(No Model.) 5 Sheets—Sheet 1.

J. M. & M. S. BROWNING.

MAGAZINE FIREARM.

No. 492,459. Patented Feb. 28, 1893.

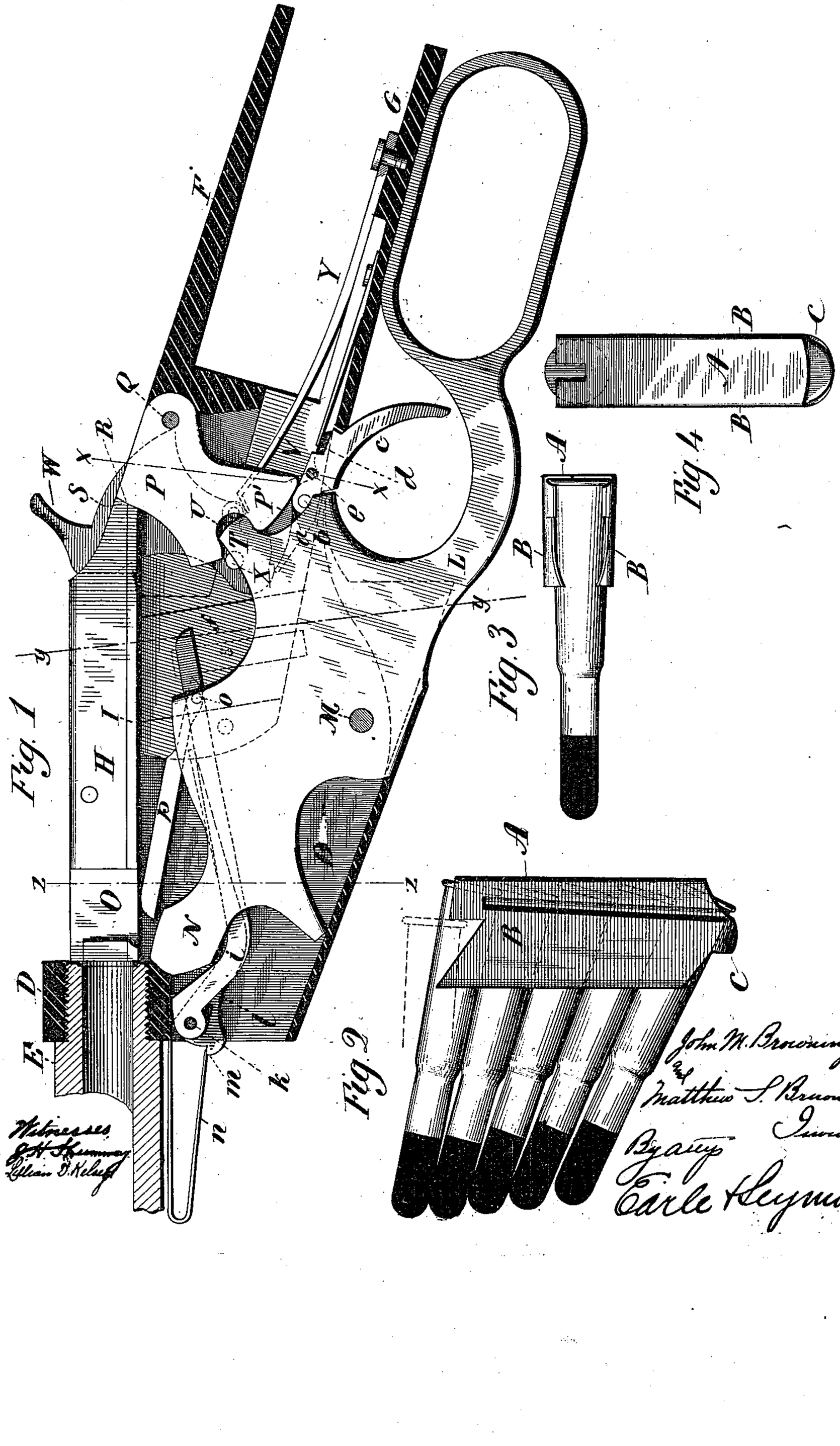


Fig. 1

Fig. 3

Fig. 4

Fig. 2

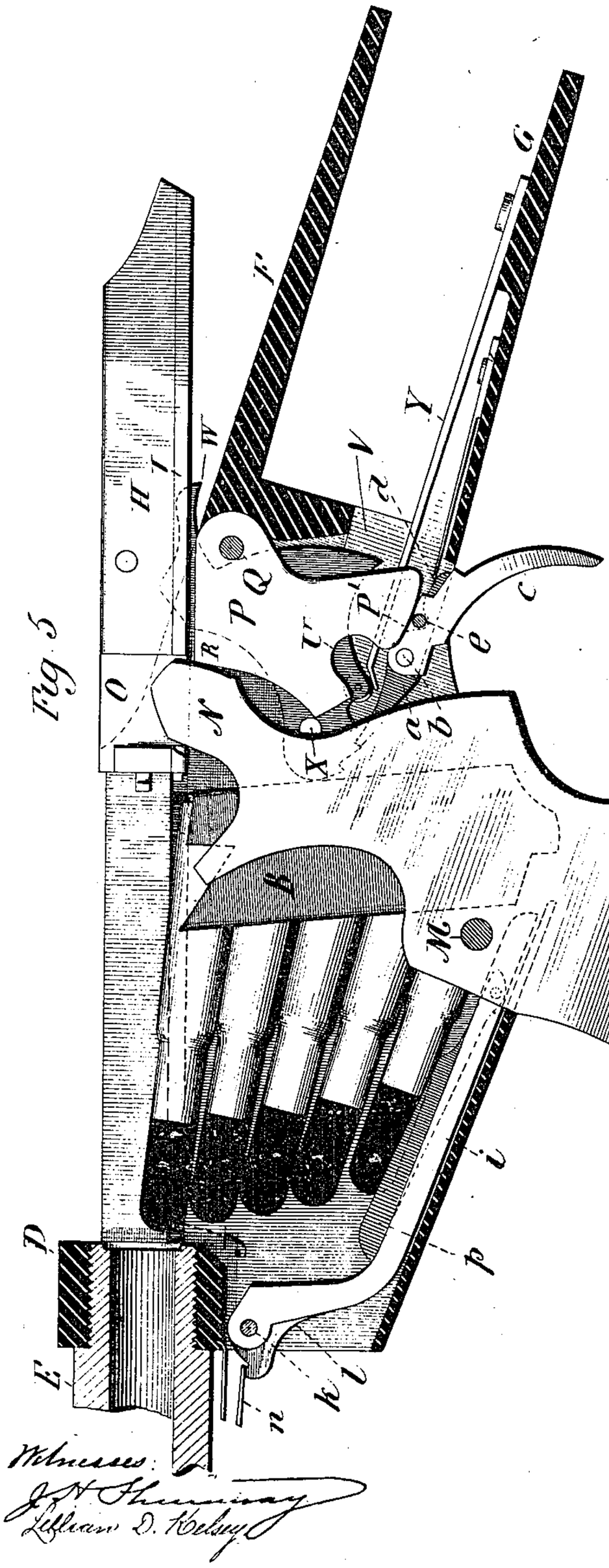
John M. Browning.
and
Matthew S. Browning.
Inventors.
By their
Earle & Seymour
Attorneys

