

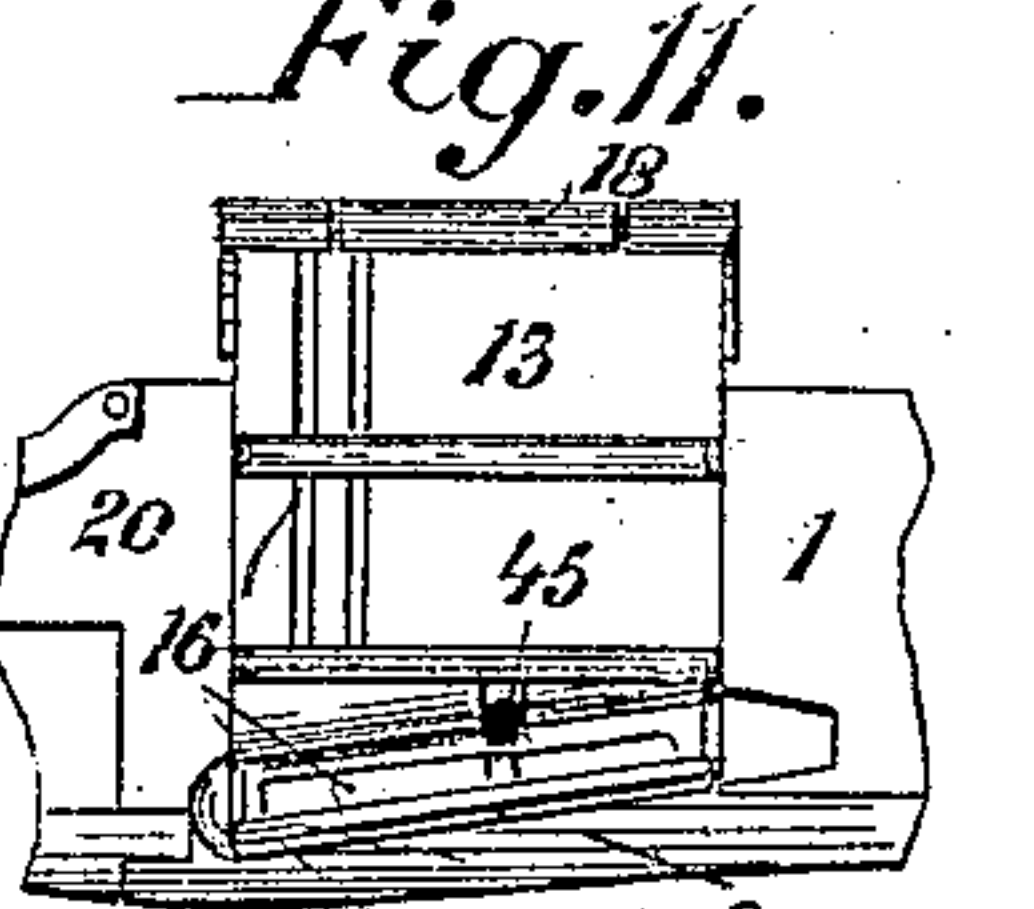
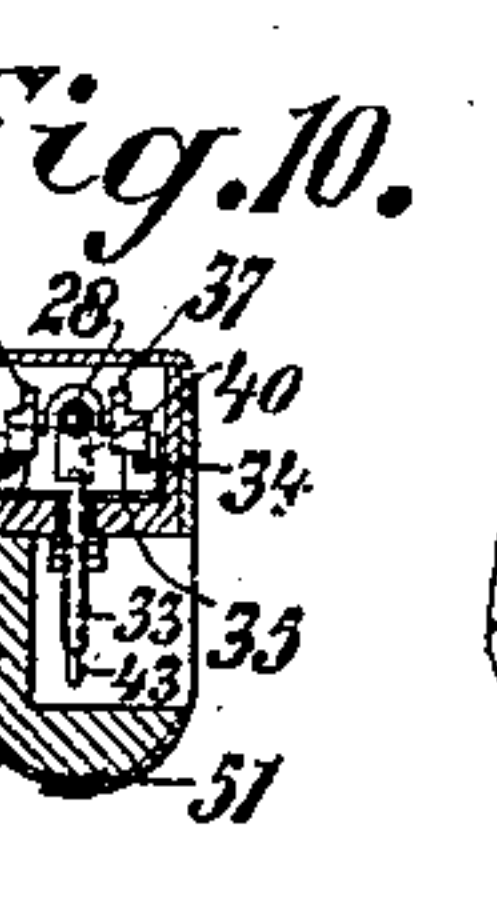
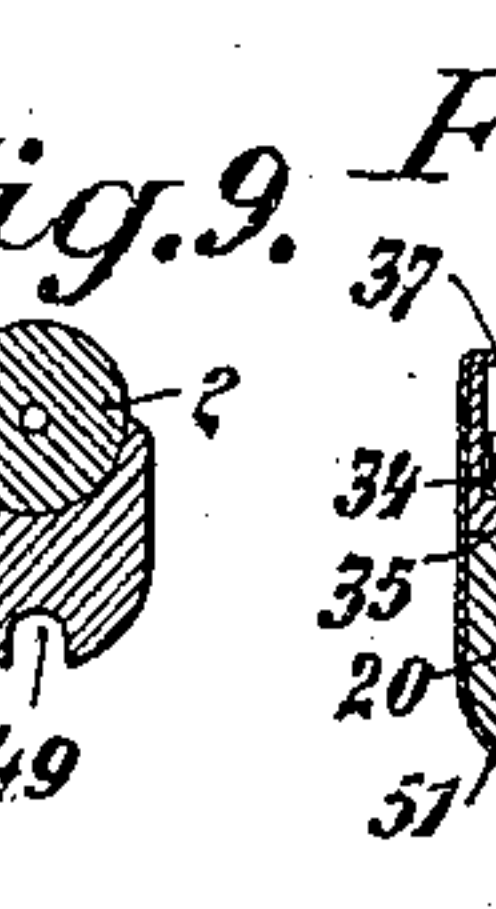
