

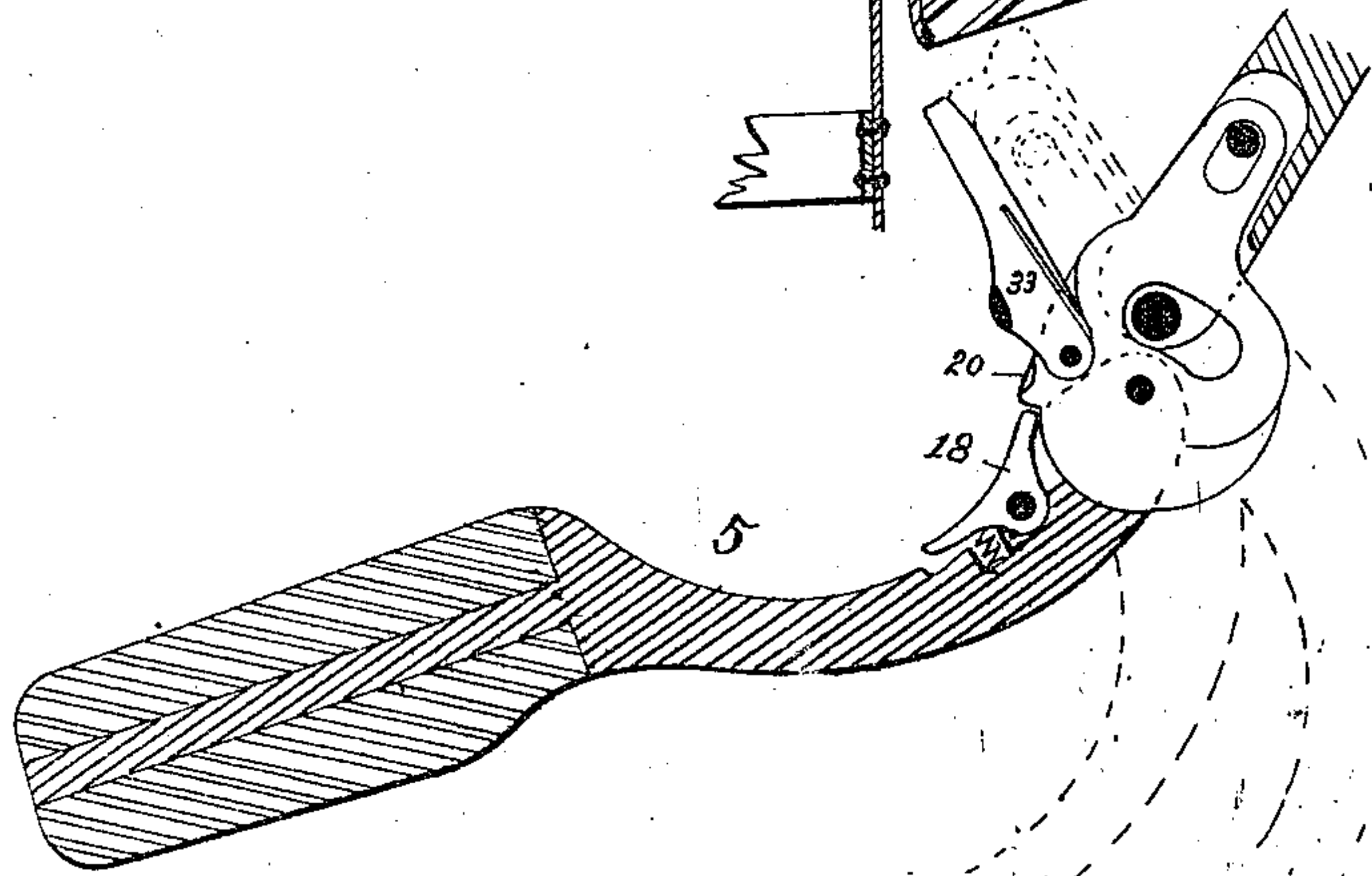
