

(No Model.)

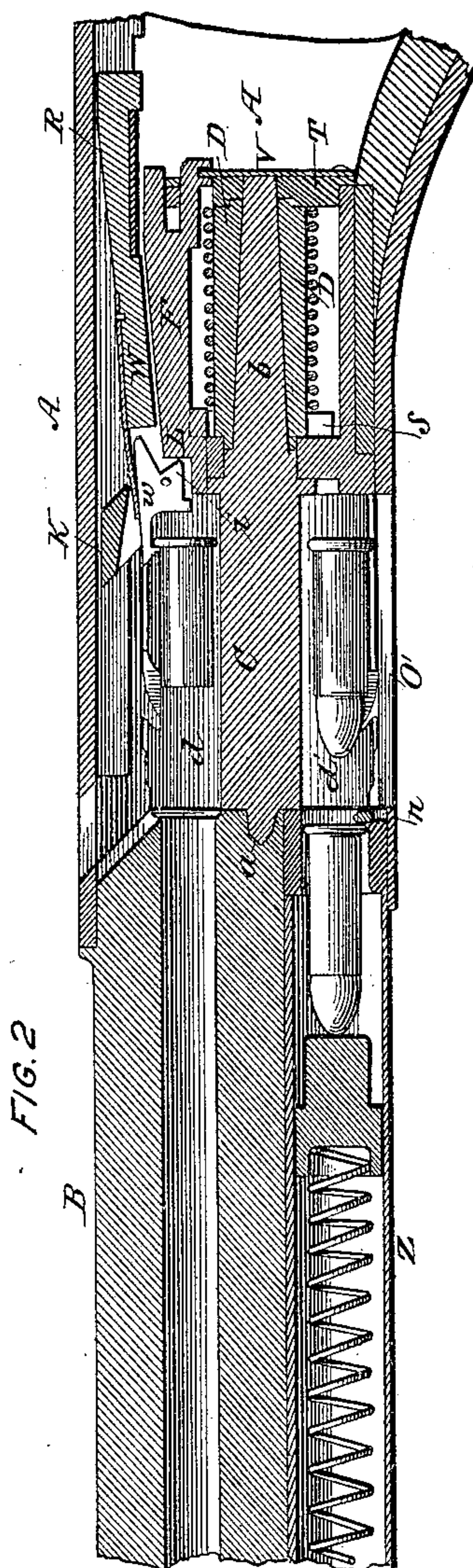
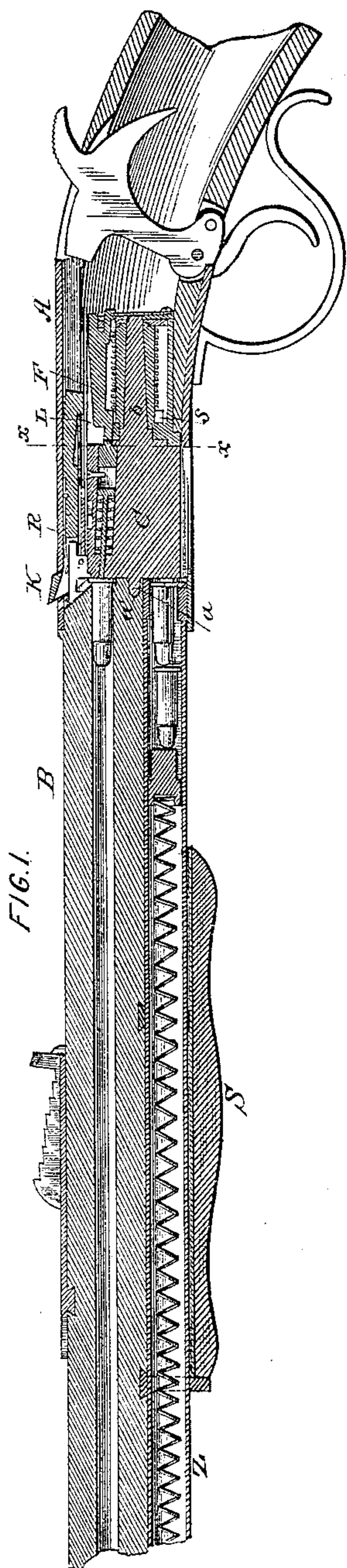
3 Sheets—Sheet 1.

M. E. GREGG.

MAGAZINE GUN.

No. 353,676.

Patented Dec. 7, 1886.



WITNESSES:  
Fred. G. Dieterich  
 Edward J. Plummer

INVENTOR  
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(No Model.)

3 Sheets—Sheet 2.

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FIG. 3.

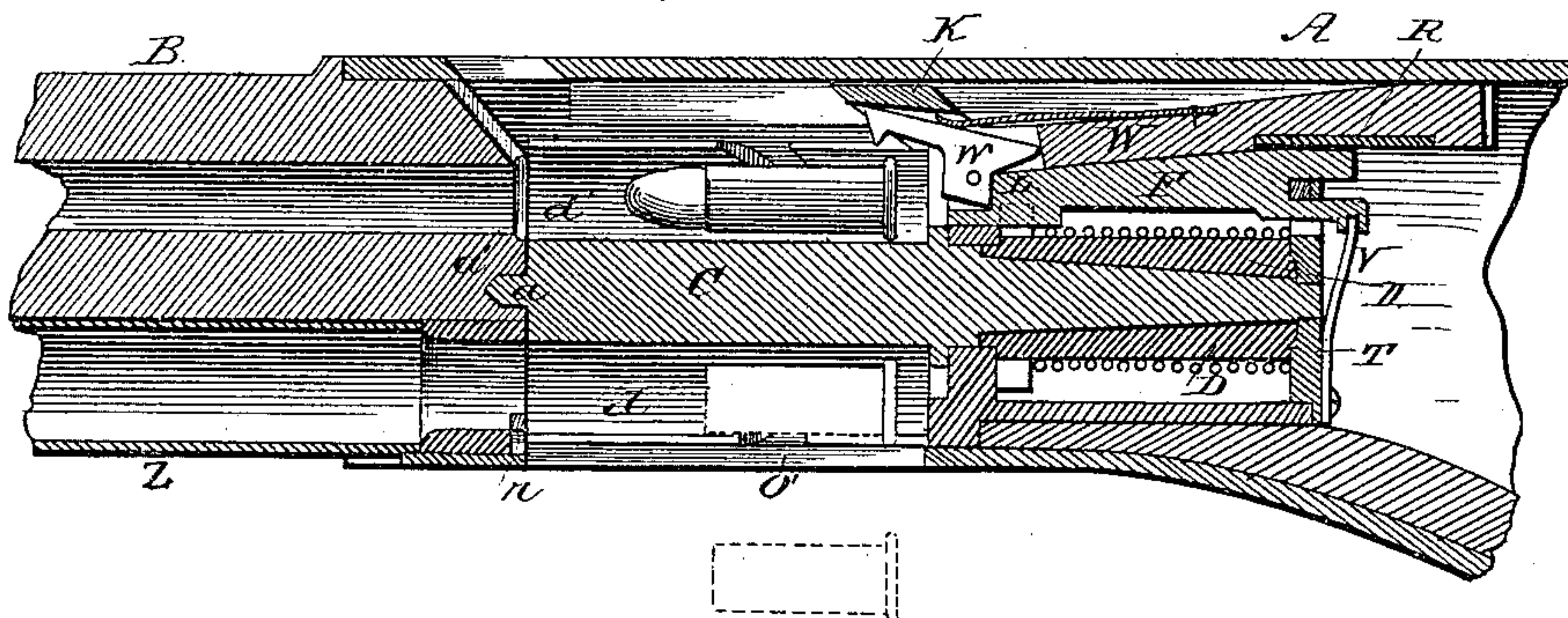


FIG. 4.

