receiver endwise and obliquely when engaged by the breech-bolt L, as in Fig. 20. A spur 14, is provided on the breech-bolt to engage the head of the cartridge. A cam surface 15, is provided in the breech to guide the cartridges.
50 The bolt-way in the receiver has a solid base for the introduction of cartridges in single loading.

55 The magazine I may be removed for cleaning the gun, without the use of tools. For this purpose, the hinge pin 16, is provided with a self-locking head 17, shown in detail in Figs. 9 to 12 inclusive, said head having a locking lug 18, entering a mortise 19 in the trigger plate, by the rotation of the pin after
60 it is inserted into the hinge lugs; the rotatively locked position of the pin being secured by its split head offset 20, which is sprung into place in the beveled recess 21 in the trigger plate.

65 The cartridge assembling clip or holder K, shown in detail in Figs. 13 to 17 inclusive is

composed of a single piece of spring sheet metal formed into a channel, having retaining spurs 22 at the lower end at which the
70 cartridges are introduced and afterward disengaged for deposit in the magazine. A retaining handle 23, is provided at the upper end of the clip which practically closes the channel serving both to retain the cartridges
75 and to manipulate the clip after its insertion into the magazine I. A groove 24, formed in the side of the clip by embossing the metal serves as a head guide for the cartridges, and this guiding groove is tapered from the bot-
80 tom toward the top, extending the entire length of the cartridge channel, whereby the different angles assumed by the cartridge heads are provided for and accurately conform to and the said heads prevented from
85 interlocking or obstructing the free forward delivery of each top cartridge after they are deposited in the magazine.

Such independent features of the cartridge holder or clip K, as are shown and described,
90 but not claimed herein, are claimed in my separate patent application filed September 17, 1894, Serial No. 523,218.

The breech-bolt L, Figs. 18 to 26 inclusive, is of the longitudinally movable type constructed with locking lugs 25, which enter
95 the breech mortises 26, and lock by a quarter-turn to the right, by application of the hand to the handle 27 in the usual manner. The independently rotary head 28, of the breech-bolt carries the usual extractor 30,
100 composed of a spring pawl having a beveled engaging head, and which is prevented from rotative displacement in the breech by the entrance of the lug 32 into the mortise extension 33.
105

The firing pin 34, is of the usual character, actuated by a spring 35, and provided at its rear end with a cocking piece 36, having a full cock shoulder 37, and a half cock notch
110 38, adapted to lock the sear.

The trigger M, pivoted at 39, engages with the sear 40 pivoted at 41, which is held up by a spring 42, to intercept the cocking piece 36, when the bolt L is thrust forward, thus cock-
115 ing the firing pin in the usual manner.

The breech-bolt L, is retained from withdrawal by a stop-pawl 50, which is held up by a spring 51, to normally intercept the locking lug 25, of the bolt. The stop-pawl 50, is
120 pivoted at 52, and mortised for the reception of one arm of the sear 40, which engages with the shoulder 53 of the stop-pawl, when the trigger is pulled to a position exceeding its normal throw thereby depressing said stop-
125 pawl as indicated by dotted lines in Fig. 18, releasing the bolt without the use of tools, when it is desired to clean the gun.

N, is an ejector for casting off the shell, which ejector is pivoted at 54, in a mortise
130 55, independent of the mortise of the sear 40. The ejector is split at its lower extremity which frictionally engages in the mortise, to retain the position of the ejector. The said

ejector is provided with a head 56, and a tail 57 each engaging with the locking-lugs 25, 32, of the breech-bolt, so that when the bolt is drawn backward, the tail is depressed and the head raised into the bolt-way to cast off the shell, as illustrated in Fig. 18, clearance being allowed by the recess 58 in the head of the bolt, and when the bolt is again advanced the head of the ejector is depressed to clear the bolt-way, and the tail raised preparatory to the next ejecting operation.