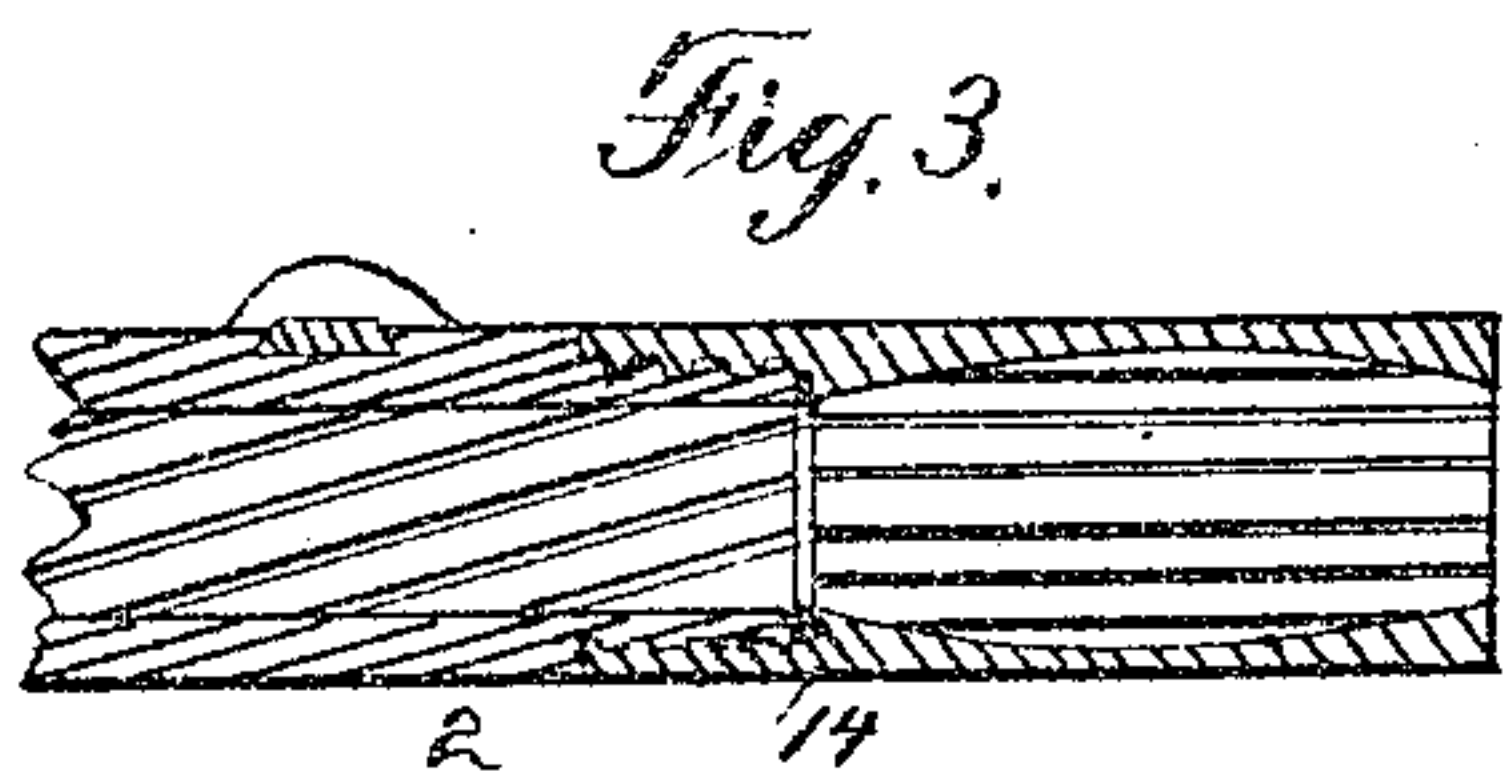