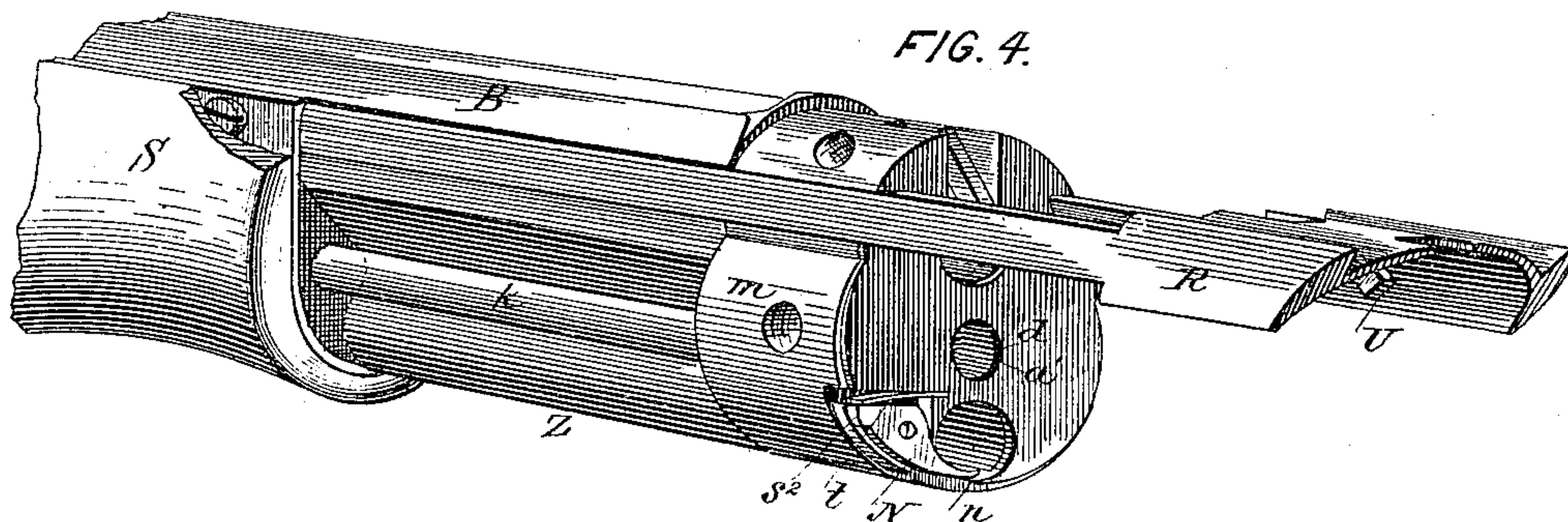


FIG. 7.

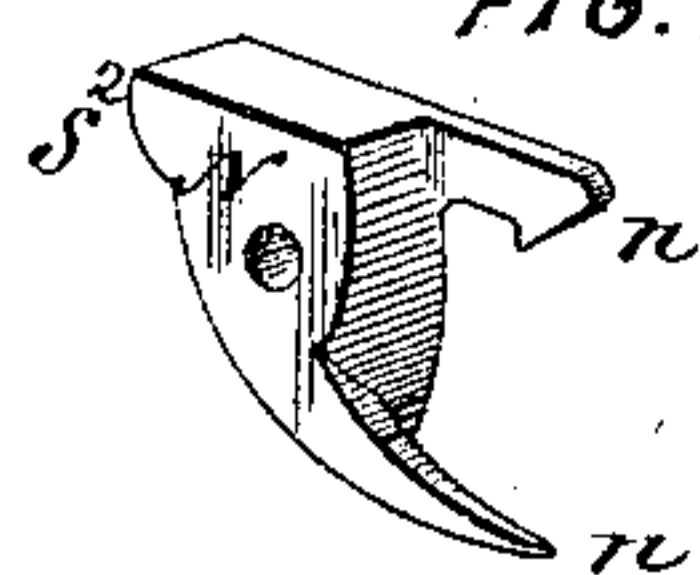


FIG. 5.

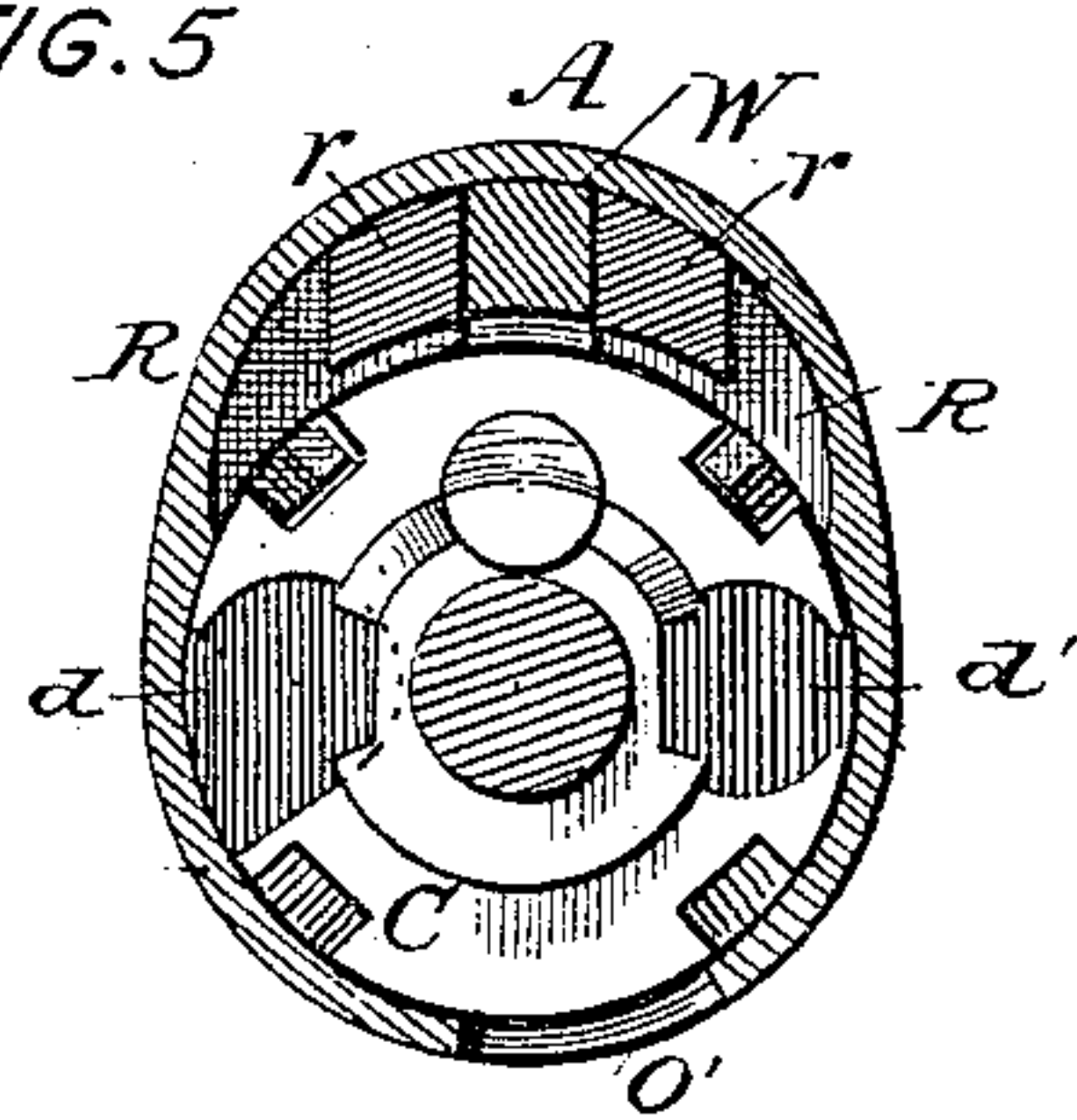


FIG. 6.