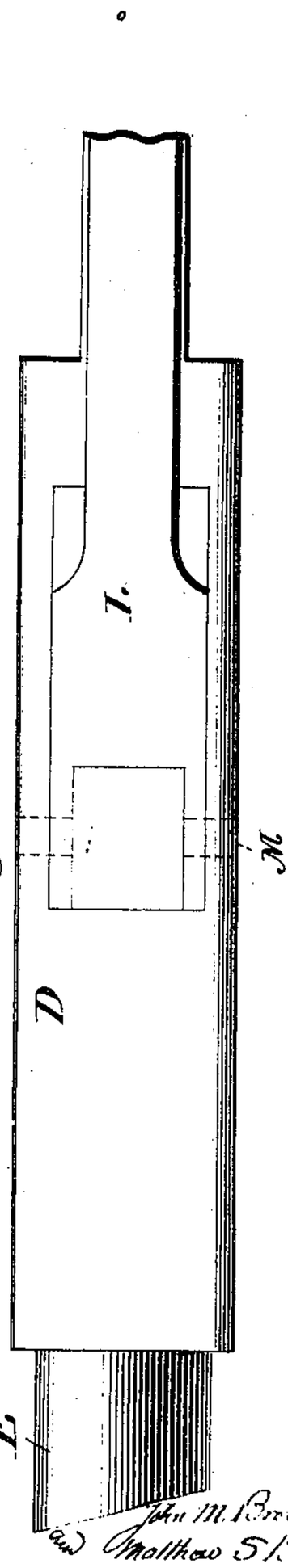
(No Model.) 5 Sheets—Sheet 2.

J. M. & M. S. BROWNING.

MAGAZINE FIREARM.

No. 492,459. Patented Feb. 28, 1893.





Witnesses:
J. N. Shumway
Lillian D. Kelsey

John M. Browning
and Matthew S. Browning
Inventors
By their Attys. Earle & Seymour

(No Model.)

5 Sheets—Sheet 3.

J. M. & M. S. BROWNING.

MAGAZINE FIREARM.

No. 492,459. Patented Feb. 28, 1893.