The cocking piece 36, is provided with a pin 60, which plays in the cam groove 61 of the bolt L, so that when the bolt is rotated a quarter turn from the position shown in Fig. 23, after firing, to that shown in Fig. 24, the firing pin is partially retracted out of contact with the shell preparatory to extracting the same. The cam groove 61 has two straight way pass grooves 62, 63. The pin 60 passes outward through the groove 62, in the act of cocking while the bolt L is longitudinally advanced until the pin clears the bolt, when the bolt is rotated a quarter turn by the handle 27, and locked in the breech, the pin then standing as in Fig. 26 opposite the pass groove 63. When the trigger is pulled the pin 60 passes inward through the pass groove 63, to the depressed end of the cam groove 61, preparatory to being again cammed back by the unlocking rotation of the bolt. When, after the locking lugs of the bolt are revolved into the mortise of the breech, the cocking piece is let down to half cock by holding the tail 64, and releasing of the trigger, the pin 60 occupies a position in the cocking pass-groove 62, as seen in Fig. 25, such as to lock the bolt L against rotation, hence preventing its release from the breech, and at half-cock, the sear is locked in the stepped notch 38, of the cocking piece, so that a cartridge in the breech can neither be fired nor extracted until the tail-piece 64 is brought back to full cock.

As shown in Figs. 27, 28, and 29, the receiver and trigger plate are connected at proper distances by the transverse plates G, H, and the bolts 70, 71, which bind the parts firmly together on the fore-end B, and the stock F. As seen in Fig. 18, the stock is drawn up firmly to the action frame D, by a bolt 82. The perpendicular rigidity of the plates G, H, is maintained by the mortising of the transverse plate H, between the lugs 73, 74 of the integral receiver and action frame, as seen in Figs. 27 and 18. The transverse plate G, is of such restricted dimension as to leave solid stock in the fore-end B, which extends to plate H, on the side opposite the magazine as seen in Fig. 20.

In operation, the magazine I is swung out to the position indicated by dotted lines in Fig. 3, and the clip or holder K, containing the assembled pack of cartridges, is inserted at the top of the magazine. The magazine is then swung back nearly to place as in Fig. 5, and the clip withdrawn by its handle 23, leaving the cartridges deposited in the magazine

as in Fig. 3. The removal of the clip releases the magazine so that the closing roller 4, shuts it fully into place, and the follower 7, raises the pack throwing the top cartridge by means of the lateral guiding agency of the cover J, into juxtaposition with the breech-bolt ready to be engaged and inserted longitudinally into the breech as in Fig. 20. After the top cartridge has been raised into the hollow of the cover J, the magazine is securely locked by the agency of said top cartridge by reason of its interposition between the inside plate or stop-bar 9, of the magazine, and the flange 81, of the cover. By allowing the clip K, to remain in the magazine as in Fig. 5, in a partially raised position, the inner flank 80, of the clip plate serves as a dividing partition between the magazine I and the receiver C, to reserve the pack of cartridges, and use the gun as a single loader. The entrance of the flank 80, of the clip into the slot 3 of the cover, serves to securely lock the magazine in the position shown in Fig. 5.

The pack of cartridges may be removed at any time before the withdrawal of the clip K, by returning the clip downward into the magazine, and swinging the latter out.

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

1. In a magazine firearm, the combination of a receiver, a movable magazine for the reception and delivery of the cartridges side-wise, a fixed cover projecting laterally and outwardly from the side of the receiver, the mouth of the magazine being movable into or out of coincidence with the cover for the deposit of the cartridges, and an opening from the magazine into the receiver.

2. In a magazine firearm, the combination of a receiver, a movable magazine, a fixed cover projecting laterally and outwardly from the side of the receiver, the mouth of the magazine being movable into and out of coincidence with said cover, an assembling clip or holder for the cartridges, and in said fixed cover, an opening of suitable formation for the withdrawal of the clip, and the retention of the cartridges within the magazine.