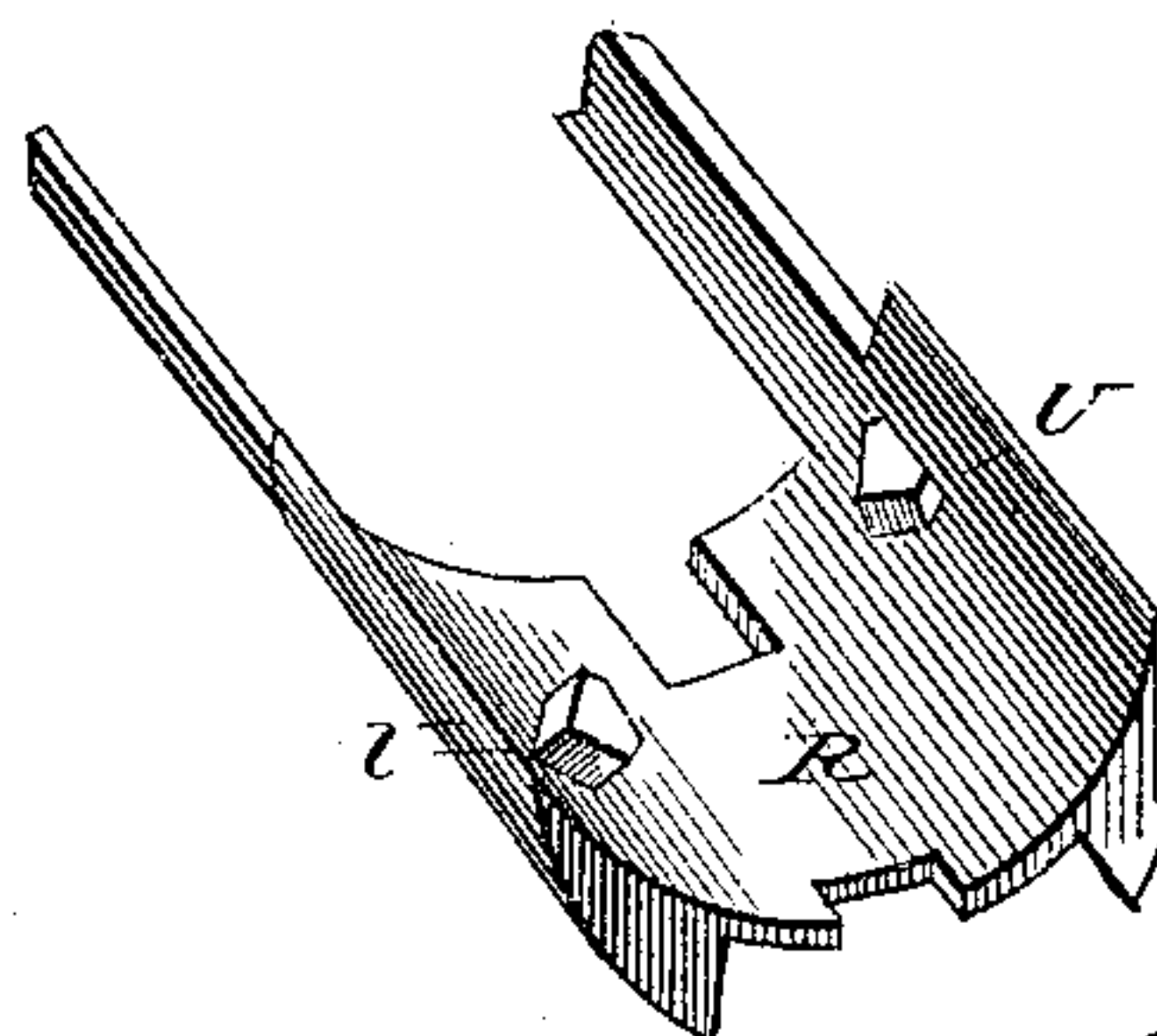
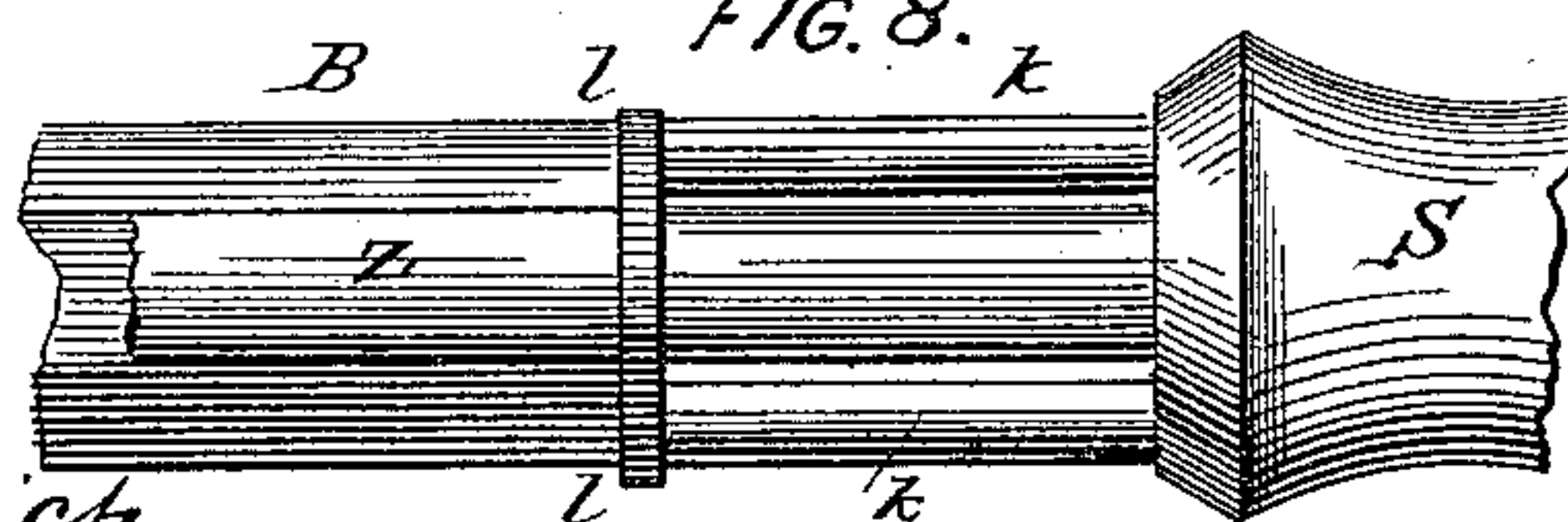


FIG. 8.



