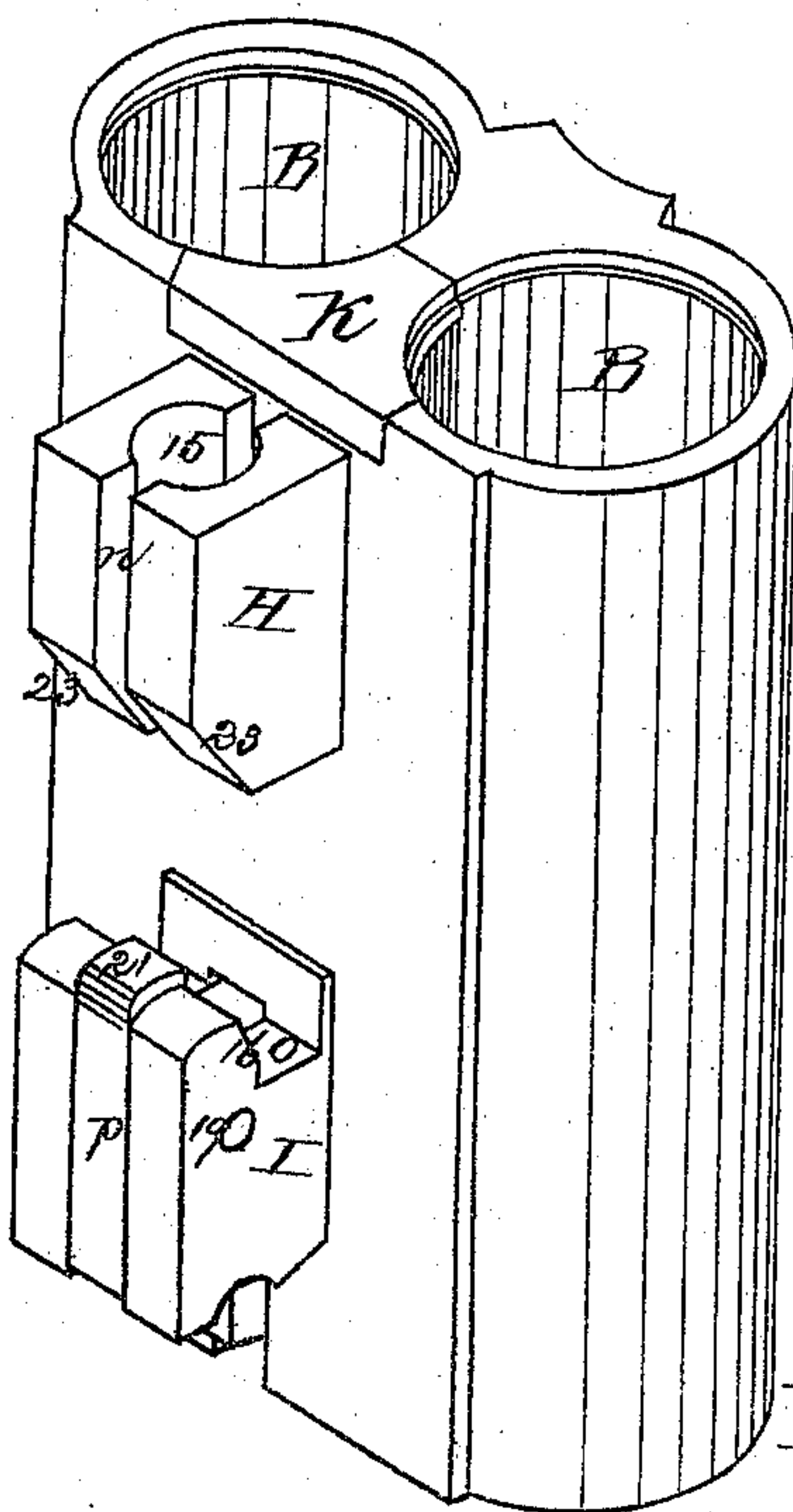