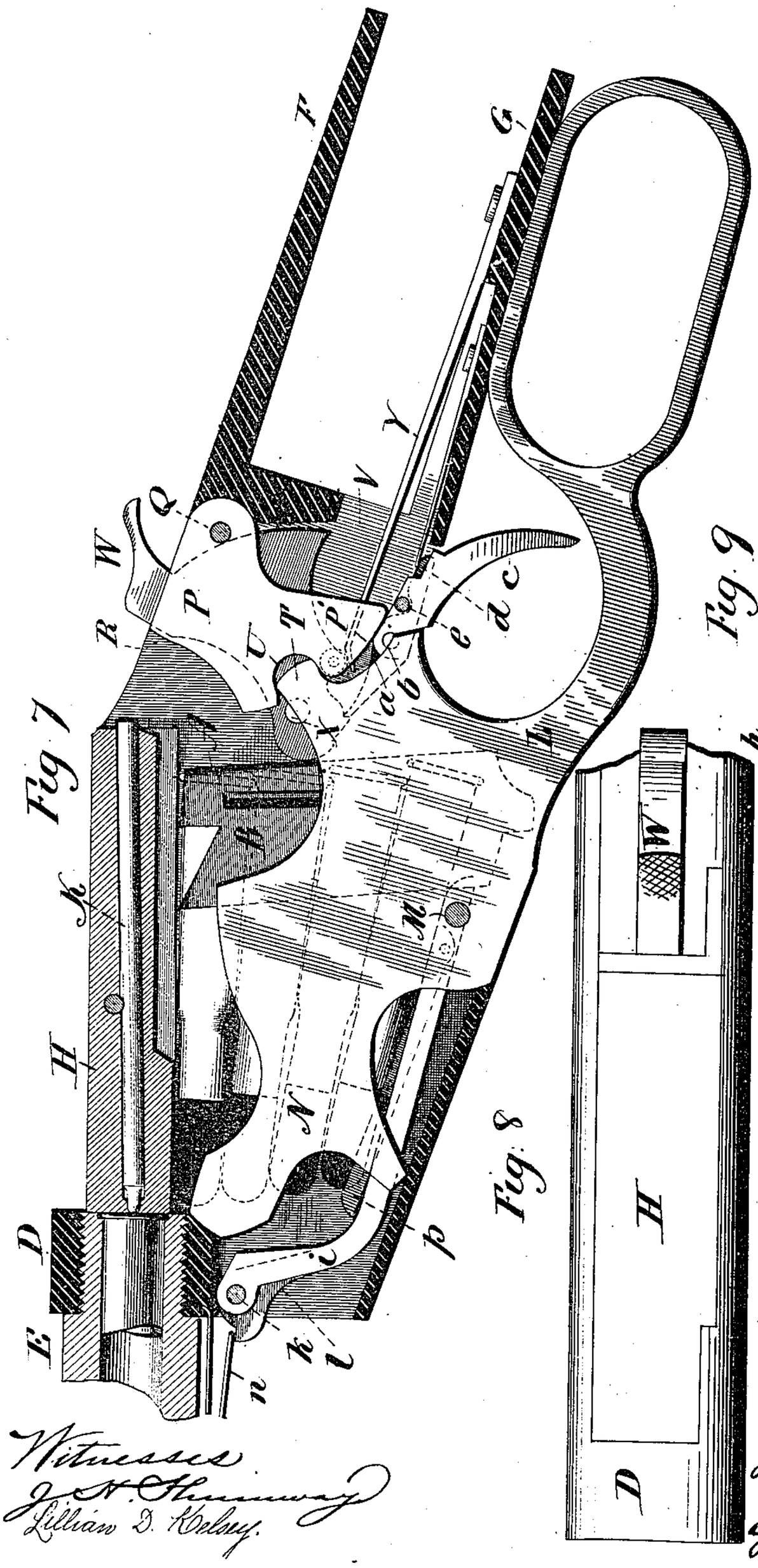


Fig 7

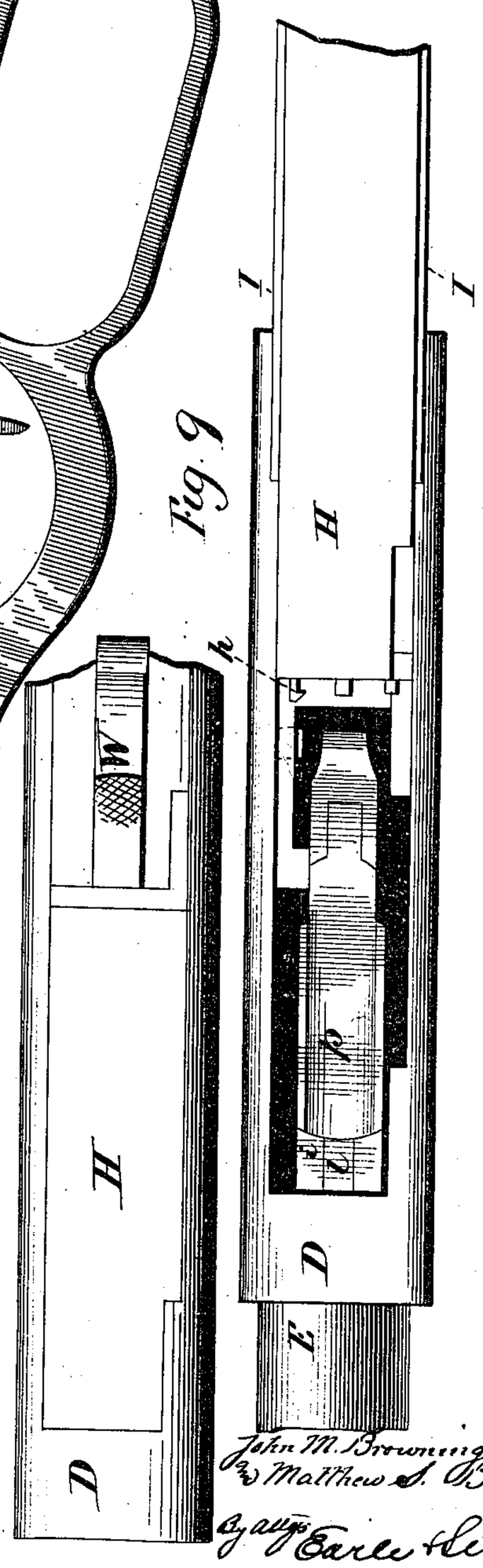


Fig 9

Fig. 8

Witnesses
J. N. Hennings
Lillian D. Kelsey.

John M. Browning
and Matthew S. Browning
Inventors
By their Attys Earle & Seymour

(No Model.)

5 Sheets—Sheet 4.

J. M. & M. S. BROWNING.

MAGAZINE FIREARM.

No. 492,459. Patented Feb. 28, 1893.