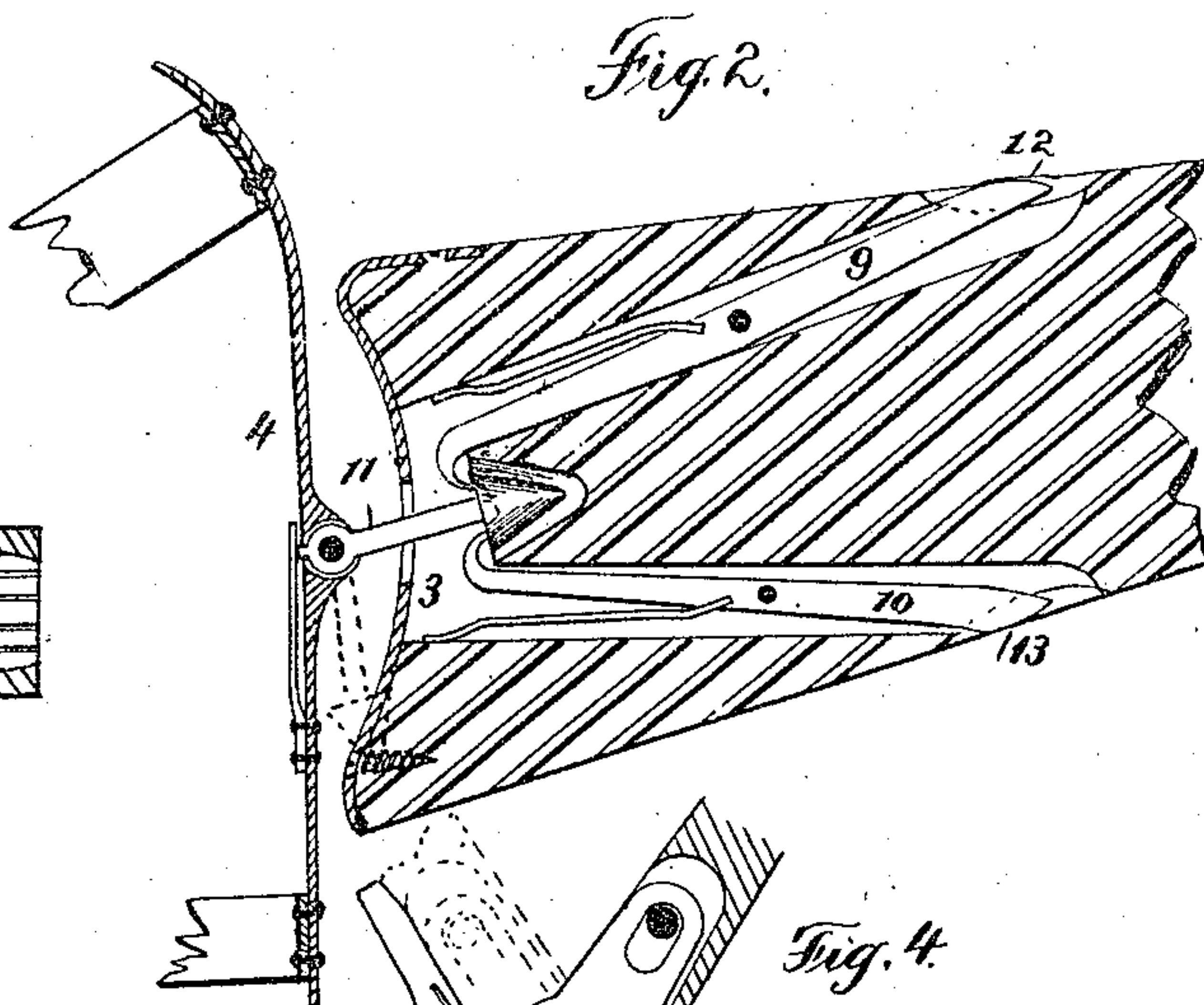