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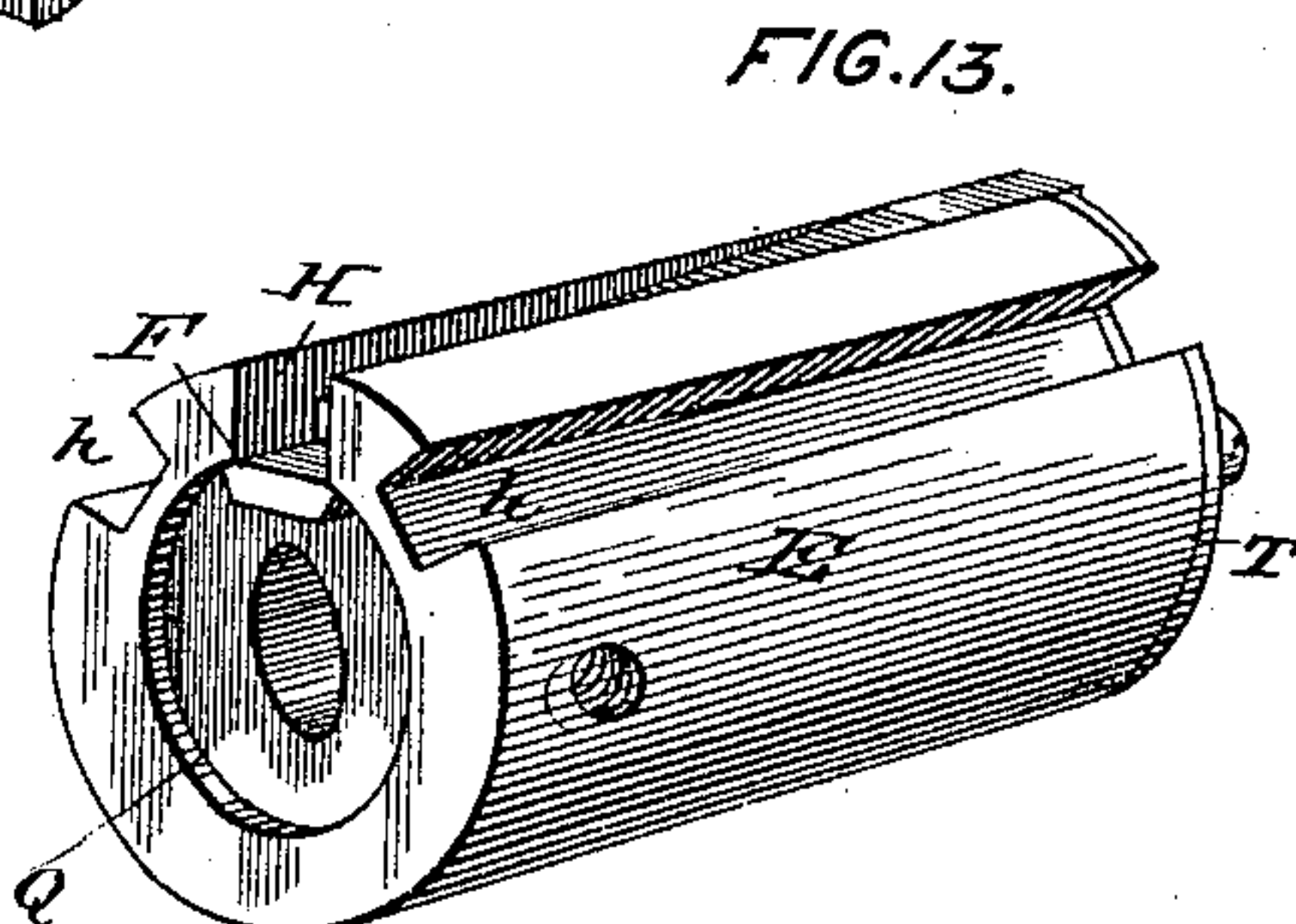
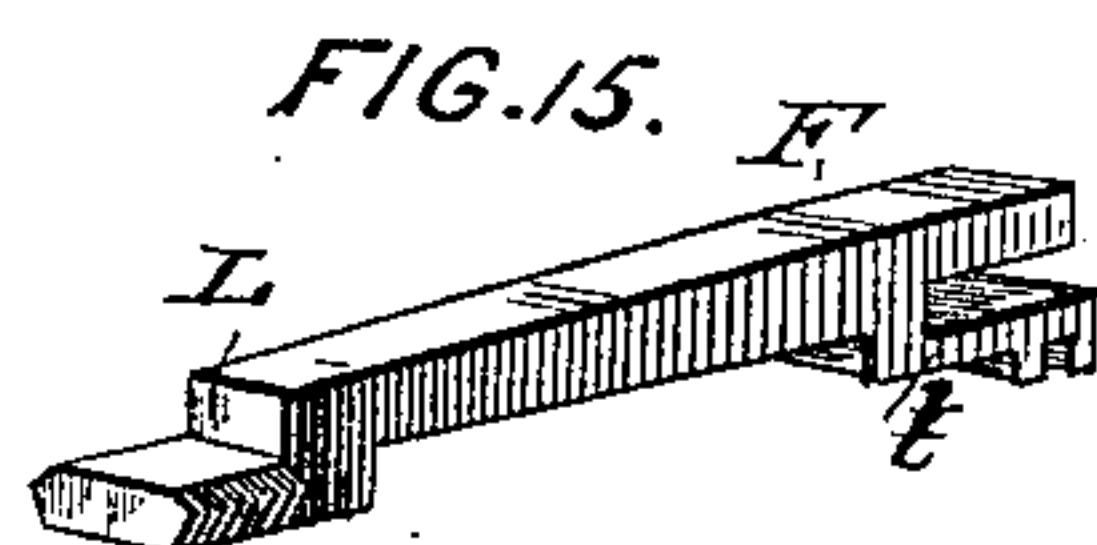
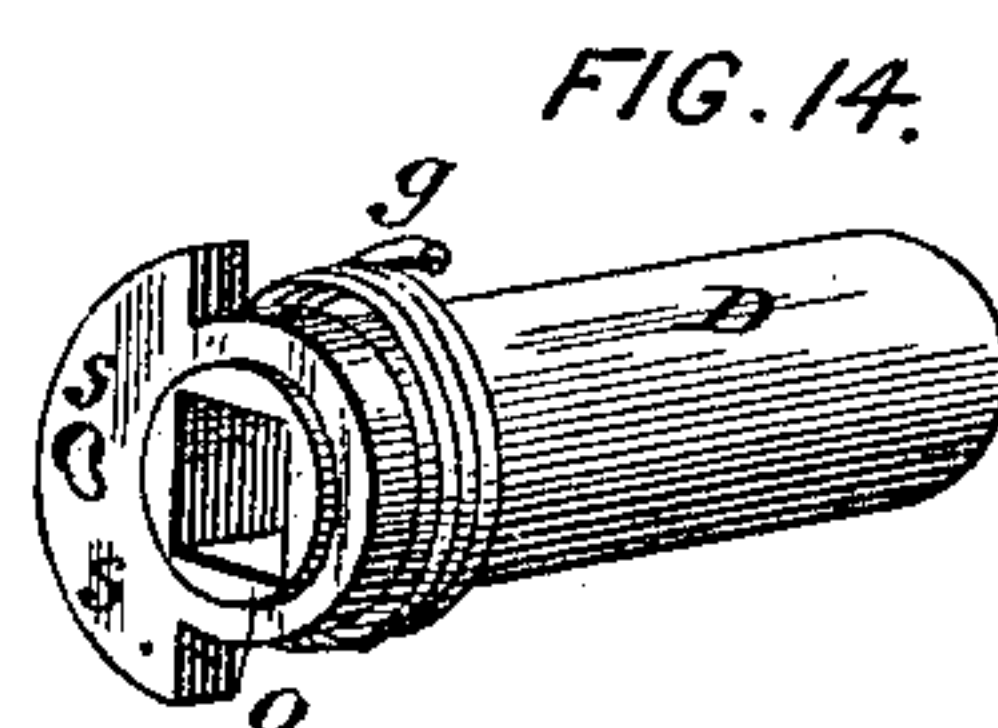
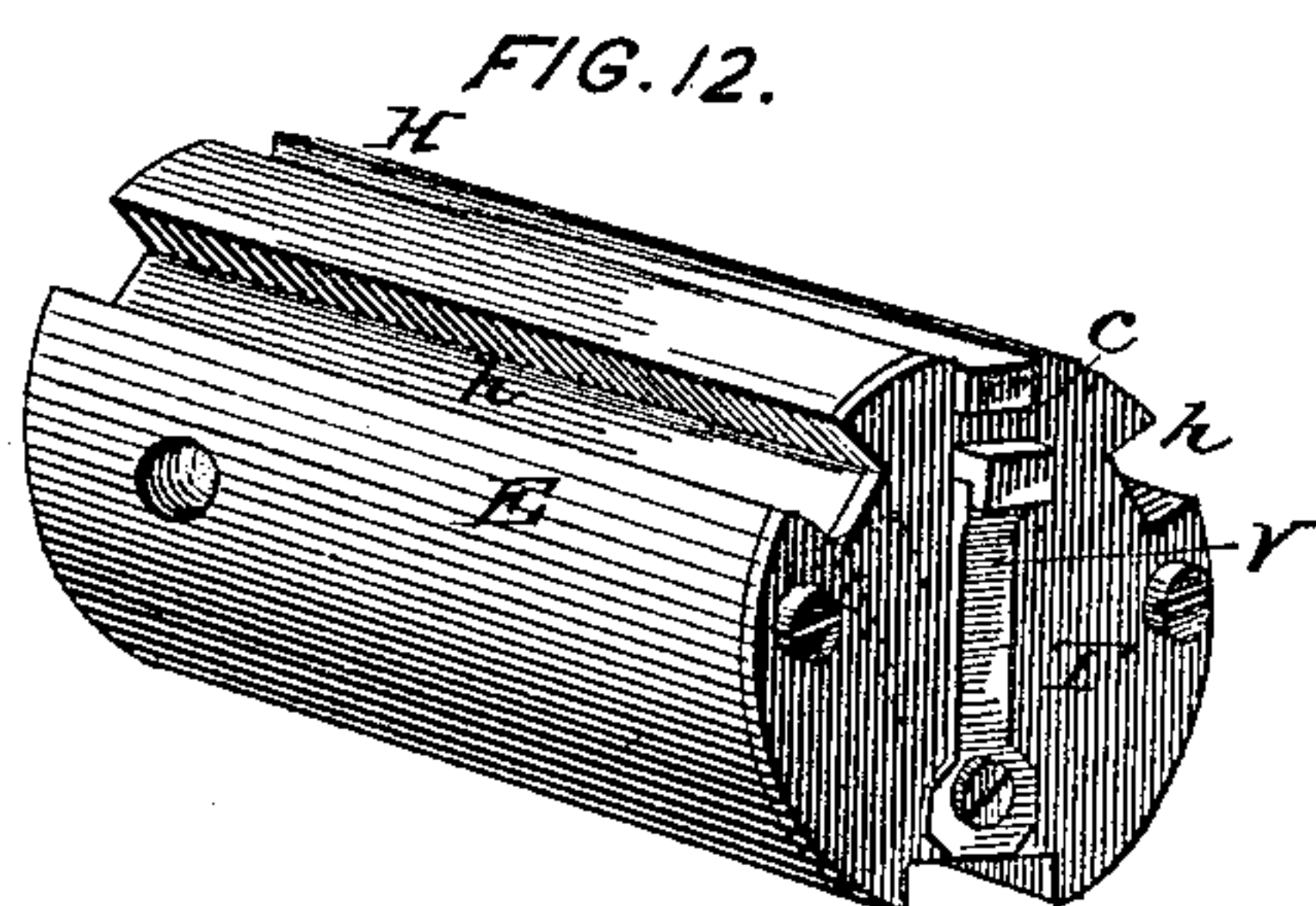
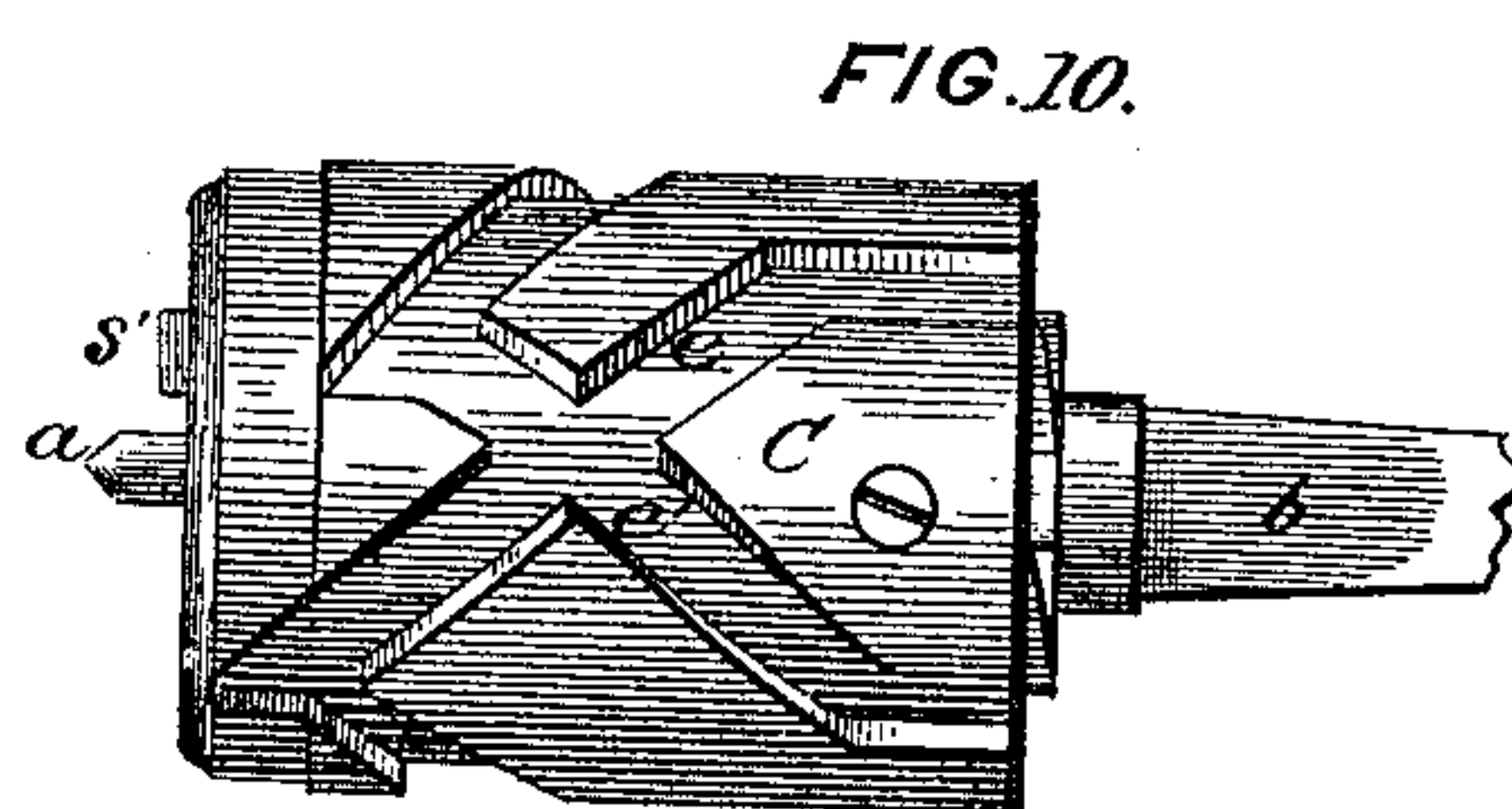