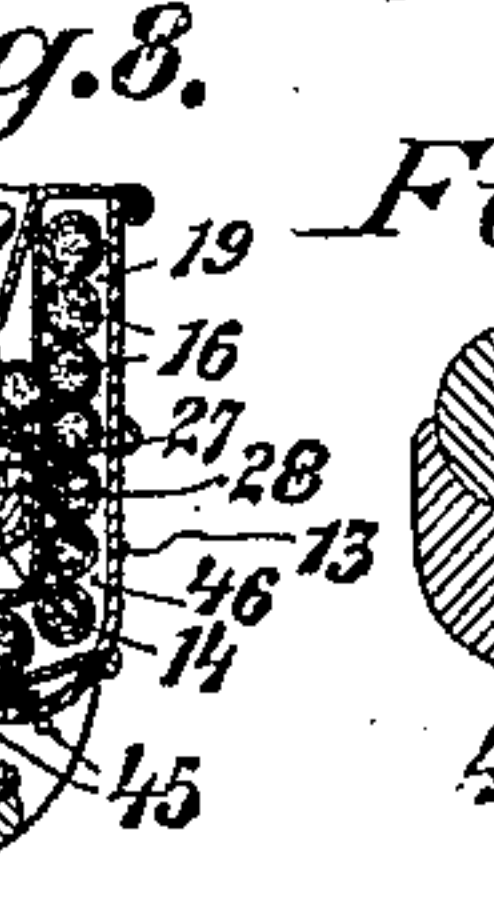
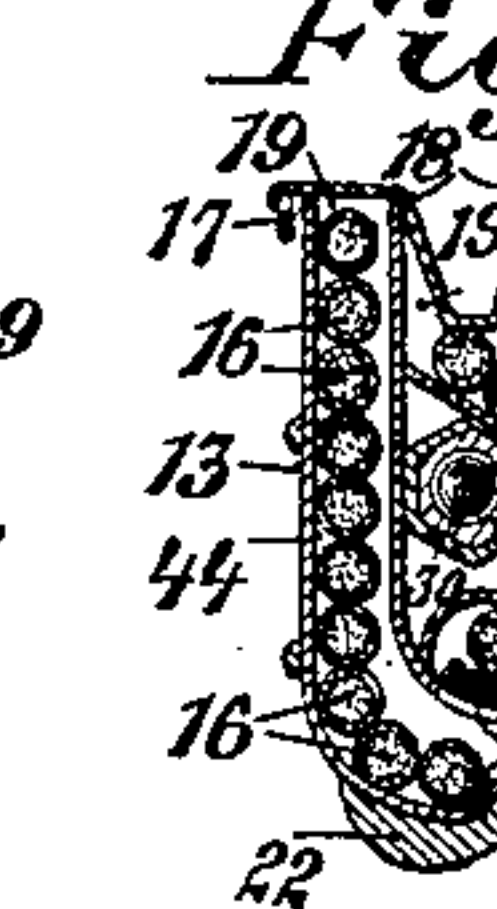
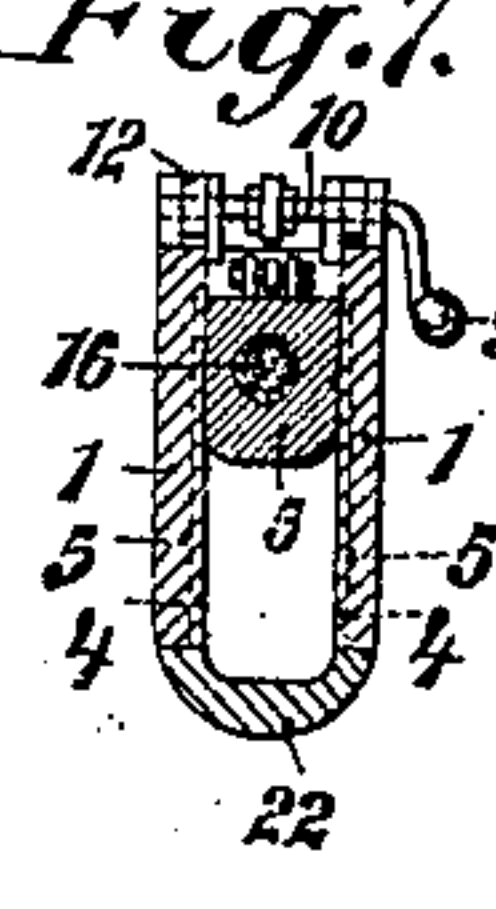