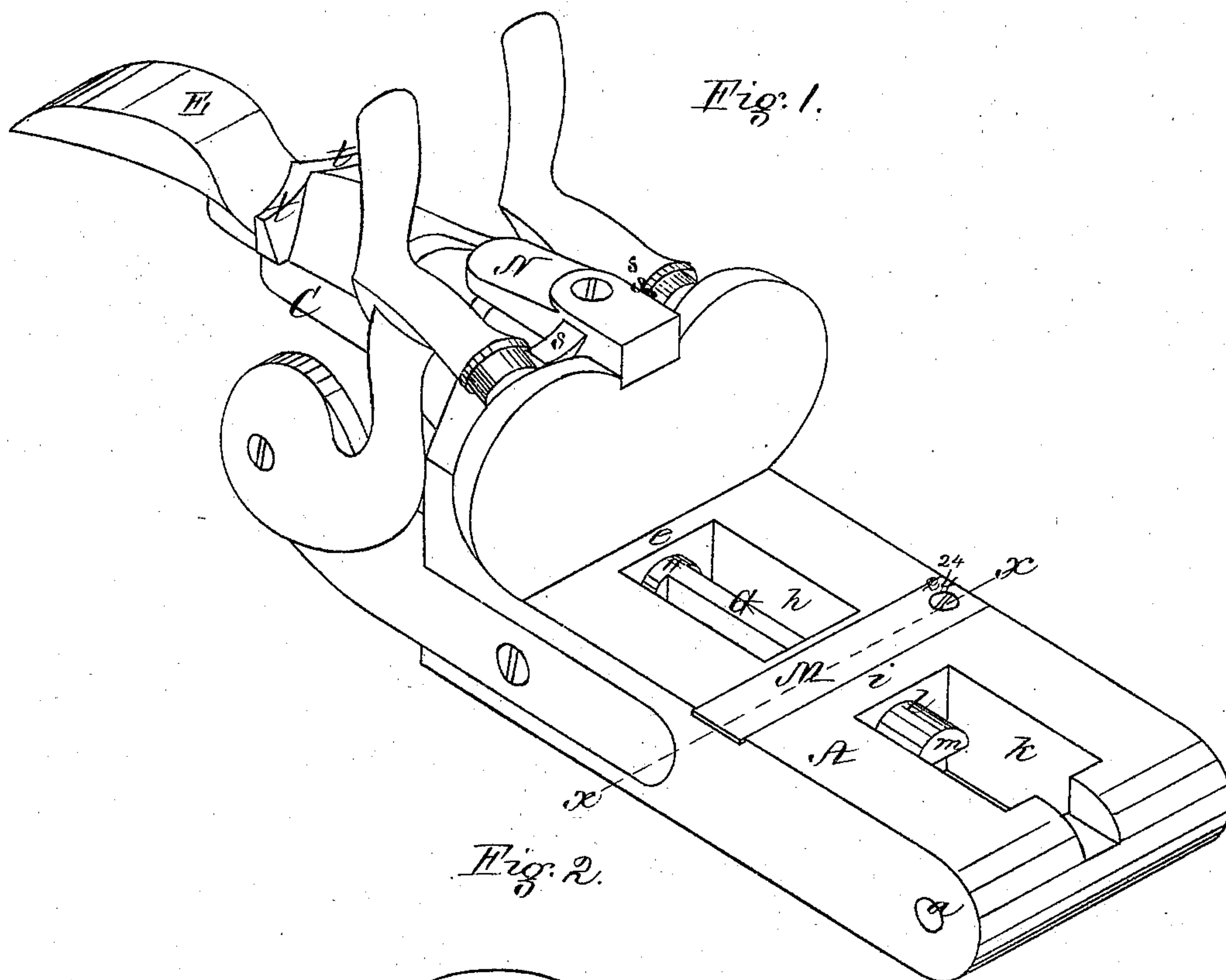