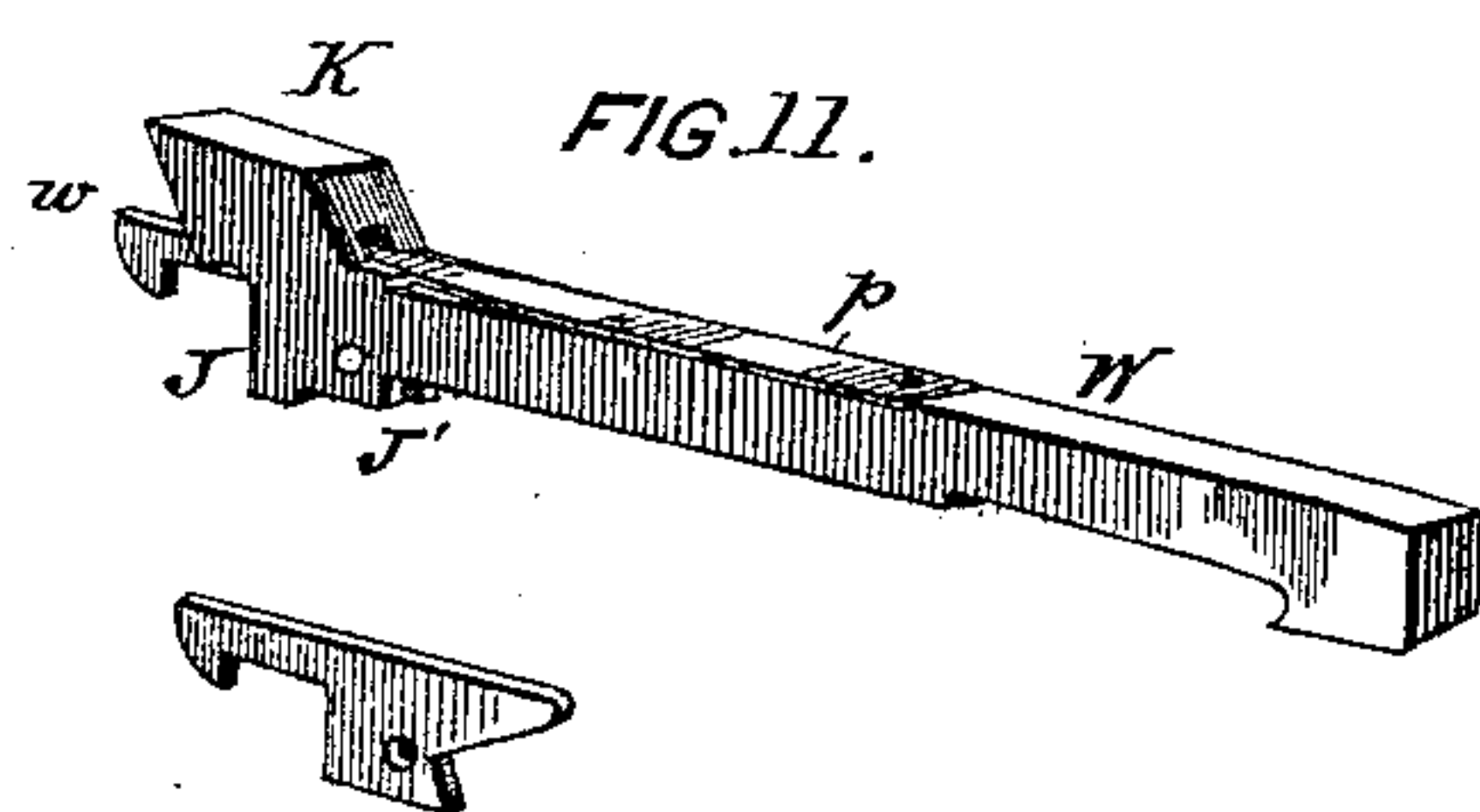
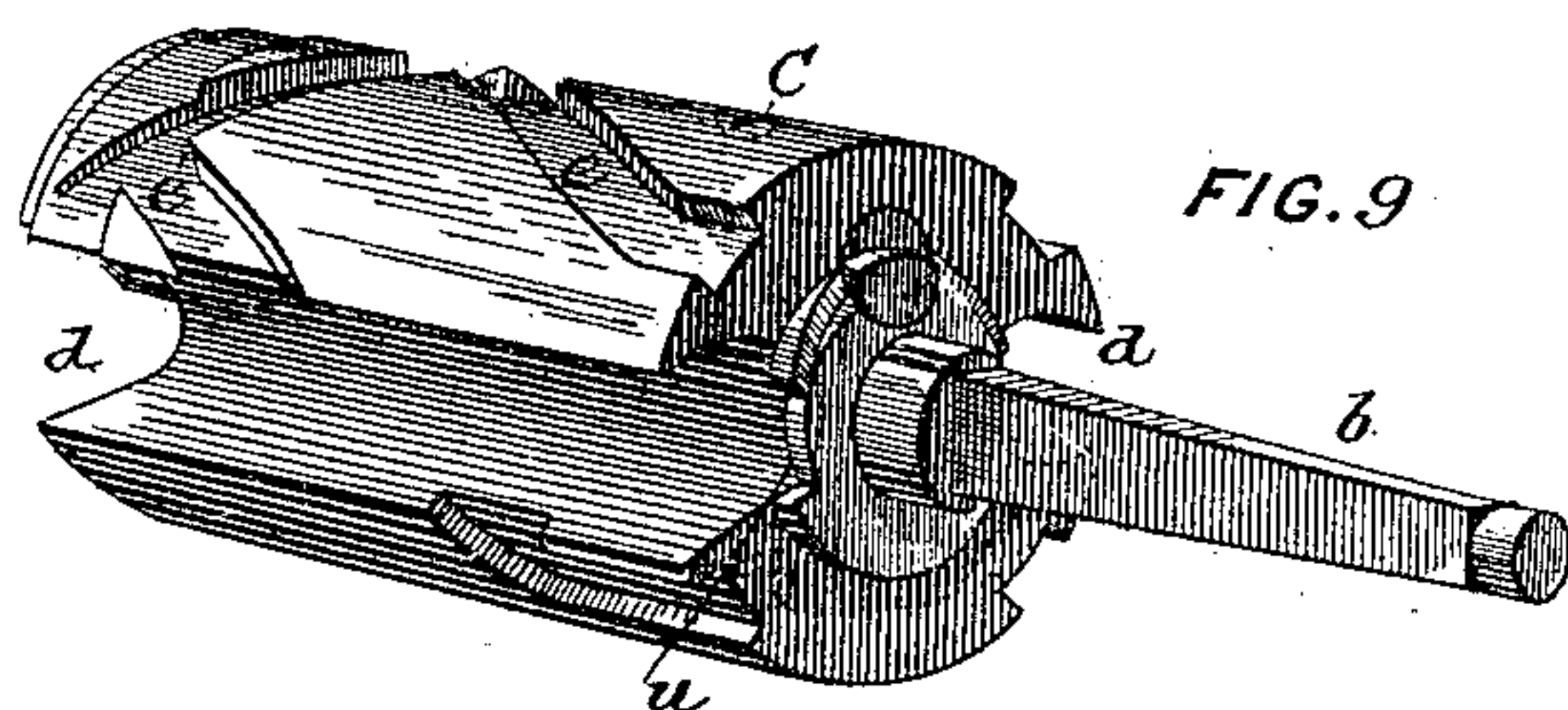
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WITNESSES:  
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# UNITED STATES PATENT OFFICE.