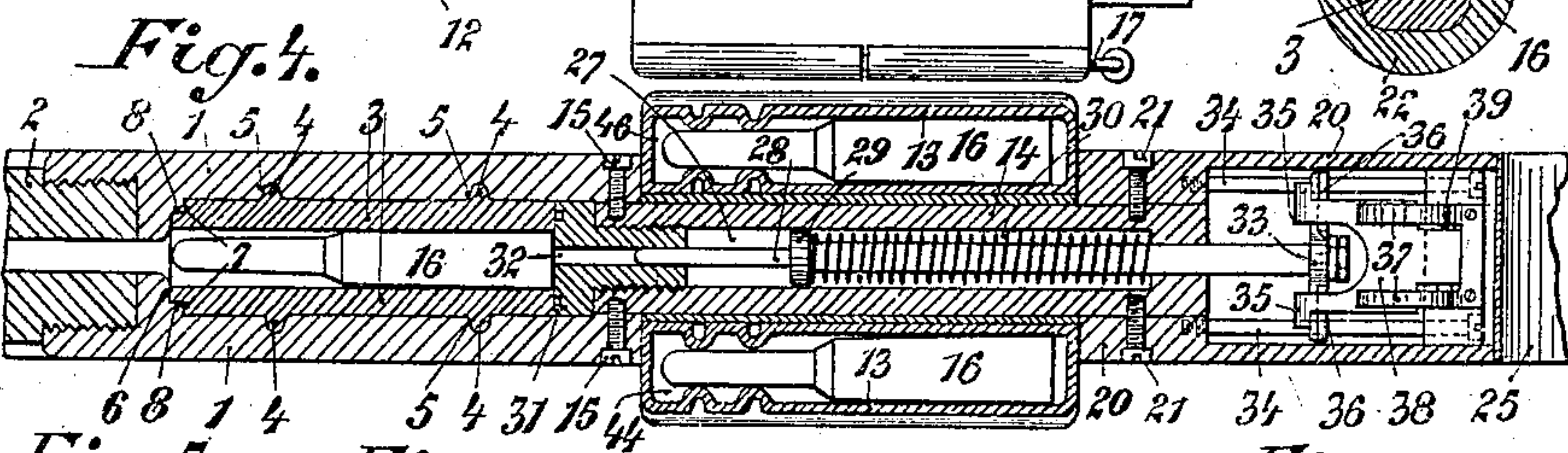
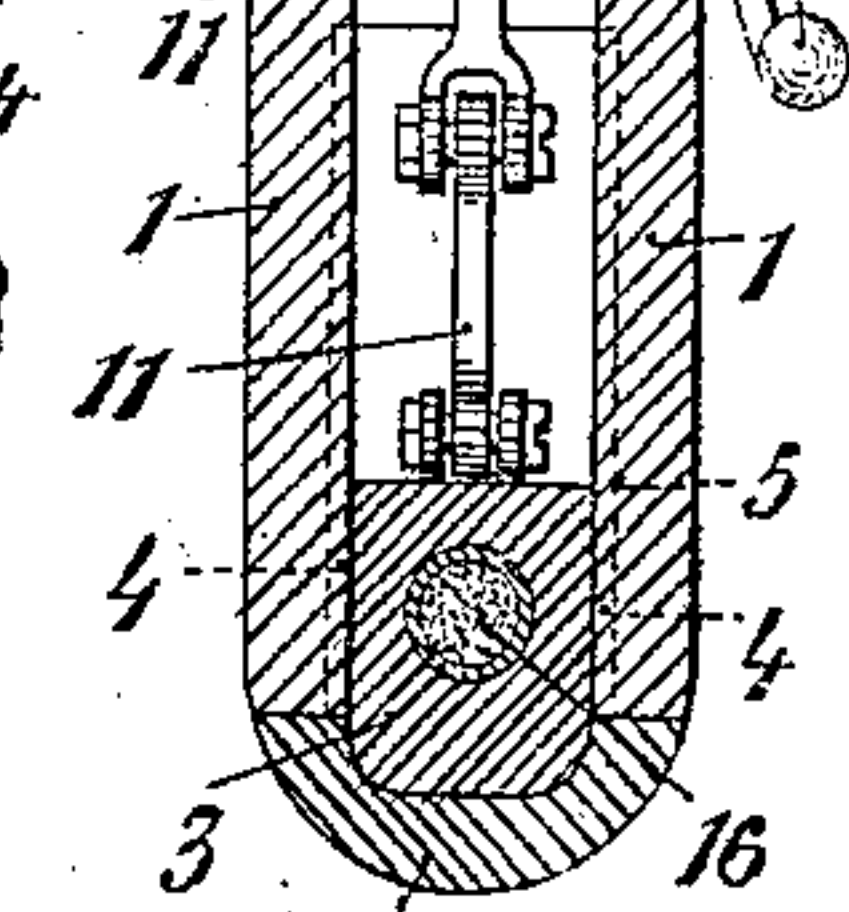
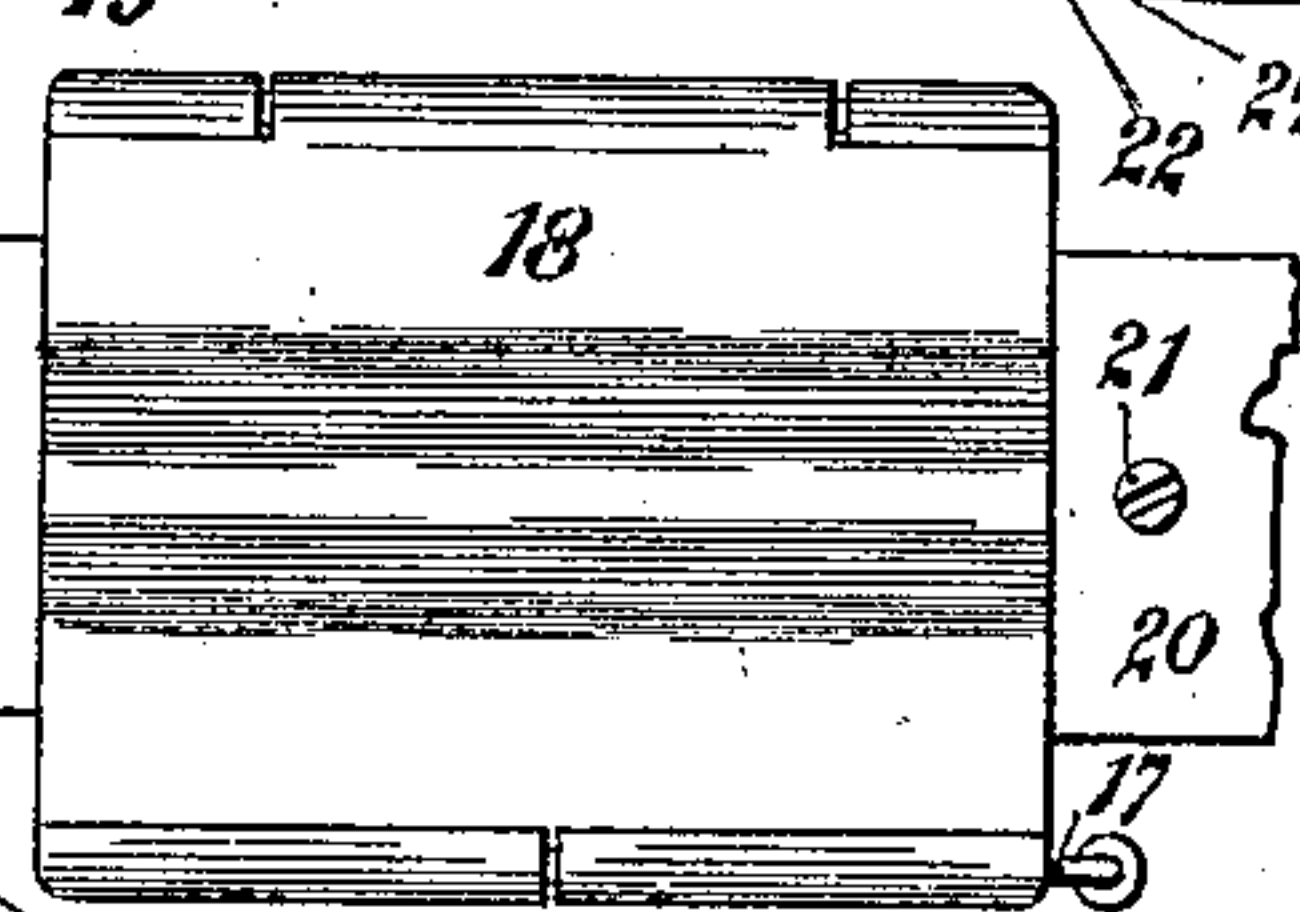