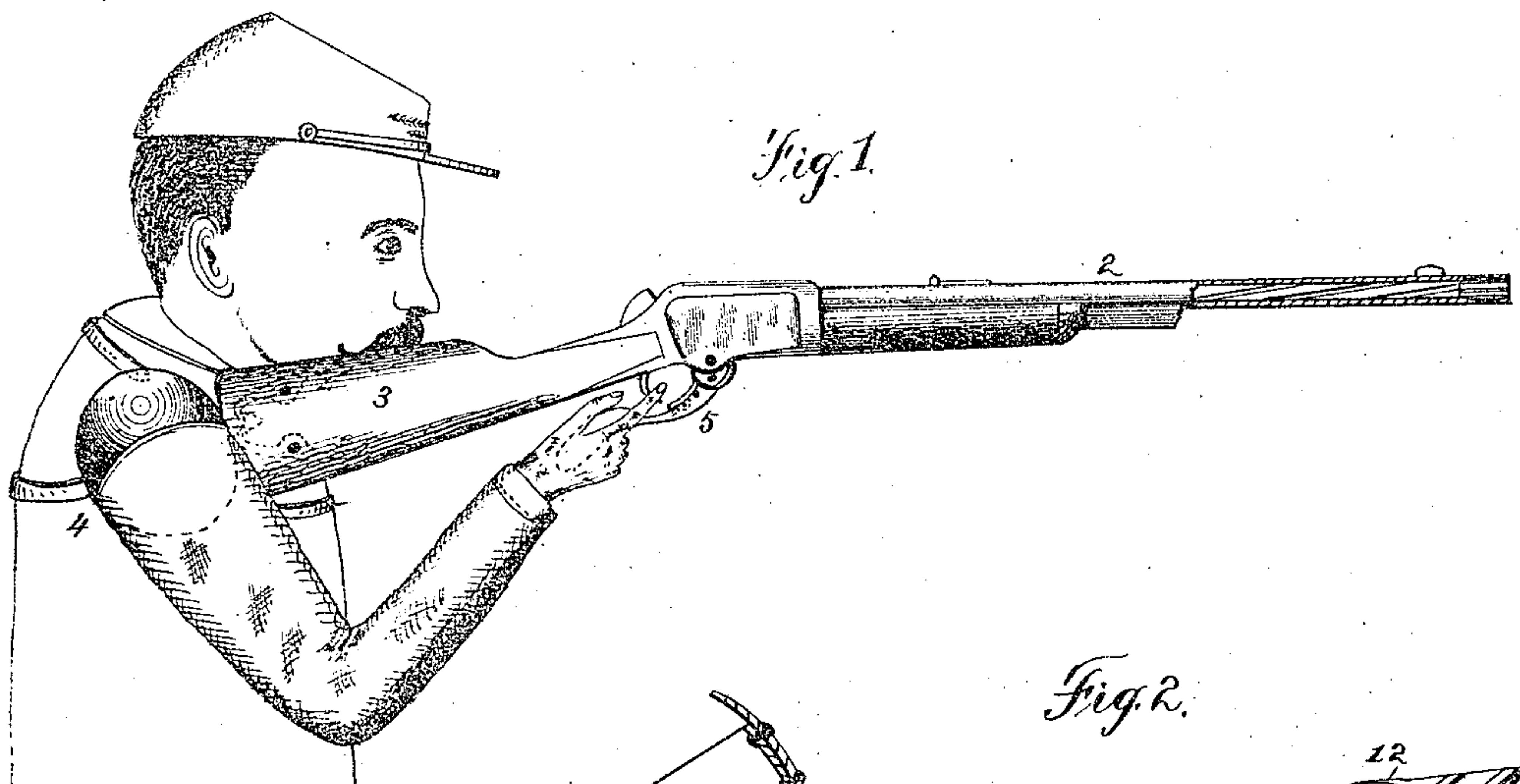
(No Model.)