MYRON E. GREGG, OF WASHINGTON, DISTRICT OF COLUMBIA.

## MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 353,676, dated December 7, 1886.

Application filed December 29, 1885. Serial No. 187,010. (No model.)

*To all whom it may concern:*

Be it known that I, MYRON E. GREGG, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Magazine-Guns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in breech-loading magazine-guns in which the mechanism is operated by a handle located beneath the barrel forward of the receiver, and arranged to slide parallel with the barrel independent of the magazine; and it consists in providing a reciprocating cylinder adapted to automatically receive and carry the cartridge from the magazine to the barrel, where it is discharged, and to eject the empty shell; also in certain other details of construction and arrangement, hereinafter more specifically described, and pointed out in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of my gun, showing the several parts with the cartridge in position to be discharged. Fig. 2 is a vertical longitudinal section, representing the position of the parts after the cartridge has been exploded and the shell withdrawn from the barrel into the cylinder. Fig. 3 is a vertical longitudinal section, representing the position of the parts when the cylinder has been reversed for the purpose of ejecting the shell and depositing another cartridge in position for insertion into the barrel. Fig. 4 is a rear elevation, in perspective, of the inner end of the gun-barrel and breech-block, showing the slide by means of which the cylinder and other mechanism are actuated and the manner of its attachment to the handle. Fig. 5 is a vertical cross section through the line *x x* of Fig. 1. Fig. 6 is a view of the rear portion of the slide inverted. Fig. 7 is a detail view of the button or stop pivoted at the rear of the magazine and designed to regulate the delivery of cartridges into the cylinder. Fig. 8 is an inverted section of the barrel, showing the magazine and guide-rods supporting the han-

dle by which the slide is actuated. Fig. 9 is a perspective view of the cylinder, showing the cartridge and shell chambers. Fig. 10 is a front elevation of same, showing the cam-grooves on its exterior surface, the purpose of which will be explained hereinafter. Fig. 11 is a device which serves the purpose of pushing the cartridge forward through and out of the cylinder-chamber into the barrel, and of extracting the shell by means of the pawl or hook pivoted in its outer end, also of raising the hammer. Fig. 12 is a rear elevation, in perspective, of the spool-barrel, consisting of a hollow cylinder designed to be located in rear of the receiver or cartridge-cylinder, and Fig. 13 is a front elevation of same in perspective. Fig. 14 represents the spool surrounded by a coiled spring and designed to be placed within the spool-barrel. Fig. 15 is a detail view of a catch bar or slide designed to fit a longitudinal recess in the top of the spool-barrel and form a continuation of the firing-pin.

A represents the exterior shell or casing of the breech inclosing the mechanism, and B the barrel of the gun, provided with a magazine, Z, beneath, in the usual form.

S is the handle located beneath the barrel, over the magazine, and supported by guide-rods *k*, secured on each side of the magazine, and by means of which the handle is permitted to slide freely backward and forward. To the upper edges of this handle are secured the legs or ends of the bifurcated slide R, as shown in Fig. 4.

C is the reciprocating cylinder, located immediately in rear of the barrel and centrally pivoted thereto, or to the breech-block, by a projecting stud, *a*, fitting into a corresponding recess, *a'*, in the lower portion of the barrel or breech-block. The opposite end of this cylinder is provided with a square shank, *b*, projecting within a corresponding-shaped opening in the spool D, which is located within the spool-barrel E in rear of the cylinder and within the casing A. The spool D is journaled within the spool-barrel by means of shoulders or projections O, resting within bearings in the end walls, as shown in Figs. 1, 2, and 3, and thus permitted to rotate freely, except as limited by the coiled spring *g*, surrounding same and its stop. The outer end



of the spool next to the cylinder is provided with a semicircular flange, *s*, (shown in Fig. 14,) and which occupies a position within the barrel next to the outer end wall. The outer 5 or front end wall of the spool-barrel is formed integral with the barrel and located slightly within it, thus forming a recess, *Q*, as shown in Fig. 13. The opposite or rear end wall consists of a cap, *T*, fitted to the spool-barrel, as 10 shown in Fig. 12.