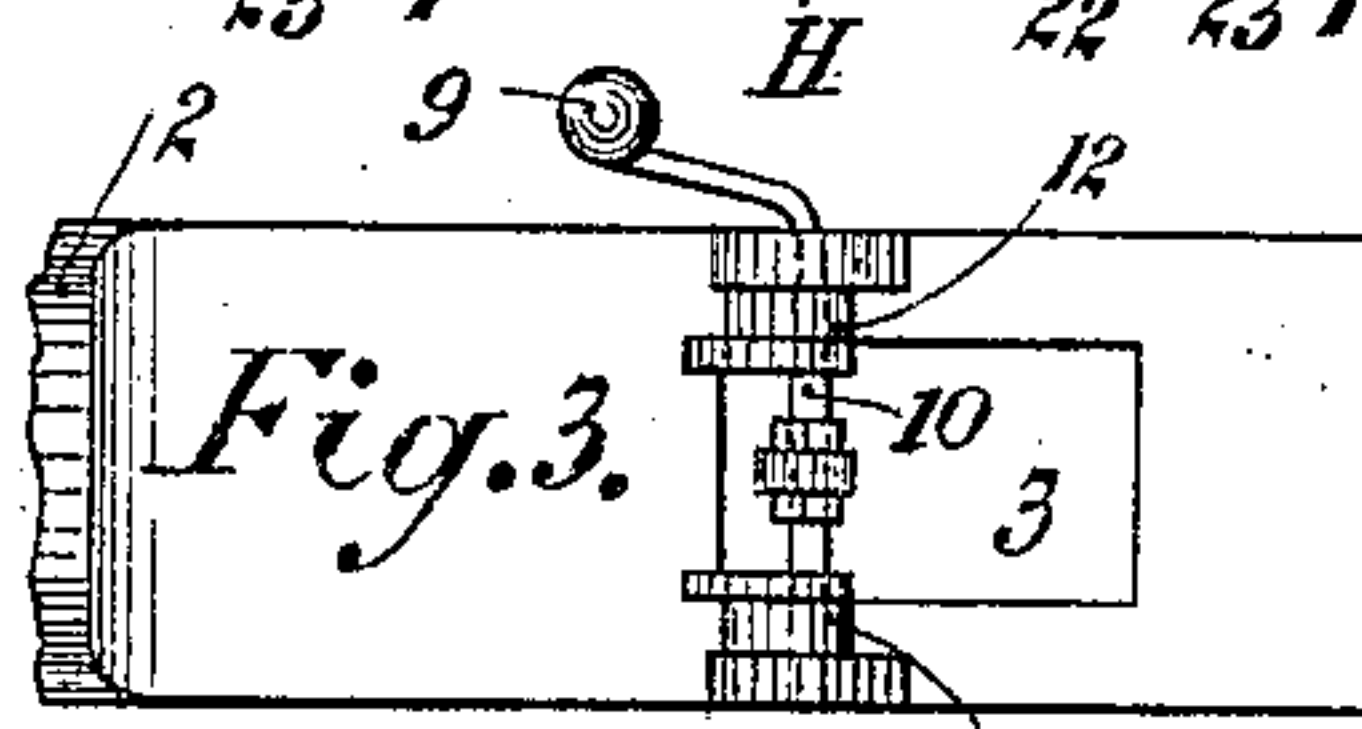
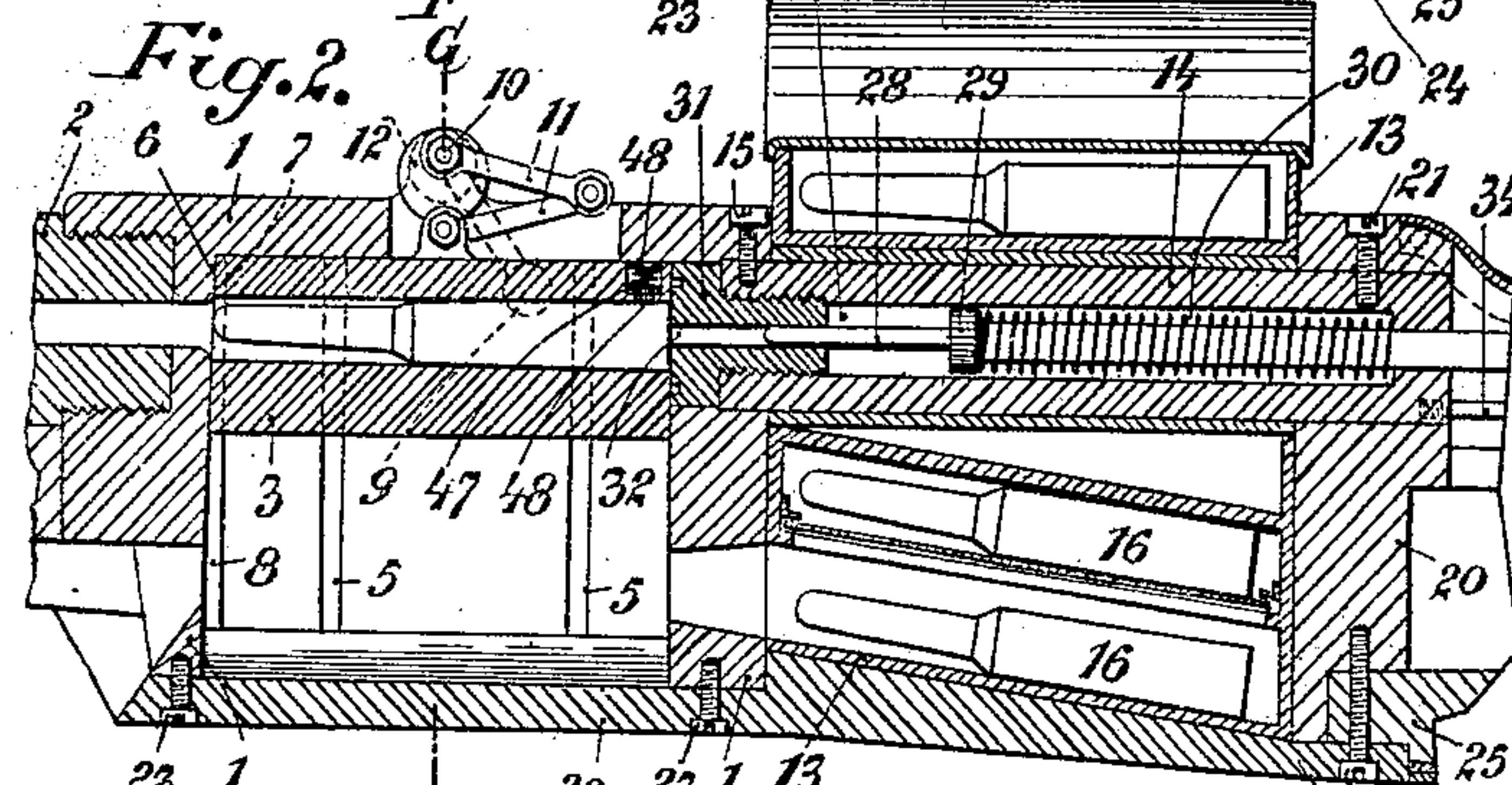
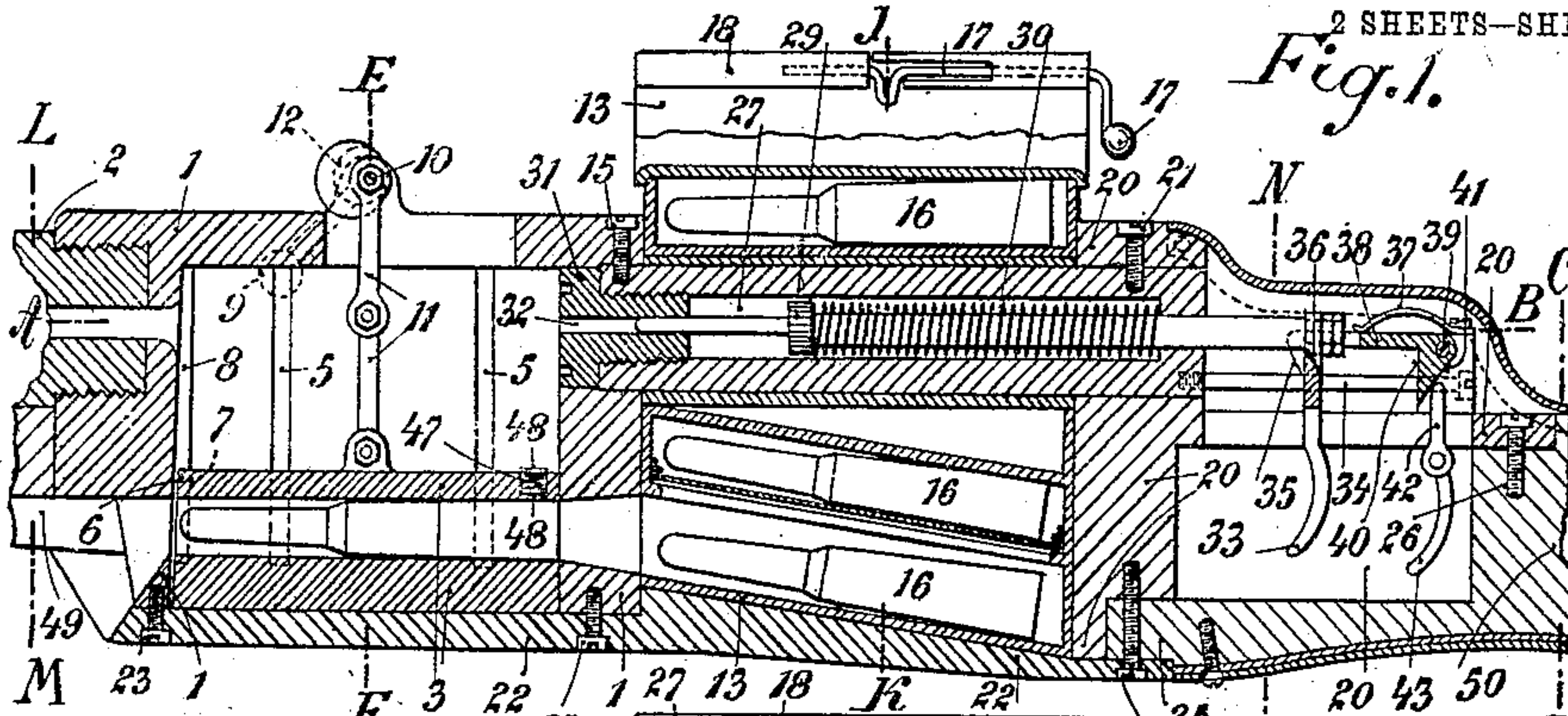
No. 829,779.