Fig. 12

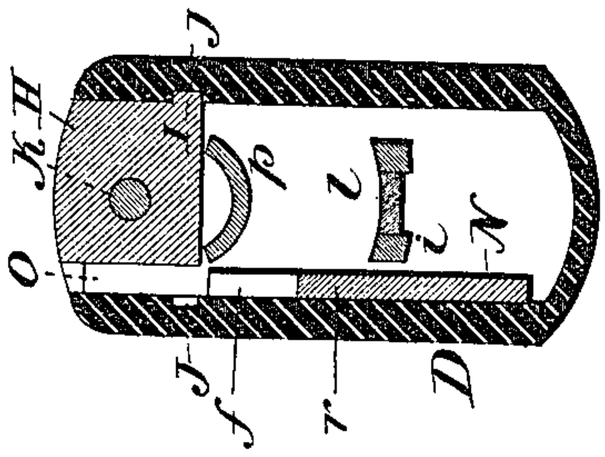


Fig. 9 a

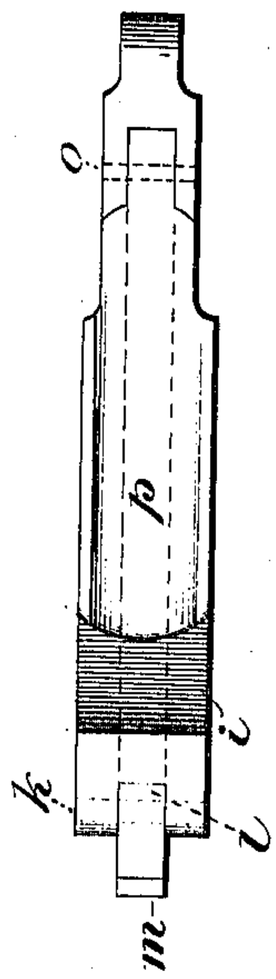


Fig. 11

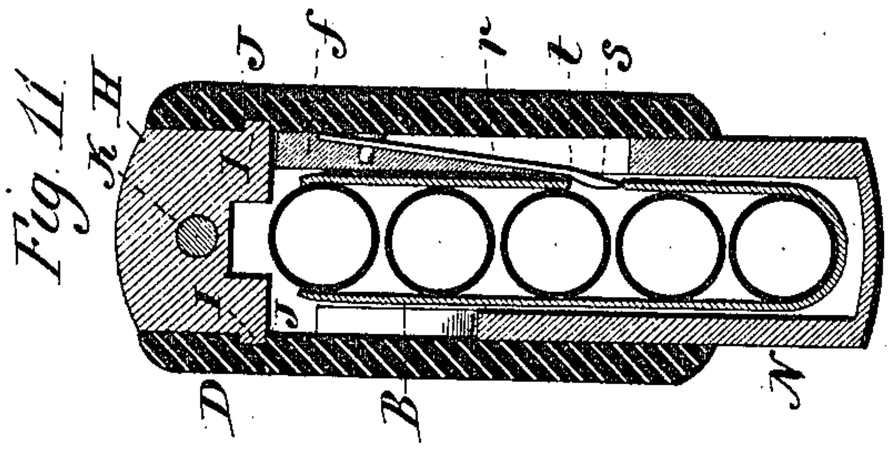
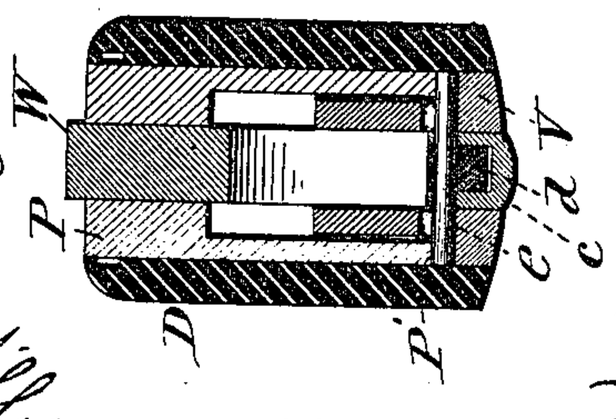


Fig. 10



Witnesses.
J. N. Shumway.
Lillian D. Kelsey.

John M. Browning
and Matthew S. Browning
Inventors.
By attys
Earle & Seymour

(No Model.) 5 Sheets—Sheet 5.

J. M. & M. S. BROWNING.

MAGAZINE FIREARM.

No. 492,459. Patented Feb. 28, 1893.

Fig. 14.