2 Sheets—Sheet 1.

A. BURGESS.
BREECH LOADING MAGAZINE GUN.

No. 476,246.

Patented June 7, 1892.



Attest:
C. H. Brown.
W. A. Bartlett

Inventor:
Andrew Burgess

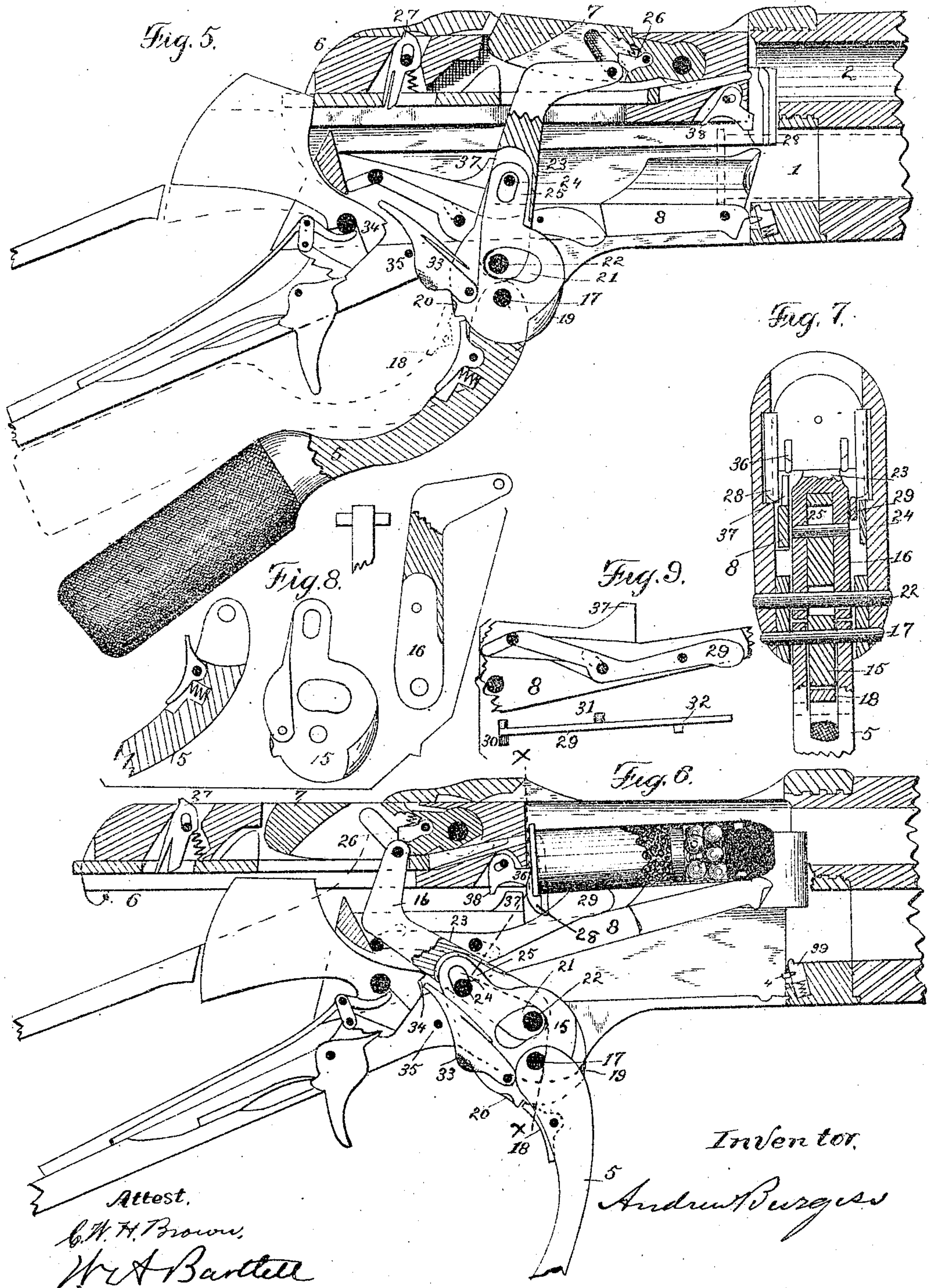
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UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

BREECH-LOADING MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 476,246, dated June 7, 1892.

Application filed January 7, 1887. Serial No. 223,693. (No model.)

To all whom it may concern:

Be it known that I, ANDREW BURGESS, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Magazine-Firearms; 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 figures of reference marked thereon, which form a part of this specification.

My invention relates to breech-loading and magazine firearms; and it consists of certain new constructions and combinations of parts; hereinafter more fully described.

The object of this invention is to produce an easily-manipulated and efficient magazine-gun, and more especially an arm which will carry ball or shot, or both combined, effectually from the same barrel, and for the use of cavalry, mounted police, &c., where rapid firing and comprehensive operation by one hand is desirable.

Figure 1 is a longitudinal side elevation of this gun, showing it in position for being operated by one hand. Fig. 2 is a section of the butt, showing means of attaching the gun to the shoulder-piece. Fig. 3 is an enlarged view of the muzzle of Fig. 1, modified by a screw-joint. Fig. 4 shows the compound operating-lever detached. Fig. 5 is a longitudinal side section of the frame and breech mechanism of this gun in firing position. Fig. 6 is a similar view to Fig. 5, but with the breech open. Fig. 7 is a cross-section of the frame lever and carrier of Fig. 6 on the line $x-x$ and showing the face of the bolt and extractors. Fig. 8 shows the parts of the operating-lever detached in side elevation. Fig. 9 is a side view of the sliding carrier-lever in position and a plan of the same detached.

Similar figures of reference indicate corresponding parts.

1 is the frame; 2, the barrel; 3, the butt-stock; 4, a shoulder-plate; 5, the operating-handle; 6, the bolt; 7, the locking-brace, and 8 the carrier.

In Figs. 1 and 2 two spring-catches 9 and 10 are shown in engagement with a stud projection 11. The projection 11 is pivoted to a

shoulder-plate 4, having means for attaching it to the shoulder of the operator, and when a coat is worn over the plate 4 to better confine it the stud 11 is adapted to project through a buttonhole-opening, and when not in use to turn down, as shown in broken lines, Fig. 2. The spring-catches 9 and 10 have extensions 12 and 13 to project outward through openings in the stock, so that said extensions can be engaged by the operator to retire the hooked ends of the catches and release the gun from the stud 11. I prefer to use duplicate catches, as shown, to guard against accidental disengagement. Attaching the butt of the gun to the shoulder obviates the necessity of holding it thereto by one hand, which may then be employed otherwise, as in guiding a horse, and one hand alone will serve to operate the lever and hold the gun in position.