PATENTED AUG. 28, 1906.

G. HAGEN.  
GUN.

APPLICATION FILED JULY 24, 1905.

2 SHEETS—SHEET 1.



Witnesses:  
*[Signature]*  
*[Signature]*

Inventor  
Gustav Hagen  
By *[Signature]*  
James L. Norris



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2 SHEETS—SHEET 2.

Fig. 12.

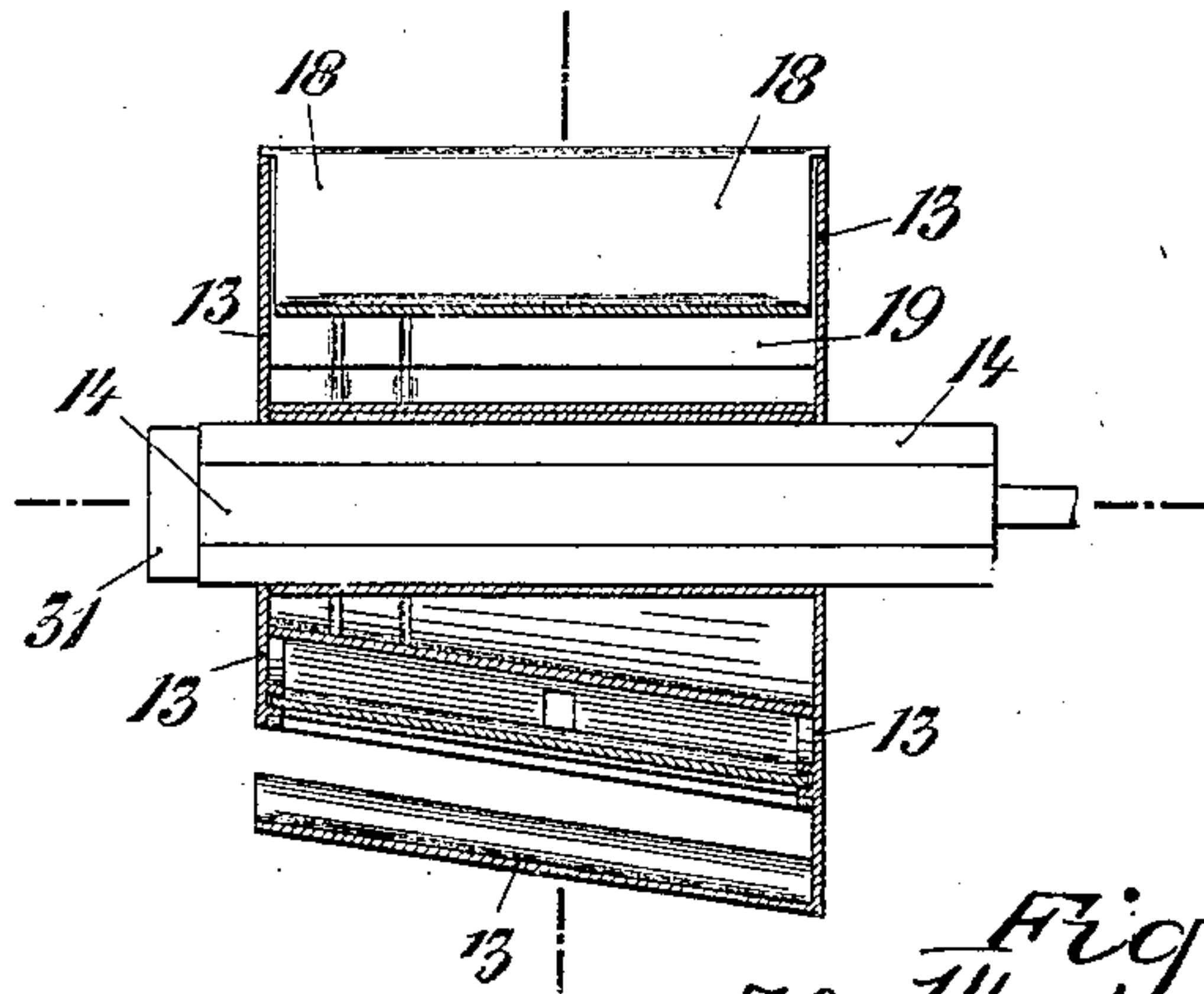


Fig. 13.