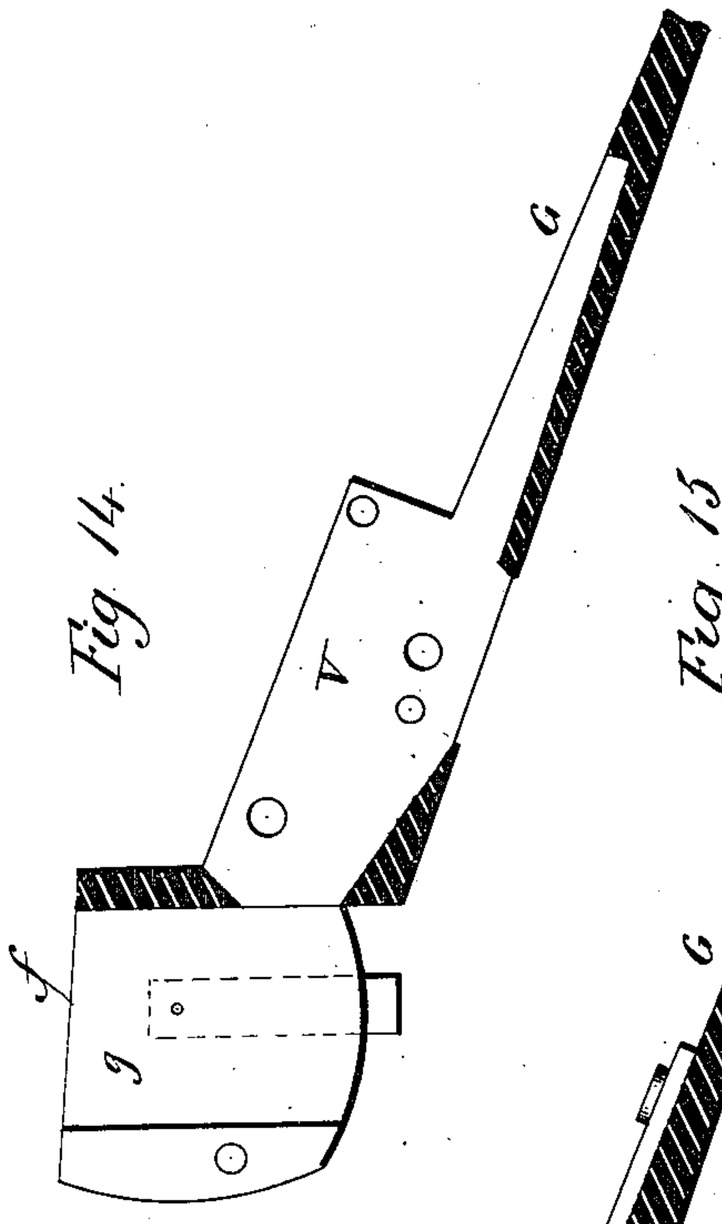


Fig. 15

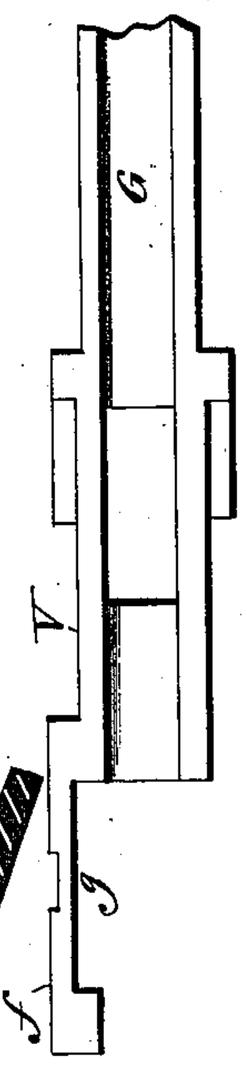


Fig. 16

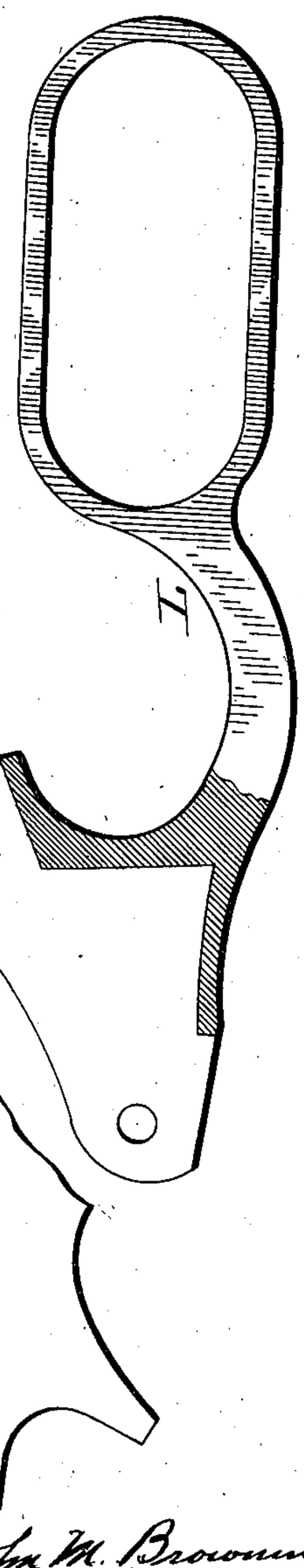
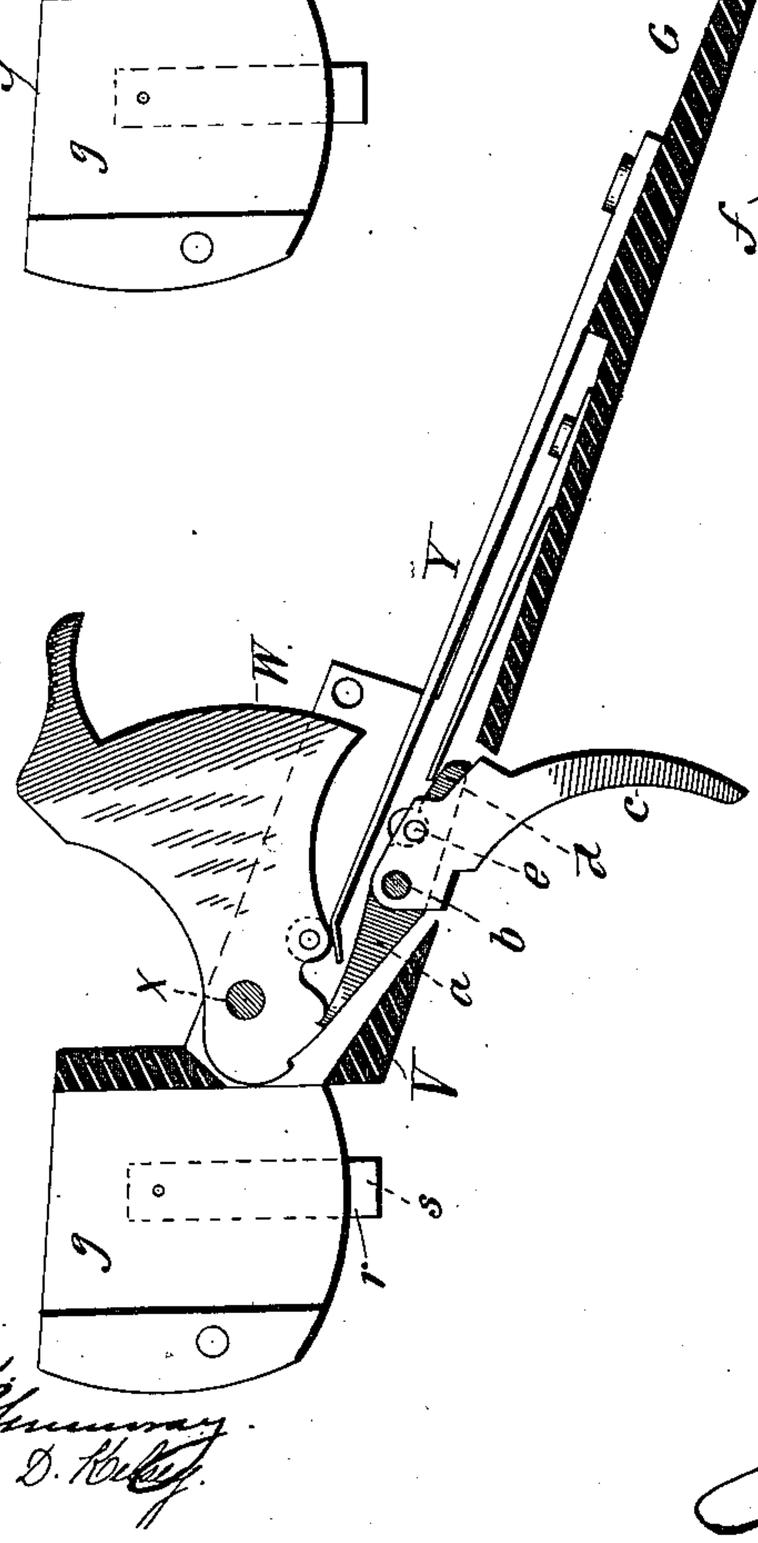


Fig. 13



Witnesses
J. H. Shumway.
Lillian D. Kelly.