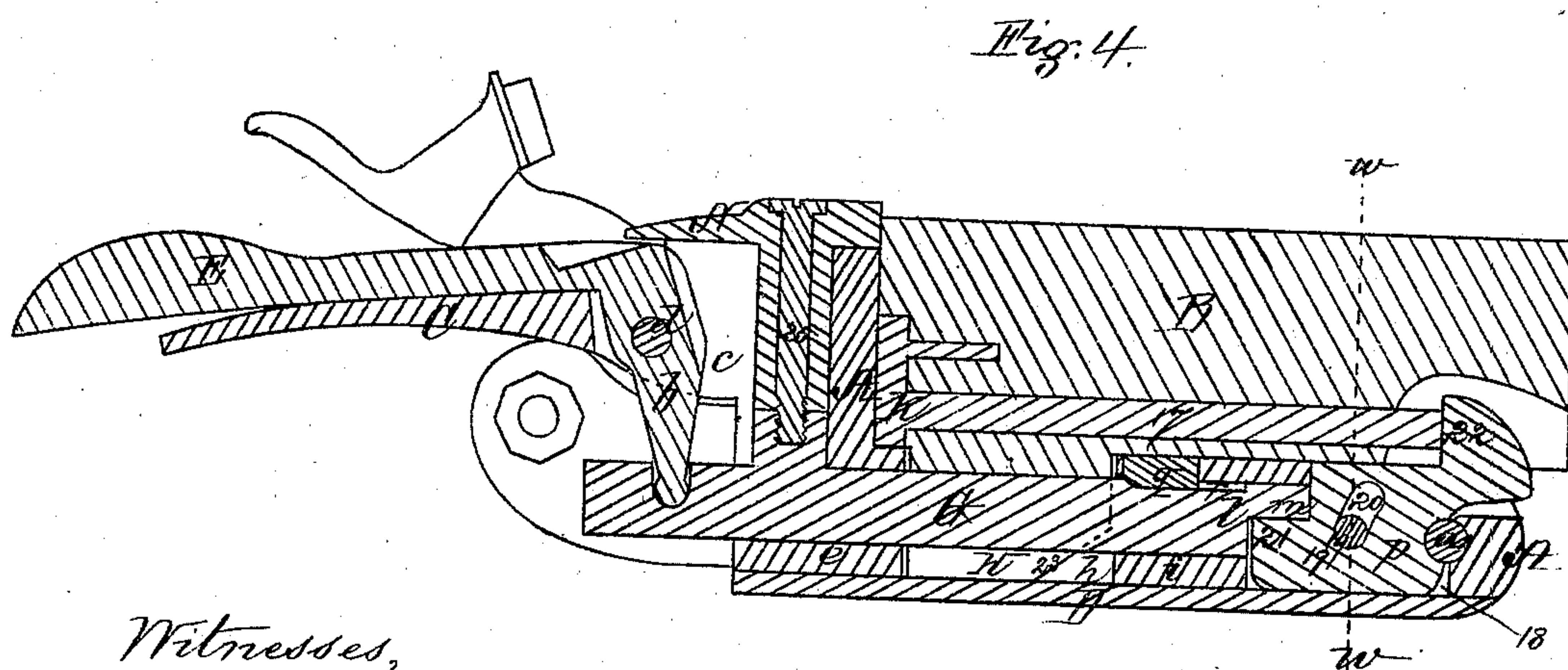
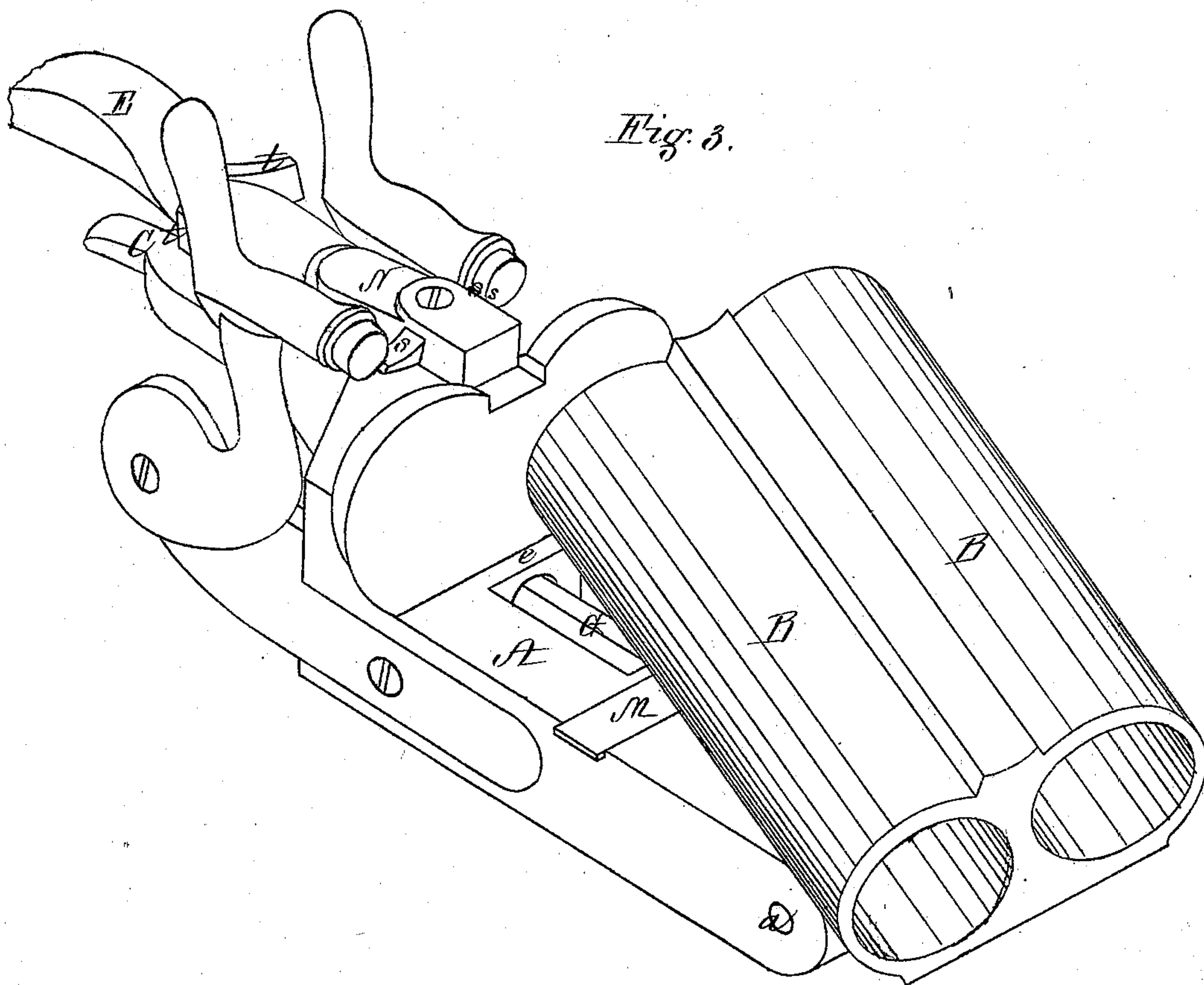
A. E. WHITMORE.
Improvement in Breech-Loading Fire-Arms.
No. 125,775.
Patented April 16, 1872.