3. In a magazine firearm, the combination of a permanent movable magazine, an assembling clip for the cartridges, having a channeled sectional shape substantially as shown, and a fixed magazine cover having an L-shaped slot corresponding to part of the sectional shape of the clip adapted to permit the removal of the clip from the magazine independently of the cartridges.

4. In a magazine firearm, the combination of a receiver, a pivoted magazine hung on the side of the receiver, movable outward for the deposit of the cartridges, an opening from the magazine chamber into the side of the receiver, a fixed magazine cover projecting outwardly from the side of the receiver at one margin of said opening adapted to retain the deposited cartridges, but to guide the same into the said

opening of the receiver and a spring-follower tending to force the cartridges toward said cover.

5. In a magazine firearm, the combination of a receiver having an opening for the introduction of single cartridges, a pivoted magazine hung on the side of the receiver, an assembling clip for the cartridges, a fixed magazine cover, and beneath it an opening from the magazine into the receiver, and in said cover a slot, through which the clip may be partially or wholly withdrawn from the magazine for the purposes set forth.

6. The combination with a magazine for firearms, of a follower, a pivoted follower arm external to the magazine to which said follower is swiveled, and a spring external to the magazine for actuating said arm, substantially as described.

7. The combination with a laterally movable magazine for firearms, and a fixed magazine cover, of a swiveled follower, and means for actuating it to feed the cartridges sidewise, and means for arresting the follower at its receiving position within the mouth of the magazine, below the level of said cover parallel to the pack of cartridges to be received.

8. The combination with a pivoted magazine, of a hinge pin removable by hand, and means for locking the same longitudinally by a rotative movement, consisting in a head having a locking lug, and a mortise in the frame of the gun into which said lug may enter by rotating the pin.

9. The removable magazine hinge pin provided with a rotatively locking head, and a split offset suitably beveled, in combination with a suitably beveled notch in the frame of the gun adapted so that said offset may be sprung into place in said notch, substantially as and for the purposes described.

10. The combination with a laterally movable magazine, and a fixed magazine cover projecting laterally from the side of the receiver having an opening through it for the withdrawal of the cartridge clip independently of the cartridges, of a cartridge clip having a handle adapted to project upward from the mouth of the magazine when inserted and abut on the edge of said cover when the magazine is partially closed, thus limiting the inward movement of the maga-

zine to a position in which the clip is in coincidence with said opening through the cover, preparatory to withdrawal, and spring actuated means tending to move the magazine inward, substantially as shown and described.

11. In a firearm, the combination of a longitudinally movable breech-bolt, an extractor on said bolt, a movable ejector adapted to enter the path of the bolt, and a recess in said bolt opening at the head thereof for the entrance of the ejector so as to abut on the end of the shell at a point diametrically opposite the extractor hook during the retracting movement of the bolt.

12. In a magazine firearm, the combination with a pivoted magazine hung on the side of the receiver, of spring actuated means for automatically closing the magazine after it has been moved to a partially closed position.

13. The combination with a pivoted magazine and a gun frame, of a beveled recess in the one part, and a spring actuated roller mounted in the other part engaging said recess and tending to automatically close the magazine when it is brought to a partially closed position, substantially as described.

14. In a magazine firearm, the combination with a pivoted magazine hung on the side of the receiver, of a fixed magazine cover formed with the frame and extending laterally from the receiver, and having a hollow recess into which the leading cartridge partially enters after closing the magazine, said cover serving as a stop for the cartridges and to lock the magazine with the mouth thereof in coincidence with said cover.

15. The gun frame constructed substantially as described, having the breech, the receiver, and the action frame in an integral piece provided with bracket lugs 73, 74, a trigger plate, and transverse distancing plates G, and H; the plate H, being confined between the said bracket lugs to brace the frame, and suitable binding bolts 70, 71.

Signed at the city of New York, in the county of New York and State of New York, this 15th day of May, A. D. 1894.

ROSWELL F. COOK.

Witnesses:

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K. M. TUCKER.