John M. Browning.
Matthew S. Browning.
Inventors.
By Atty
Earle & Seymour

UNITED STATES PATENT OFFICE.

JOHN M. BROWNING AND MATTHEW S. BROWNING, OF OGDEN, UTAH TERRITORY, ASSIGNORS TO THE WINCHESTER REPEATING ARMS COMPANY, OF NEW HAVEN, CONNECTICUT.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 492,459, dated February 28, 1893.

Application filed March 22, 1892. Serial No. 425,992. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. BROWNING and MATTHEW S. BROWNING, of Ogden, in the county of Weber and Territory of Utah, have invented a new Improvement in Magazine-Firearms; and we do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a sectional side view showing the mechanism in the normal position. Fig. 2, a side view of a pack of cartridges adapted to be employed in the arm. Fig. 3, a top view of the pack. Fig. 4, a rear view of the pack. Fig. 5, the same view as Fig. 1, but showing the parts in the position of the breech-piece open, the hammer cocked, and the pack introduced. Fig. 6, an under side view of the arm. Fig. 7, the same as Fig. 5, with the parts returned to the position of the breech-piece closed, hammer cocked, and the first cartridge of the pack transferred from the pack into the barrel. Fig. 8, a top view, the breech-piece closed. Fig. 9, a top view of the breech-piece open. Fig. 9^a, a top view of the follower, its finger and operating lever removed. Fig. 10, a section on line x—x of Fig. 1 looking rearward. Fig. 11, a transverse section on line y—y of Fig. 5. Fig. 12, a transverse section on line z—z of Fig. 1, looking forward. Fig. 13, a sectional side view of the lower tang piece of the receiver which carries the lock mechanism and the guide for the hammer. Fig. 14, a longitudinal section of the lower tang-piece with the lock mechanism detached. Fig. 15, a top view of the same. Fig. 16, a side view of the operating lever, parts broken away to show the opening through the lever for the discharge of the cartridge holder.

This invention relates to an improvement in that class of repeating-arms which are adapted for the employment of what are commonly called "cartridge-packs," that is to say, in which the cartridges to be used in the arm are arranged in a holder detachable from the arm, but so that the holder with the cartridges it carries, may be introduced into the arm, and then the cartridges automatically transferred directly from the pack into the arm, the holder part of the pack forming practically the magazine for the time being, one pack being discharged, the holder is withdrawn and a new pack is introduced.

The object of the invention is a simple, practical construction of arm, which will permit the use of removable holders containing several cartridges, and whereby a person supplied with several such packs of cartridges, in using the arm, may readily remove the holder after one pack is exhausted, and introduce a new pack, and the invention consists in the construction and combination of mechanisms as hereinafter described and particularly recited in the claims.

In Figs. 2, 3, and 4, a pack of peculiar construction and specially adapted for the arm of this invention, is illustrated. The holder for this pack is made from a blank of sheet-metal, bent to form a back A, and two sides B B, the space between the two sides corresponding substantially to the shape of the rear portion of a cartridge, and the holder is of a length corresponding to the number of cartridges which the pack is to contain, here represented as for five cartridges. The two sides are connected across the bottom by a bar C, and at the top the holder is open, so that the uppermost cartridge is exposed, leaving a portion of its head above the upper end at the back. At the top the two sides are inclined downward and rearward, as seen in Fig. 2, and are bent inward so as to overhang the cartridges in the pack, as seen in Fig. 3. The two sides are constructed with vertical internal ribs near the back, and substantially parallel therewith, the ribs terminating in a point near the top of the holder. The several cartridges are successively introduced through the upper part of the holder, and so as to bring the head of the cartridges between the rib and the back of the holder, the bottom of the holder brings the cartridges into an inclined position, and the last cartridge introduced is embraced by the turned in upper ends of the holder, all the heads except that of the upper cartridge being supported

between the rib and the back, the upper cartridge operates as a wedge or key to confine all the cartridges in place. The pack is placed in the arm, and as the breech-piece moves forward, to close the barrel, it strikes the rear end of the uppermost cartridge, and forces it forward from the holder, and in such forward movement of the cartridge the flange of the head strikes the inclined upper edges of the two sides, and causes that end to rise, as seen in broken lines Fig. 2, and so as to take the cartridge upward and forward of the advancing breech-piece. This brief description of the pack will be sufficient, so far as the arm itself is concerned, the pack constituting the subject of an independent application filed in even date herewith.

D, represents the receiver, to the forward end of which the barrel E, is secured, and opening at the rear into the receiver in the usual manner; at the rear end the receiver is provided with the usual upper tang F, by which the receiver is secured to the stock, the lower tang G, being detachable from the receiver, and as hereinafter described. The breech-piece H, is arranged to move longitudinally backward and forward in the receiver, and is constructed with guides I, upon its sides, which run in longitudinal grooves J, in the sides of the receiver; the breech-piece carries a longitudinal firing-pin K, extending through to the rear, to adapt it to be struck by the hammer, in the usual manner, and as seen in Fig. 7. In the receiver below the breech-piece is a space, corresponding in shape and extent to the pack of cartridges to be introduced.