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3 Sheets--Sheet 3.

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Fig. 5.

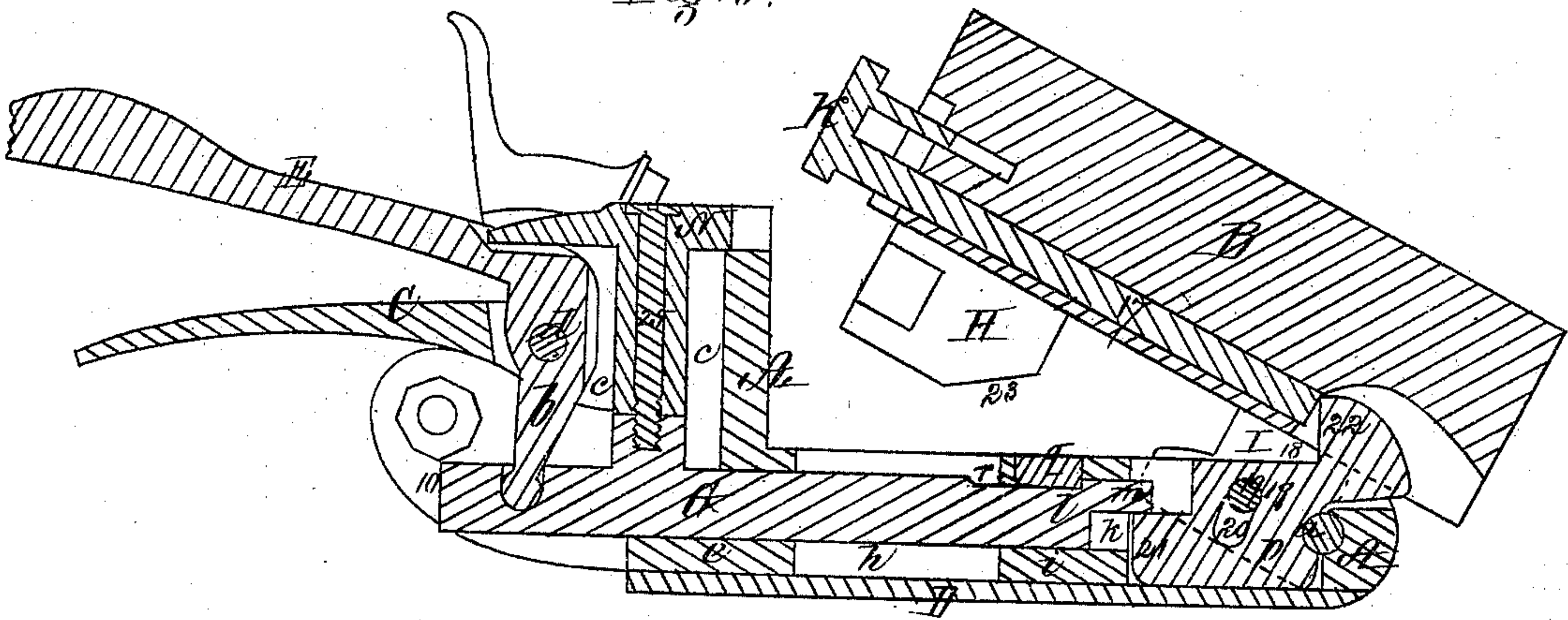


Fig. 6.