The catch or clutches on the gun and the catch on the shoulder of the operator together constitute a clutch by which the gun may be held in firing position while being loaded, aimed, and fired by one hand, and the firing may be thus continued until the magazine is exhausted. It is apparent that such a connection of the gun to the user would have no practical utility in a single loader. Neither is it of use in such a gun (as some guns of the bolt system) which must be taken down from the shoulder in order to reach the operating-handle. My operating-handle is specially devised for use with this shoulder-clutch. Nevertheless some other forms of operating-handle might be substituted for those herein illustrated without departing from the spirit of this part of the invention.

To make this arm more effective at short range and at the same time preserve its efficiency for long distances, I make the barrel with the usual twist rifling to near its muzzle, then enlarge the bore and form in that part straight or non-twisting grooves, as shown in Figs. 1 and 3, and prefer to choke or contract the extreme muzzle to near the size of the main caliber of the barrel. The object of this part of my invention is to enable the same gun to project both ball and shot accurately. The bullet will follow the "twist" grooves in the usual manner and not filling the bore at the muzzle, where the "straight"

grooves are formed, will not be controlled or deflected by said straight grooves; but when shot are used (either alone or in connection with a bullet) their tendency for dispersion, which is greatly increased by the twist rifling, insures the contact of the shot with the straight grooves to concentrate their flight.

In Fig. 3 I show a modification in which the straight rifled muzzle is made detachable, and an elastic washer 14 is applied to check the gas from fouling the joint, which otherwise becomes clogged and difficult to unscrew. The vibrating operating-handle 5 is connected to the bolt by the locking-brace 7 through the intermediate levers 15 and 16. The handle 5 is split to pass over the lever 15, and both are hung in the frame on the pivot 17 and held rigidly to each other by the spring-dog 18 and abutment 19, as shown in Figs. 5 and 6. As will be seen in Figs. 1 and 5, the handle is thus held away from the waist of the gun, so as to allow the hand to grasp around it and press more directly forward to open the breech to avoid in great part the usual downward pull so apt to destroy the aim in other lever-guns; but by pressing on the rear end of the dog 18 it may be sprung out of engagement with its bearing in lever 15 and the lever 5 can be then turned up against the waist of the gun, as seen in the broken lines in Fig. 5. Then the dog's point will enter the depression 20 to retain the lever out of the way when not being used; but the dog will yield to force, so that the lever may be readily thrown down into operative position when desired. As before stated, the operating-lever swings on the pivot 17.

When the handle 5 and part 15 are locked by the dog 18 to move together, they operate as one lever, and a slot 21 allows it to move regardless of the pin 22, which passes through it, and pivots the lower split end of the upper lever 23 to the frame; but a pin 24, more remote from the pivot 22 of the upper lever than pivot 17 of the handle, projects from lever 23 to enter a slot in the arm 25 of the lower lever 15 and be thereby engaged by the lower lever, so that the vibration of said arm will move the lever 23 to turn on its pivot 22, and the distance from pivot 24 to 17 being greater than that from 24 to 22, makes the movement of the arm 25 longer, and thereby accelerates the movement of the upper lever 23, when vibrating it on its pivot 22, to open the breech by a short movement of the operating-handle, as seen in Fig. 6, when a solid pivoted lever-handle would have to travel farther, as shown in dotted lines in Fig. 4. A short movement of the lever, as described, makes the operation of the gun easy without removal from the shoulder.

It is obvious that a change in the relative distance of the lever-pivots will change the ratio of acceleration of the lever 23. The lever 23 has engagement at its upper end to operate the brace and bolt, and a swinging fly 26 in the line of engagement of said lever

serves to force the bolt forward of its locking position, as shown in Fig. 5, when the engaging end of the lever 23, falling below the point of the fly 26, will permit the bolt to be forced backward a short distance by the discharge. I utilize this limited backward movement of the bolt to throw the hammer to half or full cock, which may be effected by the direct backward movement of the bolt against the face of the hammer or a lever 27, as shown in Figs. 5 and 6, with a long arm to bear backward the firing-pin or hammer and a short arm to engage a shoulder above its pivot, the said pivot passing through a slot in the lever 27 to allow the lever to be pressed up into such engagement by a spring, as shown in Fig. 5. With this arrangement a slight recoil of the bolt in the frame, by the engagement between the bolt and frame by means of the short arm and pivot of lever 27, increases the movement of the long arm of said lever to throw the hammer back, as shown in dotted line Fig. 5.