In the lower part of the receiver a lever L, is hung, upon a pivot M, the said lever forming the trigger-guard, and terminating in a handle by which the lever may be turned backward and forward as usual in that class of fire-arms in which the mechanism is operated by a lever below the receiver. The lever extends forward from the pivot at one side of the receiver, and terminates in a finger N, see Fig. 1, which normally stands below, but near the forward end of the breech-piece. The breech-piece near its forward end, and on the same side as the finger N, is constructed with a vertical recess O, into which the finger N, will pass when the lever is turned downward, and so that the finger N, will engage the recess O, in the breech-piece, and by continued movement of the lever will throw the breech-piece into its rear position, as seen in Fig. 5, and the return of the lever will correspondingly return the breech-piece to its closed position.

In the receiver at the rear of the breech-piece, a dog P is hung, upon a pivot Q, and so as to swing in a vertical plane, the dog being provided with a firm seat at the rear it extends forward from the pivot, and terminates in a nose R, at the rear of the breech-piece, the end S, of the breech-piece being adapted to bear against the nose R, of the dog when the dog is raised, as seen in Fig. 1, but when the dog is turned down, its nose is taken out of the path of the breech-piece, and so that the breech-piece may move rearward over the dog, as represented in Fig. 5, then when the breech-piece is returned, as in Fig. 1, the dog is raised to bring its nose against the rear end S, of the breech-piece, and so as to lock the breech-piece in its closed position, and support the breech-piece against the recoil of explosion.

To operate the dog for the opening and closing movement of the breech-piece, the lever is constructed with a second finger T, and the dog is constructed with a corresponding notch U, with which the said finger T, engages, like a tooth of one gear with the teeth of another gear. When the parts are in the closed position, the finger T, stands engaged with the notch U, in the dog, and holds the dog in the closed or locking position, but when the lever is turned down for the opening movement, its first operation is to turn the dog downward and out of the path of the breech-piece, and this operation occurs before the finger N, shall have come to a bearing in the recess O, upon the breech-piece, and so that the dog being out of the way of the breech-piece, the breech-piece may be thrown to its wide open position, as seen in Fig. 5, then as the lever is returned, the finger T in due time engages with the notch U, of the dog, and so that after the breech-piece shall have been fully closed by the operation of the finger N, the dog will be brought to its home position to lock the breech-piece, as seen in Fig. 1.

The lock mechanism of the arm is hung in that part V, of the receiver which carries the lower tang G, and as seen in Figs. 13 and 14. This part V, sets between the two sides of the receiver, as seen in Fig. 10 where it is removably secured. The dog P, is recessed or bifurcated in its lower part, as also seen in Fig. 10, so as to span the upper portion of this part V, of the receiver. In the part V, of the receiver, the hammer W, is hung upon a pivot X, the hammer being provided with the usual main-spring Y and with a sear and trigger by which the hammer may be held at full cock. The dog is recessed to receive the hammer, and so as to permit the movement of the hammer independent of the dog. The rear movement of the breech-piece throws the hammer into the full cock position, as seen in Fig. 5, where it is caught and remains until the breech-piece is closed and the trigger pulled.

As a protection against accidental discharge of the hammer, the sear *a*, is hung upon the same pivot *b*, as the trigger *c* the tail *d*, of the sear extends to the rear of the pivot *b*, and through the tail *d*, over the trigger, is a pin *e*, which projects at each side below and into the path of the dog P. The face P′, of the dog below the lever-engaging notch, is substantially concentric with its pivot, and distant

from its pivot corresponding to the distance between the pivot of the dog and the pin or projection *e*, from the sear, and so that that face P′, when the hammer is in the cocked position and the dog in the unlocked or down position, will bear upon the pin *e*, after the hammer is brought to the cocked position, and as seen in Fig. 5, the dog thus operates as a bearing to prevent the tail of the sear from rising under a pull of the trigger, but after the breech-piece has been brought to the closed position, and the dog to the locked position, the dog has escaped from over the projecting ends of the pin, as seen in Fig. 1, and so as to leave the sear free to be operated by the trigger to disengage the hammer; this arrangement insures the locking of the hammer in the cocked position until after the dog has practically locked the breech-piece in the closed position.

The part V, of the receiver extends forward on one side, as at *f*, Fig. 13, and on that side of the receiver opposite the forward projection of the lever which carries the finger N, and as seen in Figs. 15 and 14, *f*, representing the forward projection of the part V. Upon the inside of this projection *f*, is a vertical recess *g*, which corresponds in shape to one side of the holder of the cartridge-pack; the recess is nearly vertical, as seen in broken lines Fig. 1, preferably inclining slightly forward, as represented in broken lines Fig. 1, so that when the breech-piece is open, as seen in Fig. 5, the recess will be exposed through the top of the receiver, and so that a pack of cartridges introduced, and the holder entering the recess *g*, will be guided and supported in its proper relative position to the mechanism of the arm, and as represented in Fig. 5. The pack standing in the arm as seen in Fig. 5, brings the head of the upper cartridge forward of the front face of the breech-piece, and so that as the breech-piece moves forward, it will strike the head of that uppermost cartridge, and cause that cartridge to advance from the holder and into the barrel, the continued forward movement of the breech-piece forces the cartridge to its home position in the barrel, and as presented in Fig. 7, then as the breech-piece is withdrawn, the extractor-hook *h* with which it is provided, will withdraw the exploded shell, or cartridge if it be not exploded, and so as to permit the ejection of the shell or cartridge if it be not exploded, in the usual manner, and so that the breech-piece may return free for the introduction of the next cartridge.