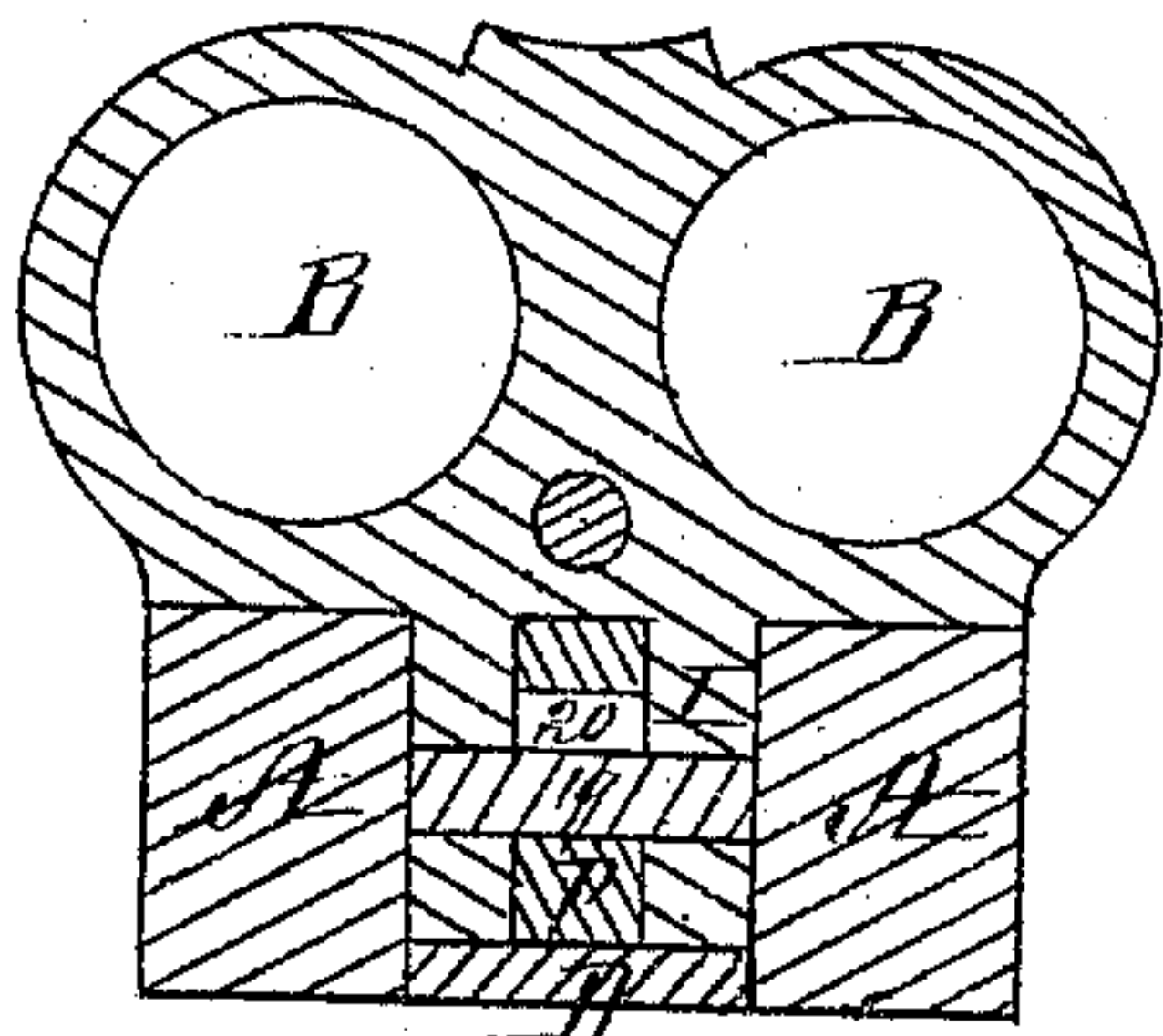


Fig. 7.

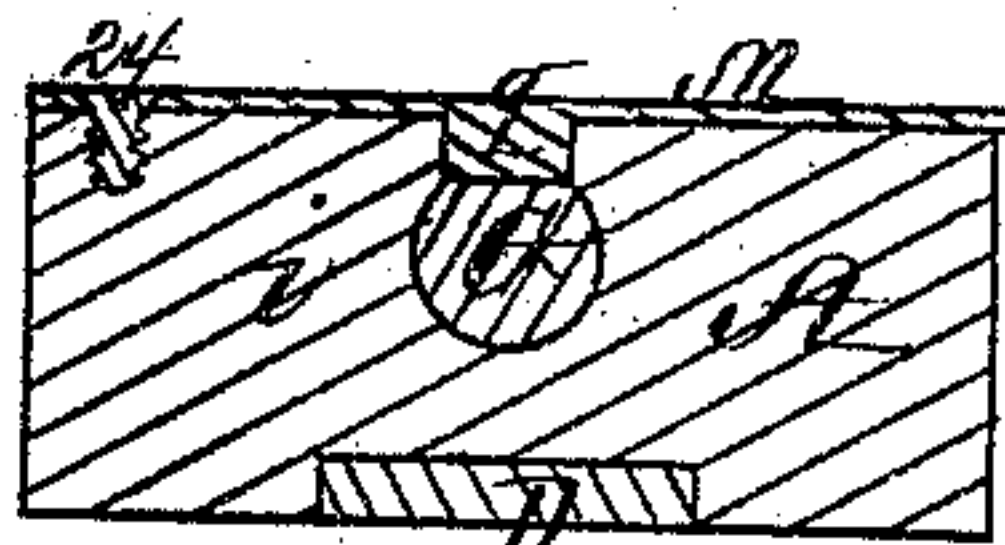


Fig. 8.