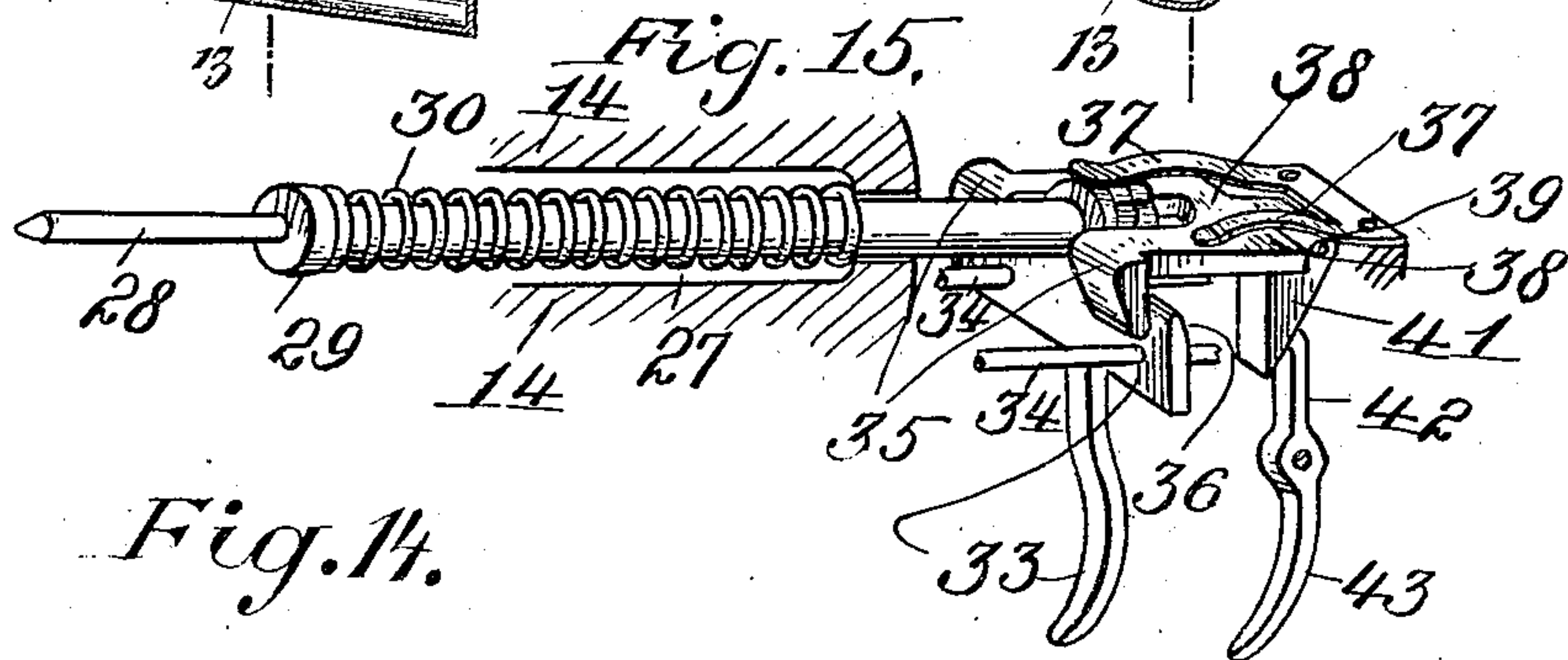
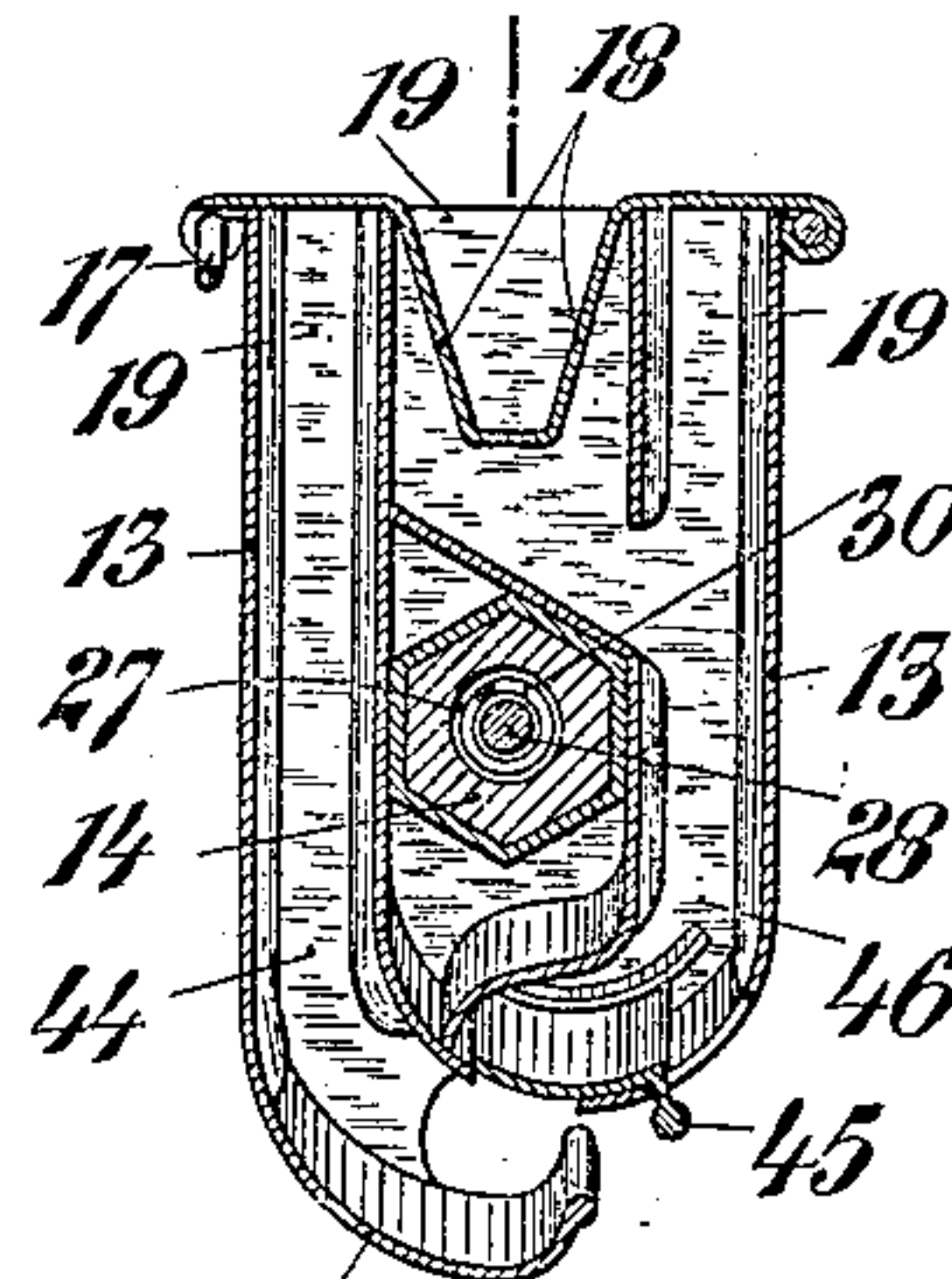
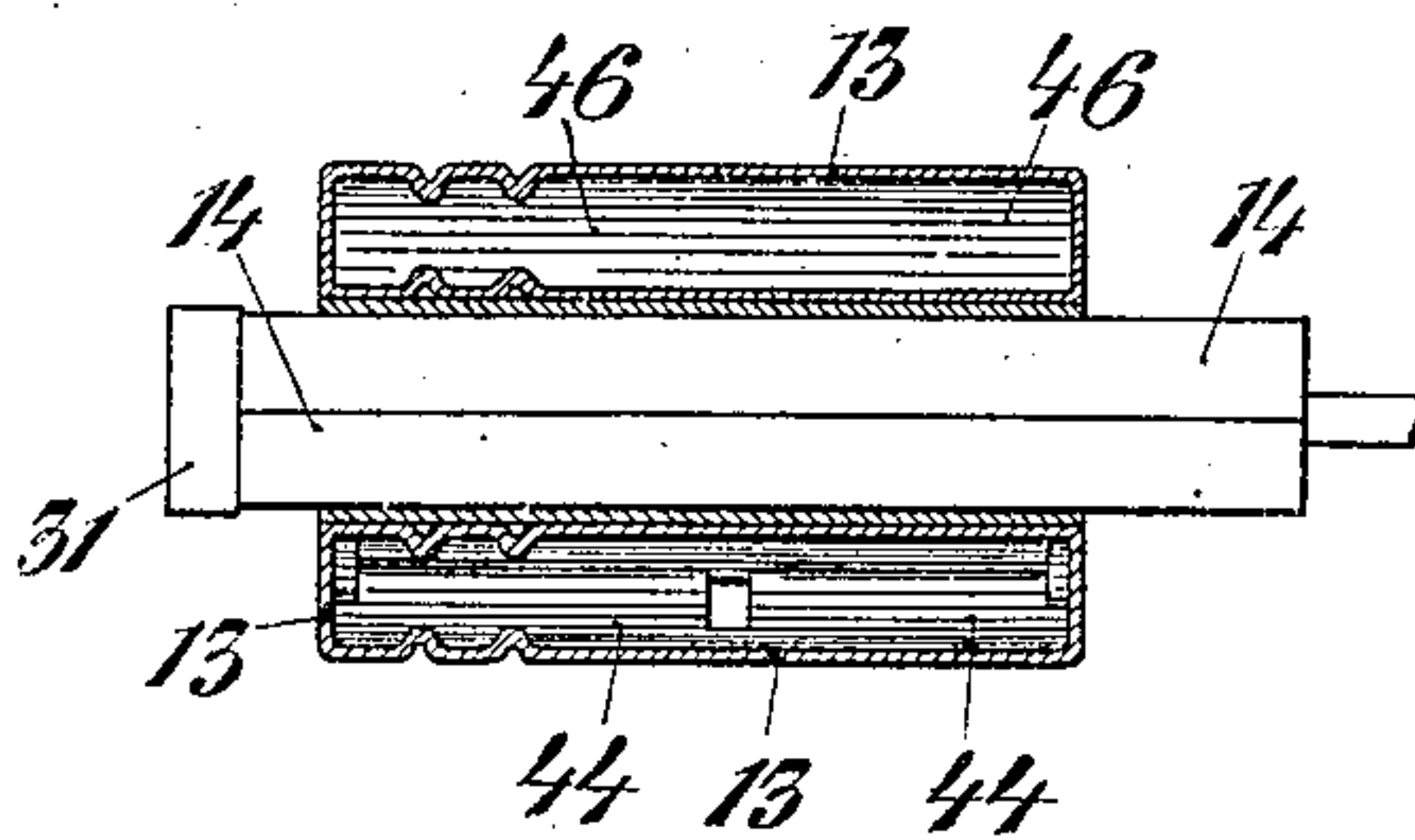