In the top of the spool-barrel is a longitudinal slot or opening, *H*, for the reception of the slide or catch bar, *F*. (Shown in Fig. 15.) The sides of this opening are connected at its inner 15 end by a transverse piece, *c*. The inner end of the catch-bar *F* is pronged or slotted horizontally to fit and inclose this transverse piece, and its opposite end is bent downward and outward, in the form of a crank or elbow, 20 near the point where it rests upon the outer end wall of the spool-barrel, it being thereby adapted to slide freely backward and forward in the longitudinal slot *H*, its backward movement being limited and arrested by its interior 25 shoulder, *f*, which comes in contact with the transverse piece *c* when its outer end is flush with the outer end wall of the spool-barrel. Its forward movement is regulated by means of a vertical spring, *V*, one end of which en- 30 gages with a transverse slot or recess on the under side of its lower prong, the opposite end of the spring being secured by a screw at or near the bottom of the spool-barrel. The spool-barrel is also provided with longitudinal 35 recesses *h* on each side, for the passage of the cam pins or studs *U*, located in the underside of the slide *R*. (Shown in Fig. 6.)

The cylinder *C* is provided with a longitudinal shell-chamber, *d*, on one side, and a 40 similar cartridge-chamber, *d'*, on the opposite side, as shown at Fig. 9. Its exterior face is provided with double cam-grooves *e e'*, and its inner end with a shoulder or projection surrounding its shank *b*, of suitable dimensions 45 to fit within the recess *Q* of the spool-barrel when in position. A firing-pin of the usual form and construction occupies a longitudinal opening at one side of its center, the end of which is shouldered to correspond with the 50 shoulder or projection, of which it forms a part, at the inner end of the cylinder.

The button or stop *N* (shown at Fig. 7) for regulating the delivery of cartridges from the magazine into the receiving-cylinder and piv- 55 oted near the mouth of the magazine-opening, where it is normally held in place by a small leaf-spring, *t*, is nearly triangular in shape, and provided with a curved finger, *n*, at its lower point, projecting from its outer face over 60 the end of the cartridge and preventing its escape from the magazine. It is also provided at its upper inner point with an arm, *n'*, projecting from its inner face to the edge of the magazine-opening, but not over it when held 65 in its normal position by the spring *t*, as shown in Fig. 4.

The handle *S* is semi-cylindrical in form,

open at the top, extends around the magazine, and is supported upon two guide-rods, *k k*, located on either side and secured by a segment 70 or band, *l*, at one end and by projecting into the breech-block *m* at the opposite end, as shown in Figs. 4 and 6.

The slide *R* consists of a bifurcated metallic piece, the closed end of which passes within 75 the casing *A*, over the cylinder and spool-barrel, the studs or cam-pins *U* on its under side traversing the cam-grooves *o o'* of the cylinder and recesses *h* of the spool-barrel, the legs or prongs of its opposite or open end be- 80 ing securely attached to the handle *S* on each side of the barrel. These legs or prongs pass through and are guided by recesses provided in the sides of the breech-block. The rear closed portion of the slide is recessed or cut 85 away on its upper side to admit of its passage beneath longitudinal ribs *r*, projecting downward from the interior of the top of casing *A*, as shown in section in Fig. 5. These longi- 90 tudinal ribs are rigidly secured to the interior of the casing *A*, or may be formed integral with it, and are located at a sufficient distance apart to leave a slot or recess between them, within which is placed the breech-rod or car- 95 rier-arm *W*, (see Fig. 5,) shown at Fig. 11, and which consists of a rod somewhat longer than either the cylinder or spool-barrel, but not equal in length to both. It is cut away or recessed on its under side, near the inner end, 100 for a short distance, whereby it is adapted to fit over and inclose within such recess the transverse portion of the slide *R*, as shown in Figs. 1, 2, and 3. Its opposite end is provided with a vertical mortise or recess, within which 105 is pivoted a retractor-hook, *w*. (Shown in detail at Fig. 11.) This outer end is also formed with double shoulders *J J'* on its under side and an upward projection, *K*, extending over the hook or retractor *w*, which is beveled inwardly 110 and outwardly and made to slant inward toward the shoulders *J J'*. The rear end of the pawl or retractor-hook *w* extends slightly back of shoulder *J'* when in position, and is provided with a notch which forms a project- 115 ing shoulder or end *i* on its lower corner. This hook, when pivoted within the rod *W*, is held in its normal position by a leaf-spring, *p*, secured to the top of the rod and extending into the mortise over the hook, as shown in Fig. 11.

The casing *A* consists of a single piece of metal, 120 having an eccentric longitudinal opening corresponding in shape with that shown in Fig. 5, and formed by two borings from different centers, the lower portion of this opening forming the recess for the reception of the spool-barrel 125 and cylinder, the upper portion affording a space for the movement of the slide and carrier-arm within it, and of the longitudinal ribs *r* above the cylinder and spool-barrel.

Having now described all the parts in de- 130 tail, I will proceed to describe the mode of operating my gun when the parts are assembled and in their proper positions.

We will presume the handle *S* to be drawn



back against the breech-block *m*. The inner end of the slide *R*, being forced back to its utmost limit, occupies a position within the casing over the spool-barrel, the cam-pins *U* resting in the grooves *h*. The shell-chamber *d* is then presented at the opening *O'* beneath, on a line with the magazine and the cartridge-chamber *d'* in rear of the barrel. It is now in position to load the magazine, which is then filled with cartridges. The handle is then moved forward, when the cam-pins *U* of the slide reach and engage the grooves *e* in the cylinder, causing it to perform a quarter-revolution, bringing it to the position shown in Fig. 5, with the chambers empty. Meantime the cam-pins have reached their utmost limit in the front end of the cylinder, the closed end of the slide being in contact with the breech-block *m*. The cylinder is held in this position by the end of the catch-bar *F*, which now projects into the recess occupied by the firing-pin, and prevents the cylinder from turning backward when the pressure of the cam-pins is relieved. The handle is then moved back, causing the end of the catch-bar to rise out of the recess upon an inclined track on its opposite side and the cam-pins to traverse the cam-grooves *e'*, causing a further quarter-revolution of the cylinder, until the chamber *d'* is brought on a line with the magazine and the shell-chamber *d* in rear of the barrel, where the cylinder is again arrested and held by the end of the catch-bar *F*, which has slipped into the recess *u* of the shoulder at the rear of the shell-chamber. At this point the stud *s'* on the periphery of the outer end of the cylinder comes in contact with the projection *s''* of the upper outer corner of the button or stop *N* at the mouth of the magazine, and turns it sufficiently to throw the finger *n* away from the mouth and release the cartridge, allowing it to be forced out into chamber *d'* of the cylinder by the magazine-spring. At the same time the arm *n'* of the button is forced inward behind the flange of the cartridge, and serves to arrest the next one until the finger *n* is carried back to its place by the spring *t*. The continued backward movement of the slide *R* brings its transverse piece in contact with the rear shoulder of the recess on the under side of the breech-rod or carrier-arm *W*, and forces it back until its inner end, by contact with the hammer, cocks the gun, and its shoulder *J'*, near its forward end, comes in contact with the shoulder *L* of catch-bar *F*, forcing it back out of the recess *u* in the rear of the shell-chamber *d*, thus releasing the cylinder, which then instantly performs a half-revolution backward by the force of the spring operating upon its shank through the medium of the spool *D*, bringing the cartridge-chamber, now containing the cartridge, again in rear of the barrel. The handle is now again moved forward, causing the transverse piece at the rear end of the slide, by contact with the front shoulder of the recess on the under side of the breech-rod, to

push the cartridge through and out of chamber *d'* into the barrel, when the slanting or beveled end of the rod comes in contact with the inclined end of the barrel and lifts the rod or causes it to rise out of the chamber, and its front recess-shoulder is also released or lifted from the transverse piece at the outer end of the slide. The continued forward movement of the slide again brings the cam-pins through the grooves *e*, causing the cylinder to perform a quarter-revolution to the right, and again bringing it to the position shown in Fig. 5, with the end of the catch-bar *F* in contact with the firing-pin and projecting into its recess. The gun is now discharged; then the slide forced backward, as before, bringing the shell-chamber *d* in rear of the barrel to receive the shell, and the chamber *d'* in rear of the magazine to receive another cartridge. At this point the transverse piece in the slide again comes in contact with the rear shoulder of the recess on the under side of the breech-rod, draws it backward, its outer end slides and is forced down the inclined end of the barrel, and its retractor *w* grasps the flange of the shell and withdraws it into the cylinder, as shown in Fig. 2, until its projecting corner *i* comes in contact with the shoulder *L* of the catch-bar, causing it to rise out of the way of the cylinder and release the shell, immediately after which the shoulder *J'* of the breech-rod or carrier-arm comes in contact with the shoulder *L* of the catch-bar *F*, forcing it back and again tripping the cylinder, which instantly flies back to a reversed position, ejecting the shell through the opening *O'* and conveying another cartridge to the barrel, as shown in Fig. 3, when the same operation may be repeated until the magazine is emptied.