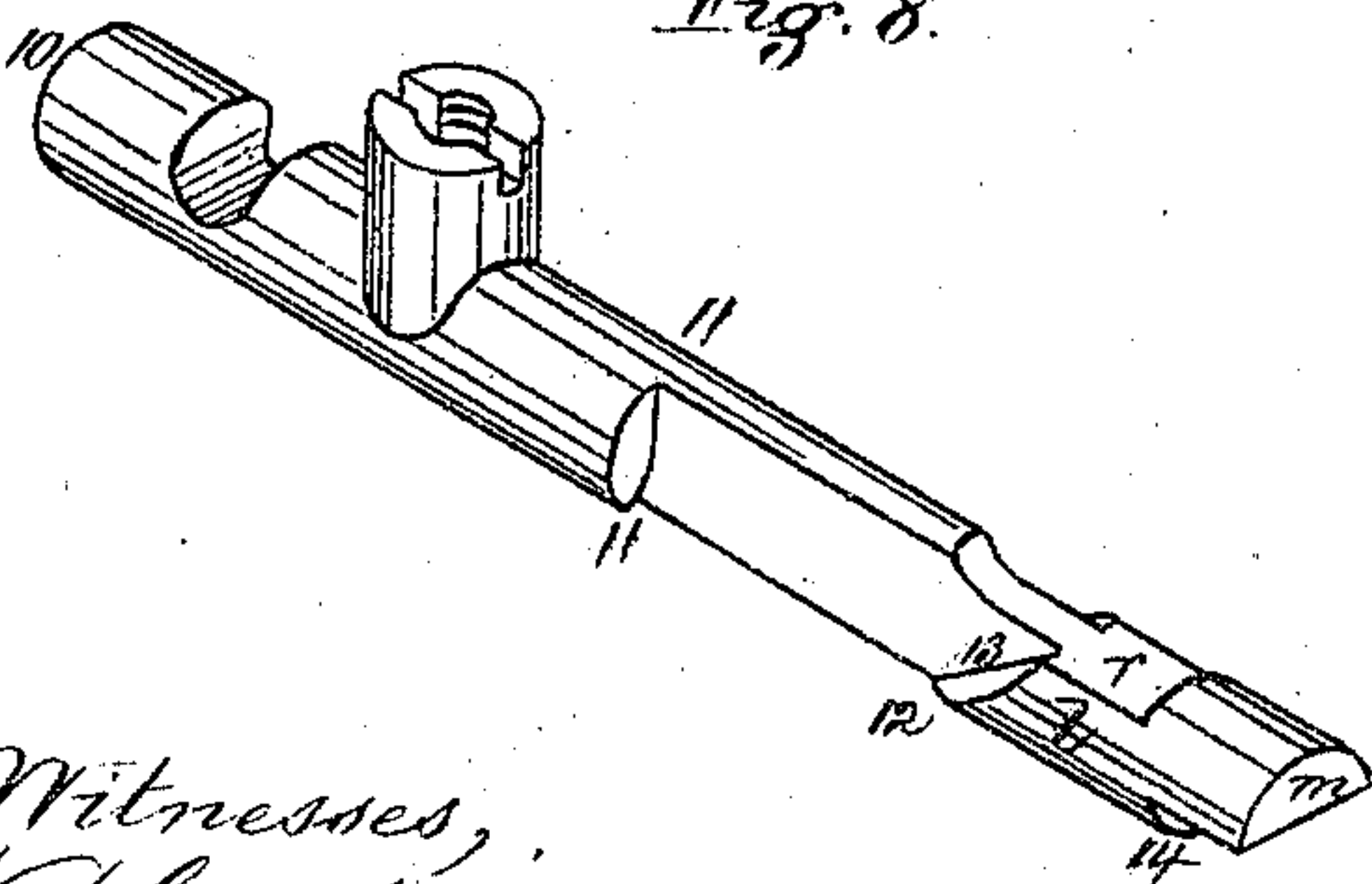
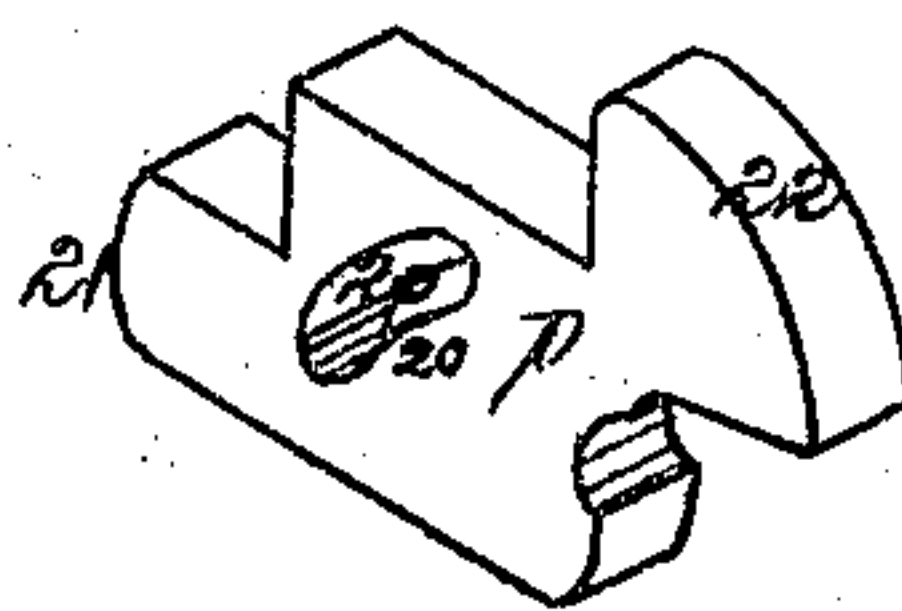


Fig. 9.