Fig. 14.



Witnesses.

Termin Sunk.  
C. D. Kesler

Inventor

Gustav Hagen

By James L. Norris

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# UNITED STATES PATENT OFFICE.

GUSTAV HAGEN, OF GREIZ, GERMANY.

## GUN.

No. 829,779.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed July 24, 1905. Serial No. 270,981.

*To all whom it may concern:*

Be it known that I, GUSTAV HAGEN, gentleman, a subject of the King of Prussia, German Emperor, residing at Greiz, in the principality of Reuss, German Empire, have invented certain new and useful Improvements in Guns, of which the following is a specification.

This invention relates to repeating or magazine rifles.

In repeating or magazine rifles now in general use they are adapted to receive from three to twelve cartridges. For some rifles the cartridges are placed in a cartridge-frame and in other rifles in a special magazine, while a rifle in accordance with this invention is provided with a non-interchangeable cartridge-magazine which is adapted to receive twenty or more cartridges, and thereby obviate the necessity of employing the cartridge-frame or the special magazine.

In a repeating or magazine rifle in accordance with this invention four manipulations are required for loading in a manner as hereinafter set forth; yet the introduction of the cartridge-frame is dispensed with, for the reason that the cartridges are directly inserted into the magazine with the projectile forward and under the influence of their own weight automatically come into such position so that they can be introduced into the loading-chamber by the thumb of the right hand.