It will be observed that I have provided two cam-pins on the under side of the slide—one of which occupies a position in advance of the other—and that the cam-grooves in the surface of the cylinder are formed to correspond with the positions of the pins. The object of this arrangement is to provide at all times a bearing-surface for one of the pins, while the other is traversing the space occupied by the cartridge or shell chambers and intersections of the grooves, and thereby compensate for the necessary breaks and interruptions in the cam-grooves. It will also be observed that the catch-bar *F* serves as a stop when the cylinder is tripped or reversed, the end of the semicircular flange *s* bearing against its right side when the cartridge-chamber is on a line with the barrel, and the opposite end of this flange bearing against its left side when the shell-chamber is uppermost.

When necessary for convenience in transportation, the barrel of my gun may be readily unshipped by first moving the slide *R* back to its utmost limit, then removing a transverse pin passing through the casing and breech-block, and withdrawing two or more screws securing it thereto.



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

1. In a magazine-gun, the combination, with an oscillating cylinder forming a carrier for the cartridge and shell, said cylinder having grooves on its outer face, of a slide actuated by the handle and provided with cam-pins engaging with the grooves of said cylinder, whereby the cylinder is turned to receive the cartridge and the shell, as set forth.

2. In a magazine-gun, an oscillating cylinder located in the rear of the barrel and centrally pivoted thereto, said cylinder having a shell-chamber on one side and a firing-pin at one side of its center and actuated in one direction to receive the cartridge and shell by cam-pins reciprocated by an operating-handle and reversed by the coil-spring D to eject the shell and bring the cartridge to the chamber of the barrel, substantially as and for the purpose set forth.

3. In a magazine-gun, the combination, with the movable handle, of a carrier-cylinder and a slide for actuating the same by intermediate pin and cam-groove connections, said slide being moved by the handle and secured thereto by prongs passing through guide-recesses in the breech-frame, as set forth.

4. In a magazine-gun, the combination, with the movable handle, the carrier-cylinder, and the carrier-arm, of a bifurcated slide which actuates the cylinder, said slide having a transverse piece at its rear end to engage with a recess on the under side of the carrier-arm, whereby the carrier-arm is moved by said slide, as set forth.

5. In a magazine-gun, the combination, with the movable handle and carrier-cylinder, of a slide which actuates said cylinder, the closed end of said slide passing within the casing, the open end having prongs secured to the handle on each side of the barrel, whereby the slide is operated by the handle, as set forth.

6. In a magazine-gun, the combination, with the oscillating cylinder and a reciprocating slide operating the same through intervening cam-pins, of the spool-barrel fitting within and secured to the casing and having a spool journaled in its end wall, said spool receiving the shank of the cylinder through its center and operating through the intervention of the spring to reverse the action of the cam-pins on the carrier-cylinder, as set forth.

7. In a magazine-gun, the combination, with the oscillating cylinder and a slide operating the same through intervening cams, of the spool-barrel, a spool centrally journaled therein and provided with a square shank entering its center, the cylinder having a coil-spring surrounding the spool and bearing in an opposite direction to the action of the cam-pins, said spool and cylinder being limited in their action by a lug of the spool coming in contact with the side of a catch-bar borne by said spool-barrel at a point in the rotation of the cylin-

der which brings the cartridge-chamber in line with the barrel of the gun, as set forth.

8. In a magazine-gun, the combination, with the oscillating cylinder and a spool-barrel provided with an upper longitudinal slot, of a catch-bar sliding in said slot, the inner end enclosing a transverse piece in the rear wall of the spool-barrel, the opposite end resting on the outer wall thereof, the forward-and-backward movement of said catch-bar in said slot acting to hold and release the cylinder, as set forth.

9. In a magazine-gun, the combination, with the oscillating cylinder, the spool-barrel, the slide, and carrier-arm, of a shell or casing consisting of a single piece of metal having two borings forming an eccentric longitudinal opening, whereby recesses are provided for the movement of the oscillating cylinder, slide, and carrier-arm, and provided with a single opening at the bottom of the casing for receiving the cartridges and ejecting the cartridge-shells, as set forth.

10. In a magazine-gun, the oscillating cylinder provided with cam-grooves on its outer face and a cartridge and a shell chamber on opposite sides, in combination with the bifurcated slide, the prongs of which are secured to the handle, and its closed end provided with cam-pins which fit the cam grooves of the cylinder, and so placed with relation to each other that a bearing-surface is constantly afforded for one pin while the other is traversing a break in the groove, as set forth.

11. In a magazine-gun, the oscillating cylinder provided at opposite sides with a shell-chamber and a cartridge-chamber, and having a square shank, in combination with the slide, and the spool-barrel having the spool journaled therein provided with an opening to receive the shank and connecting with a coiled spring surrounding same, substantially as and for the purpose set forth.

12. The combination, in a magazine-gun, of the oscillating cylinder provided with a shell and a cartridge chamber and with cam-grooves in its outer face, the bifurcated slide having cam-pins on its inner closed end adapted to fit the cam grooves of the cylinder, the handle secured to the prongs of the slide and located beneath the barrel, and the spool secured to the coiled spring and journaled within the spool-barrel, substantially as and for the purpose set forth.

13. In a magazine-gun, the combination, with the semi-cylindrical handle, open at the top and extending below the magazine, of the breech-frame, and the handle-supporting guide-rods located on either side of the magazine, said rods secured at one end to lugs on the barrel, the opposite end projecting into the breech-frame, as set forth.

14. The combination, in a magazine-gun, of the oscillating cylinder, the spool-barrel having the spool journaled therein within the casing, with its controlling spring, and the mov-



able catch-bar in the top of the spool-barrel acting to release the cylinder after the shell is withdrawn from the barrel by contact with the carrier-arm at its extreme backward limit, thus ejecting the shell from the casing, as set forth.

15. The combination, in a magazine-gun, with an actuating handle and slide, of the oscillating cylinder provided with a shell-chamber and a cartridge-chamber on opposite sides, and the inclosing-casing having an opening on its under side adapted to discharge the shell, substantially as and for the purpose set forth.

16. The combination, in a magazine-gun, of the chambered cylinder, the bifurcated operating-slide having its arms connected by a transverse piece at their inner end, and the breech-rod which reciprocates through the cylinder, having a recess on the under side of its inner end which fits over and incloses the transverse piece of the slide, and a slant or bevel at its outer end which bears upon the incline at the rear of the barrel and lifts the rod at its forward position, substantially as and for the purpose set forth.

17. The combination, in a breech-loading gun, of the oscillating cylinder, the firing-pin projecting through the same, the carrier-arm having a forward bevel thereon, which, coming in contact with the incline on the rear of the barrel, lifts the arm in its forward movement, and a bevel on the top thereof serving in its backward movement, by engagement with the frame, to bring its forward end down, the retractor-hook in the forward end of the

carrier-arm, and the bifurcated slide, whereby the carrier-arm is reciprocated through the cylinder, substantially as and for the purpose described.

18. The combination, in a magazine-gun, of the button pivoted at the mouth of the magazine, provided at its lower point with a finger projecting from its outer face, and at its upper point with an arm projecting from its inner face, and the oscillating cylinder having a projecting stud on the periphery of its outer end which rotates the button by contact with it, substantially as and for the purpose set forth.

19. The combination, in a magazine-gun, of the reciprocating cylinder having a square shank, and provided on opposite sides with a cartridge-chamber and a shell-chamber, and with cam-grooves on its outer face, the spool-barrel having journaled therein the spool secured to and controlled by the spiral spring surrounding the same, the catch-bar and its controlling-spring, the breech-rod provided with a recess on its under side, and a retractor-hook pivoted in its outer end, and the bifurcated slide having a transverse piece and cam-pins at its inner end which fit and slide in the cam-grooves of the oscillating cylinder, and its outer pronged ends secured to the handle, substantially as and for the purpose set forth.

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

MYRON E. GREGG.

Witnesses:

EMMA M. GILLET,  
W. H. EDGAR.