The hooks of the twin side extractors 28 project below the face of the bolt to engage the cartridge when feeding back from the magazine, its flange being slightly raised by the carrier to be grasped by the extractor-hooks and insure in case of any obstruction the rearward movement of the cartridge when the bolt moves back. An auxiliary lever 29, Figs. 5, 6, and 9, has pins 30 and 31 projecting into oblique slots in the side of the carrier, the rear pin 30 projecting, also, into the opening of the carrier in position to be engaged by the lever 23 in the last of its rearward movements, as seen in Fig. 6, and thereby move back the lever 29, and its pins, traversing the oblique slots in the carrier, turn its forward arm upward to raise the butt of the cartridge above the floor of the carrier to more nearly align the cartridge with the bore of the gun. A pin 32 in the forward part of the lever 29 is engaged by the forward movement of the lever 23 to return lever 29 to its forward and downward position in the carrier. When the hammer is at half-cock, as shown in Fig. 6, the bolt may be moved back freely over it. To turn it to full-cock, I hang a dog 33 to the operating-lever below or rearward of the pivot of said lever and to be moved thereby, as in Fig. 6, into position for engagement with a notch, as 34, in the hammer, so that in moving back the lever to close the breech the dog is carried thereby to engage and turn back the hammer to full cock, where it will be held by the sear in the usual manner, or if the trigger is pulled to keep the sear out of contact the dog 33 will be released by impinging against the pin 35, as in Fig. 5, to fire the gun by the closing of the lever and breech. The ejector 36 is hung in the bottom of the face of bolt and a projection 37 of the carrier strikes its front end upward, when the carrier rises to eject the shell, and when the bolt is then started forward from the position shown in Fig. 6 the rear projec-

tion 38 of the ejector, striking the said projection 37 of the carrier, is thereby stopped to turn the forward end of ejector downward to the position shown in Fig. 5, where it will not obstruct the bolt-face.

The magazine cartridge-stop consists of a spring-pin 39, having an upper vertical tooth to project into the magazine, as in Fig. 6, and a horizontal projection into the mortise of the frame in the path of movement of the face of the carrier, which engages said projection in the last part of its downward movement to press down the spring-pin 39 and thereby free the magazine.

The cocking-dog 33 projects at the bottom of the frame, as shown in Fig. 6, so that it may be conveniently pressed forward out of position for engaging the hammer as the breech is being closed and that the hammer will remain at half-cock. The carrier is raised by the lever 23 in its last rearward movement by its engaging a projection of said carrier above its pivot, as seen in Fig. 6, and lowered by the downward projecting extractors, which move against the inclined ears at its front and top. The spring-pin magazine-stop, as set in the bottom of the frame, is inclined rearward to the better hold against the cartridge-head and not be retired thereby and be more easily retired by the face of the carrier and also to facilitate construction.

I claim—

1. In a magazine small-arm, a shoulder-plate and catch connecting said plate to the gun to support it against the shoulder, in combination with a supporting and operating handle in position to be grasped by one hand of the operator and serve to hold the gun in position for operation by one hand, and a trigger in position to be pulled by the hand engaging the handle, substantially as described.

2. A magazine-gun having the operating-handle and trigger in position to be grasped by one hand of the operator, a catch in the stock in position to engage a catch on the shoulder of the operator, and a projection extending outside the stock by which the said catch may be disengaged, substantially as described.

3. In a magazine-gun, the operating-handle and trigger in position to be engaged by the hand of the operator while the gun is at the shoulder, a catch on the gun, and a catch constructed substantially as described for attachment to the shoulder of the operator and to have clutch engagement with the catch on the gun, the parts in combination, substantially as described.

4. A magazine having its operating-handle and trigger within reach of one hand of the operator while the gun is at the shoulder, a catch or clutch member attached to said gun, and a corresponding catch or clutch member connected to the person of the operator, the parts combined, substantially as described, so that the gun may be repeatedly loaded and fired while connected and held to the person of the operator.