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UNITED STATES PATENT OFFICE.

ANDREW E. WHITMORE, OF ILION, NEW YORK.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 125,775, dated April 16, 1872.

To all whom it may concern:

Be it known that I, ANDREW E. WHITMORE, of Ilion, in the county of Herkimer and State of New York, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of the breech-block and other parts of a gun having my improvements applied thereto. Fig. 2 is a perspective view, representing the rear portion of the barrels of a double-barrel gun constructed in accordance with my invention. Fig. 3 is a perspective view, representing the barrels unlocked, their rear ends being swung up and the hammer being held at half-cock. Fig. 4 is a longitudinal central section with the barrels locked in place, one of the hammers being represented at full-cock. Fig. 5 is a longitudinal central section with the rear ends of the barrels swung up to receive their cartridges. Fig. 6 is a transverse section on the line *ww* of Fig. 4. Fig. 7 is a transverse section on the line *xx* of Fig. 1. Fig. 8 is a perspective view of the bolt for locking the barrels in their firing position; Fig. 9, detail to be referred to.

My present invention relates particularly to certain improvements in the breech-loading fire-arm for which Letters Patent of the United States were granted to me on the 8th day of August, 1871; and consists, first, in a lever provided with a curved slot, and operated by the bolt which locks the barrels in their firing position, the said lever operating the "cartridge-extractor," and also serving as a "joint-check" or stop for arresting the motion of the barrels as their rear ends are swung up on their joint, by which construction the "joint-check" is removed from the joint, and the strain consequently brought upon the joint-pin, as required, instead of upon the "tip" of the stock, as in the old construction; and my invention also consists in an incline on the locking-bolt, which operates on a correspondingly-inclined portion of the rear lug, whereby, as the bolt is withdrawn, the rear ends of the barrels are raised by a positive motion, which insures the loosening of the cartridge-shell by the "extractor," in case it should adhere to the sides of its chamber, thus allowing the muzzle ends

of the barrels to drop by their own weight as soon as the bolt is withdrawn, which would not otherwise be the case if the cartridge-shell should stick in the barrel; and my invention also consists in a stop, in combination with the locking-bolt, which prevents the locking-bolt from being drawn back to such an extent as to allow the barrels to become accidentally detached from the stock, this stock being made movable, so as to admit of an additional backward movement of the bolt when it is desired to disconnect the barrels from the stock for cleaning or other purposes; and my invention also consists in a hand-lever, connected with the locking-bolt, and placed on the upper side of the tang of the breech-block, said lever being provided with projections against which the rear portions of the hammers strike before being brought to full-cock for the purpose of depressing this lever in case it should not have been previously brought down into its proper position, thus insuring the rigid locking of the barrels in place before the gun is discharged.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing, A represents the breech-block, to which the barrels B B are pivoted at *a*, in a well-known manner, in order that their rear ends may be thrown up out of their firing position to receive the cartridges. C is the tang, and D the trigger-plate, between which the forward end of the stock (not shown) is secured. E is a hand-lever, of the form seen in Fig. 4, which is placed on the upper side of the tang C. The forward or upright portion *b* of this lever passes down through a slot, *c*, in the tang C, to which it is pivoted at *d*, the lower end of the portion *b* entering a notch in the rear end of a bolt, G, which extends through a solid portion, *e*, of the breech-block A, into and through a rectangular opening, *h*, Figs. 1 and 4, and thence through a solid portion, *i*, of the breech-block into another opening, *k*, also of rectangular form. From 10 to 11 the bolt is circular in cross-section; from 11 to 12 it is cut away, leaving it nearly rectangular, the forward end of the rectangular portion terminating in a head, *l*, the surface 13 of which at the junction of the rectangular portion therewith, is beveled or inclined upward. The por-