To raise the cartridges of the pack as one cartridge is removed so as to bring the next cartridge into its place forward of the breech-piece, a follower *i*, is hung upon a pivot *k*, near the forward end of the receiver, and so as to swing in a vertical plane within the cartridge space in the receiver, as from the position in Fig. 1, downward to the position seen in Fig. 5, and return. At its pivot end the follower is forked, as seen in Fig. 9ª, and between its two branches a lever *l*, is hung upon the same pivot *k*, as the follower, this lever extends forward between the two branches of the follower. On the hub of the lever, and forward of the pivot a shoulder *m*, is formed, against which a spring *n*, bears, as seen in Fig. 1, the tendency of which is to hold the lever in the up position, but to yield for the depression of the lever, as seen in Fig. 7. Near the rear end of the follower, and upon a pivot *o* in rear of the rear end of the lever *l*, the finger *p*, is hung, so as to swing in a vertical plane; this finger extends forward over the lever *l*, and so that that lever under the action of its spring, may bear upward upon the said finger with a tendency to turn the forward end of the finger upward, as seen in Fig. 1, but so as to permit the finger *p* to be turned down onto the follower, as seen in Fig. 7. The finger *p*, is preferably made of concavo-convex shape in transverse section, as seen in Fig. 12. Normally the follower and its parts stand in the up position, as seen in Fig. 1, the parts being held in this up position by the action of the spring *n*, through the lever *l*, the forward pressure of the lever being transmitted to the follower *i*, through the finger *p*. As the pack is introduced, it strikes the finger *p*, at its forward end, and the rear end of the follower, and presses the parts downward until the follower and its parts are in the extreme down position, as seen in Fig. 5, where the lowermost cartridge rests upon the rear end of the follower and upon the finger. The tendency of the spring of the lever bearing against the under side of the finger *p*, is now to force the parts upward and against the cartridges in the pack with a power sufficient to raise the several cartridges. As the uppermost cartridge of the pack is transferred to the barrel, the rear end of the follower raises the rear end of the cartridges, while the finger raises the forward end, and serves to hold them in position so that the next lower cartridge guides the forward movement of the upper cartridge until finally the last cartridge will be guided by the finger in its movement into the barrel.

To secure the holder when in its proper place in the arm, a spring *r*, see Fig. 11, is arranged in the recess *g*, in which the holder is set, the nose *s*, of the spring being adapted to engage a corresponding notch *t*, in the holder. As the holder is pressed down into its place, the spring makes the engagement, then after the cartridges have been removed from the holder, a downward pressure upon the upper end of the holder will force it out through the bottom of the receiver, (the spring *r* yielding for that purpose,) back of the pivot on which the lever is hung, this discharge of the holder being made when the parts are in the open position, as seen in Fig. 5.

While preferring the mechanism illustrated and described for operating the breech-piece,

it will be evident that other known mechanisms or constructions of longitudinal reciprocating breech-piece may be substituted therefor, such being too apparent to require illustration.

We claim—

1. In a fire-arm the combination of a receiver carrying the barrel at its forward end, a longitudinal reciprocating breech-piece, the receiver constructed with a recess below the breech-piece adapted to receive a pack of cartridges, mechanism substantially such as described to impart reciprocating movement to said breech-piece, the breech-piece being adapted to engage the uppermost cartridge of the pack, and in its forward movement to transfer that cartridge from the holder to the barrel, a follower *i*, hung in the receiver forward of the recess, and extending rearward below the cartridges of the pack, a lever *l*, hung upon the same pivot as the follower, and extending forward through the follower, a finger *p*, hung at the rear end of the follower, and at the rear of the rear end of said lever, so that the rear end of said lever is adapted to bear upon the under side of said finger, with a spring operating upon said lever, having a tendency to raise the said lever, finger, and follower, substantially as and for the purpose described.

2. In a fire-arm adapted to be loaded at the breech, and provided with a longitudinally reciprocating breech-piece, with mechanism for imparting reciprocating movement thereto, the combination therewith of a dog hung in the receiver at the rear of the breech-piece, and so as to swing downward and backward in opening; the said dog in its upward position being adapted to bear against the end of the closed breech-piece; the said dog constructed with a recess from its forward side rearward; a hammer hung in the receiver upon a pivot, forward of the said dog, the hammer being adapted to work through the said recess in the dog, and turn upon its own pivot independent of the dog, substantially as described.

3. In a fire-arm, the combination of a receiver carrying a barrel at its forward end and opening at its rear into the receiver, a longitudinally reciprocating breech-piece, a lever hung in the receiver below the breech-piece, the said lever constructed with a finger forward of its pivot, the breech-piece constructed with a recess with which said finger is adapted to engage, and a dog hung in the receiver at the rear of the breech-piece and so as to swing in a vertical plane, the nose of the dog adapted to engage the rear end of the breech-piece when in its closed position, the said lever constructed with a second finger adapted to engage said dog to impart to it said swinging movement, substantially as described, and whereby the first part of the opening movement of the said lever will disengage the dog from the breech-piece and before the first finger of the lever engages the breech-piece, and in the closing movement of the breech-piece the said lever engages the dog after its finger has ceased to act upon the breech-piece, and so as to turn the said dog into engagement with the breech-piece after it is closed, substantially as described.

4. In a fire-arm, the combination of a longitudinally reciprocating breech-piece, a dog hung in the receiver at the rear of the breech-piece, and so as to swing in a vertical plane, the nose of the dog adapted to engage the breech-piece when in the closed position, mechanism substantially such as described to impart the locking and unlocking movement to said dog, a hammer hung in the receiver and so as to swing in a plane parallel with the plane of the dog, a sear hung in the receiver below the dog, and adapted to engage the hammer in the cocked position, the sear constructed with a projection *e*, and the dog constructed with a bearing surface P′ adapted to bear upon said projection *e* of the sear when the dog is in the unlocked position, but to escape therefrom as the dog is brought into its locking position, substantially as and for the purpose described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JOHN M. BROWNING.
MATTHEW S. BROWNING.

Witnesses:
R. C. McEwan,
E. A. Ensign.