5. In a breech-loading gun, a lever connected to the breech mechanism to move it to close and open the breech, said lever having a projecting handle by which it is operated, a joint in said operating-lever to permit its handle to turn against the body of the gun, and a spring-catch to hold it in operative position, all in combination, substantially as described.

6. In a breech-loading gun, a lever connected to the breech mechanism to move it to close and open the breech, said lever having a projecting handle by which it is operated, a joint in said operating-lever to permit its handle to turn against the body of the gun, and a spring-catch to hold it in operative position, and a connection outside the gun to release it, all in combination, substantially as specified.

7. In a breech-loading firearm, mechanism to close the breech, a lever 23, hung in the frame and connected to said mechanism to operate it, a vibrating operating-handle jointed to said lever and hung in the frame on a distinct axis, and a connection from the handle to the lever 23, more remote from the axis of the handle than from the axis of said lever, in combination, substantially as and for the purpose described.

8. In a breech-loading firearm, a vibrating handle pivoted in the frame to operate the breech mechanism, a vibrating operating-lever attached thereto and pivoted in the frame nearer its point of attachment to said handle than the axis thereof, all in combination, substantially as specified, to give accelerated movement to the lever and the breech-closing mechanism by the movement of the handle.

9. In a magazine firearm, a bolt, a lever hung in the frame and having connection to said bolt to reciprocate it by the vibration of said lever to open and close the breech, and means of locking the breech, in combination with a fly by which bearing is obtained between the lever and bolt to force the bolt forward of its locking position, and an engaging shoulder carried by the bolt, substantially as described, for forcing back the hammer by the limited recoil of the bolt.

10. In a magazine-firearm, a reciprocating bolt having means for locking it forward in the frame and for forcing it forward of said locking position, in combination with a pivoted lever operated upon by the limited recoil of the bolt, and a resisting-abutment in the frame to turn said lever to produce engagement with and thereby throw back the hammer, substantially as and for the purpose set forth.

11. In a magazine-firearm, a reciprocating bolt, a magazine beneath the barrel, twin extractors hung to the sides of the bolt, said extractors having grasping-hooks extending downward below the face of the bolt in line with the path of movement of cartridges when feeding from the magazine, and a carrier to raise the cartridges into the grasp of said ex-

tractor-hooks, all in combination, substantially as described.

12. In a magazine-gun, a vibrating carrier and means to raise it, in combination with an auxiliary lever having oblique bearing in said carrier, and a shoulder on the lever for engagement of a moving part of the breech mechanism to slide it and raise its forward end by oblique movement in the carrier.

13. In a breech-loading firearm, a vibrating hammer, a vibrating operating-lever to move the breech, and a dog or pawl hung in the operating-lever and carried thereby in its movement of opening the breech to position for engagement with a shoulder in the hammer and moved to cock the hammer by the movement of the lever in closing the breech, all in combination, substantially as set forth.

14. In a breech-loading firearm, a vibrating operating-lever and a vibrating hammer, in connection with a cocking-dog which cocks said hammer by movement of the operating-lever and having a connection to the outside of the gun for rendering said dog inoperative, substantially as described.

15. In a breech-loading firearm, a vibrating operating-lever and a vibrating hammer, in combination with a cocking-dog which cocks the hammer by movement of the operating-lever and a foil in the frame to engage and to release the dog from the hammer.

16. In a magazine-firearm, a reciprocating

bolt and an ejector hung to vibrate upward in the face of the bolt, in combination with a carrier arranged to strike up said ejector and expel the shell and projections on said carrier and ejector to make engagement in the closing movement of the bolt and turn down the ejector.

17. In a magazine-firearm, a magazine to deliver cartridges longitudinally into the frame from under the barrel, a vibrating carrier, and means to force its face below the magazine, in combination with a pin housed obliquely in the bottom of the frame and a spring to raise said pin to stop the magazine, and a projection from the said spring-pin into the mortise of the frame and in the path of movement of the face of the carrier, substantially as and for the purpose specified.

18. A magazine small-arm having a stock and barrel and loading at the breech, said gun having a loading-handle within reach of the hand of the operator to open and close the breech while the gun is at his shoulder and having means for attaching the butt of the gun and holding it to the shoulder while loading, substantially as described.

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

ANDREW BURGESS.

Witnesses:

PHILIP MAURO,
W. A. BARTLETT.