tion 13 to 14 of the head *l*, passing through the portion *i* of the breech-block, is also circular in cross-section, and the front portion of the head *l* is cut away on its under side leaving a semi-cylindrical projection, *m*. On the under side of the barrels *B B* are formed two lugs or projections, *H I*, the lug *H* dropping into the opening *h*, and being provided with a longitudinal slit, *n*, extending through it of the same width as the rectangular portion 11 to 12 of the bolt *G*, by which construction the lug *H* is enabled to snugly fit into the opening *h*, the sides of the rectangular slit *n* coming into contact with the sides of the rectangular portion of the bolt from 11 to 12, while the portion or head 11 of the bolt snugly fits into a circular recess, 15, formed by cutting into the rear end of the lug *H*. The front lug *I* fits snugly into the rectangular opening *k*, and is cut away or notched at *o* for the reception of the semi-cylindrical head *m* of the bolt *G*, and thus, as the hand-lever *E* is depressed after the rear ends of the barrels have been brought down, the bolt is thrown forward, causing its portions 11 and *m* to respectively enter the recess 15 and notch *o*, thus preventing any lateral vibration, and insuring the rigid locking of the barrels when in their firing position. The rear of the lug *I* is provided with an incline, 16, against which the semi-cylindrical projection *m* strikes as the bolt *G* is thrown forward by the hand-lever *E*, thus drawing the rear ends of the barrels firmly down upon the breech-block, in case they should not have been completely brought down into place when the muzzles were thrown up by the hand. *K* is the "cartridge-extractor," which fits into a recess at the rear ends of the barrels, and is provided with a long pin, 17, which slides in an opening made to receive it. The lug *I* is provided with a longitudinal slit, 18, for the reception of a lever, *p*, Fig. 9, which moves on the joint-pin *a* as a center, its motion being limited by a pin, 19, passing through a curved slot, 20, and the sides of the lug. The rear end of the lever *p* projects slightly beyond the end of the lug *I*, and, when the bolt *G* is withdrawn, as seen in Fig. 5, the end 21 of the lever *p* still bears against the projection *m*, which holds the lever stationary, and, as the rear ends of the barrels are thrown up, the end of the pin 17 is forced against the end 22 of the lever *p*, causing the "cartridge-extractor" to be forced out to loosen and partially withdraw the shell of the cartridge, as required. The motion of the barrels is arrested by the pin 19 coming into contact with the upper end of the curved slot 20 in the lever *p*, and this slotted lever and pin 19 thus form a "joint check" or stop for arresting the motion of the barrels as their muzzle ends are swung down on the joint *a*. By this arrangement the "joint check" is removed from close proximity to the joint *a*, where it has heretofore been placed, and I am thus enabled to avoid the strain or pressure upon the "tip" of the stock and the tendency of the joint to open, incident to the old construction.

The lower portion of the front of the rear lug *H* is beveled or inclined at 23, and, as the bolt *G* is withdrawn, its inclined portion 13 bears against the incline 23, which slightly raises the rear ends of the barrels with a positive motion, and, by means of the connections described, causes the "cartridge-extractor" to be operated, which loosens the cartridge-shells, in case they should stick within the barrels, and allows the muzzle ends of the barrels to drop by their own weight. If it were not for this device the sticking of a shell in its chamber within the barrel would necessitate the application by force to depress the muzzle ends of the barrels, which is inconvenient, it being desirable to have the barrels free to swing on their pivot *a* as soon as the locking-bolt *G* is withdrawn. Instead of providing the bolt *G* with an incline, 13, and the lug *H* with an incline, 23, a single incline on either may be found sufficient for accomplishing the desired end, and instead of the incline 23 being upon the lug *H*, it may be formed on a projection on the under side of the barrel between the lugs *H I*. *q* is a stop, which is attached to the under side of a flat spring, *M*, which extends transversely across the breech-block, one end being secured thereto at 24, while the other end is free to be raised by the hand, for a purpose to be presently described. The stop *q* fits into a notch or depression, *r*, in the bolt *G*, and prevents its projection *m* from being drawn back out of contact with the end 21 of the lever *p*, which would allow the barrels to drop off the stock. When, however, it is desired to detach the barrels from the stock for cleaning or other purposes, the spring *M* is raised, which withdraws the stop *q* from the notch *r* in the bolt *G*, which can then be drawn back by the lever *E* until its projection *m* clears the end 21 of the lever *p*, when the lug *I* can be raised out of the recess *k*, and the barrels removed as desired.

I do not limit myself to the exact construction or position of the stop *q*, as it can be applied to the bolt *G* at any convenient point.

N is the hammer-guard and lifter, the lower portion of which slides in the slot *c*, and is attached, by a screw, 25, to the bolt *G*, by which it is actuated. When the lever *E* is raised, the guard and lifter *N* is drawn back, bringing the projections *s s* on its sides into contact with projections on the hammers, which are thus forced back until they are brought to half-cock, which prevents them from accidentally striking the firing-pins (not shown) when the bolt *G* is withdrawn and the barrels are not locked in their firing position. The hand-lever *E* is provided with projections *t t* for the rear portions of the hammers to strike against before being brought to full-cock for the purpose of depressing this lever in case it should not have been previously brought down into its proper position, thus insuring the rigid locking of the barrels in place before the gun is discharged.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The lever *p*, with its slot 20, in combination with the pin 19, locking-bolt G, and barrels B, forming a "joint check," substantially as described.

2. In a drop-gun, the horizontal locking-bolt G, having the incline 13 in combination with the lug H with its incline 23, whereby the rear ends of the barrels are thrown upward when the barrels are unlocked, substantially as described.

3. A movable stop, *q*, in combination with the locking-bolt G, whereby the locking-bolt is prevented from receding too far in unlocking, substantially as described.

4. The hand-lever E, in combination with the locking-bolt G, when provided with the projections *t t* for the hammers to strike against, so as to insure the locking of the barrels before the hammers can be brought to full-cock.

Witness my hand this 4th day of December, A. D. 1871.

ANDREW E. WHITMORE.

In presence of—

P. E. TESCHEMACHER,
N. W. STEARNS.