A repeating or magazine rifle in accordance with this invention is illustrated, by way of example, in the accompanying drawings, in which—

Figure 1 is a longitudinal section with the bolt cocked and the loading-chamber shifted to receive the cartridge, the rifle being broken away at each end. Fig. 2 is a like view with the rifle ready for firing. Fig. 3 is a plan. Fig. 4 is a horizontal section on line A B of Fig. 1. Fig. 5 is a cross-section on line C D of Fig. 1. Fig. 6 is a cross-section on the line E F of Fig. 1. Fig. 7 is a cross-section on line G H of Fig. 2. Figs. 8, 9, and 10 are respectively sections on line J K, L M, and N O of Fig. 1. Fig. 11 illustrates a partial side elevation of the gun. Fig. 12 is a longitudinal vertical section of the magazine. Fig. 13 is a sectional view of the magazine. Fig. 14 is a sectional plan of the magazine, and Fig. 15 is a sectional detail of the firing mechanism.

Referring to the drawings by reference characters, 1 denotes a casing having the front wall thereof provided with a bore com-

municating with the bore of the barrel 2, said casing 1 being suitably connected to the barrel. Within the casing 1 operates a vertically-movable member constituting the loading-chamber 3, and the said loading-chamber 3 is formed with lateral ribs 4, which engage in the grooves 5, formed in the walls of the casing 1, said ribs 4, in connection with the grooves 5, constituting a guiding means for the loading-chamber 3. In order to secure a tight joint between the loading-chamber 3 and the front wall 6 of the casing 1 when said loading-chamber 3 positions the cartridge for firing, the said front wall 6 is slightly inclined rearwardly from the bottom to top, so that when the loading-chamber 3 is in firing position, as shown in Fig. 2, said loading-chamber 3 is pressed tightly against the front wall 6 of the casing 1. In order to prevent lateral escape of powder-gases during firing, both sides of the front of the loading-chamber are provided with rectangular recesses 7, in which engage correspondingly-shaped projections 8, formed on the front wall 6 of the casing 1.

The vertical adjustment or movement of the loading-chamber 3 is effected by means of the handle 9, which is secured to a spindle 10, the latter being connected, through the medium of the links 11, to the top of the loading-chamber 3. The securing of the loading-chamber 3 in firing position, as shown in Figs. 2 and 7, is effected through the medium of eccentric closing devices 12, carried by the spindle 10, one of said devices being arranged at each side of the opening formed on the top wall of the casing 1, said devices being in the form of disks and are so mounted on the spindle 10 with respect to the top wall of the casing 1 that when the said spindle 10 is rotated in one direction the eccentric closing devices are moved away from the top wall of the casing 1; but when the spindle 10 is rotated in the other direction said closing devices 12 are adapted to engage the top wall of the casing 1, thereby securing the loading-chamber 3 in firing position. The top wall of the casing 1 is formed with a suitable opening to permit of the operation of the links 11, and when the said loading-chamber is moved to firing position said loading-chamber closes said opening.

At the rear of the casing 1 is arranged a magazine 13, which is mounted on a hollow polygonal-shaped combined supporting and connecting member, said member 14 being



secured at one end to the casing 1 by the holdfast devices 15 and at its other end by the holdfast devices 21 to the lock-casing 20.

The magazine 13 is formed with two compartments 44 and 46, with a recess between them at their tops for the purpose of making the sight visible, the compartment 44 extending below the compartment 45, and communication is had between the two compartments, so that the cartridges 16 can be discharged from the compartment 46 into the compartment 44 through the medium of the closure-slide 45, carried at the lower end of the compartment 46. The magazine 13 is provided with a cover 18 for closing both of the compartments, and the said cover 18 is retained in position through the medium of any suitable locking device 17. When the cover 18 is removed, the compartments 44 46 can be filled through the open top 19. The magazine 13 is fixedly secured between the casing 1 and the lock-casing 20 by pushing the lock-casing 20 on the supporting member 14 so as to clamp the magazine between the casing 1 and the casing 20. The casing 20 is then secured upon the member 14 through the medium of the holdfast devices 21.

In order to strengthen and secure single main parts of the rifle from below, there is arranged a bridge 22, which is secured to the casing 1 by means of the holdfast devices 23. Said bridge 22 also acts as a means for closing the casing 1 at the bottom, and the said bridge 22 is secured to the lock-casing 20 by the holdfast devices 24. These latter also act as a means for connecting the lock-casing to the stock 50. The lock-casing 20 is also secured to the stock through the medium of the holdfast devices 26.

The opening through the member 14 is indicated by the reference character 27, and the said opening communicates with the lock-casing 20, and the said opening 27 is adapted to receive the firing pin or bolt 28, which carries a collar 29, and surrounding the said bolt 28 and interposed between said collar 29 and the rear of the member 14 is a compression-spring 30. In that end of the member 14 which is connected to the casing 1 a screw-plug 31 is secured. Said plug 31 is formed with an axial bore 32, which acts as a guide for the bolt 28, and said plug 31 also constitutes a stop for the forward movement of the bolt 28.

The reference character 33 denotes the cocking-arm, which is connected to the bolt 28, the upper portion of the said arm 33 being supported in guides 34, and the said arm 33 is provided with the cam-faces 36, which are adapted to be engaged by the forwardly-projecting arms of the sear 38. When the bolt 28 is adjusted to firing position, the arms 35 of the sear 38 ride over the cam-surfaces 36 of the cocking-arm 33 and overlap the upper portion of the said cocking-arm 33, the sear

38 being influenced by a spring 37, the latter pressing against the said sear 38. The sear 38, which is pivoted at 39, is provided at its back with a depending projection 40, having a cam-face 41, with which engages the upper portion 42 of the trigger 43.

When using the rifle, the magazine 13 is first filled with cartridges 16, care being taken that the cartridges in the compartment 44 of the magazine 13 have been used and exhausted therefrom, the compartment 46 of the magazine remaining closed at the bottom by the slide 45. After both compartments 44 and 46 have been filled the rifle is ready for use. The cartridges are first used from the compartment 44 of the magazine, and after said compartment has been emptied the slide 45 is opened, whereupon the cartridges in the compartment 46 are released, so that they can be used. When the gun is to be loaded, the bolt 28 is moved to firing position by pulling back the cocking-arm 33. Then the loading-chamber 3 is brought, by means of the handle 9, into the position shown in Figs. 1 and 6, whereupon the cartridges 16 are introduced by the right-hand thumb into the loading-chamber. (See Fig. 11.) After this has been done the loading-chamber 3 is brought, by means of the handle 9 and links 11, into the position shown in Figs. 2 and 7, any accidental shifting of the cartridge being prevented by a pair of pressure-plates 48, engaged by a spring 47, which is positioned in the upper wall of the loading-chamber 3, and the said plate when the loading-chamber is moved to firing position presses against the cartridges 16 and the casing 1, Fig. 2. The rifle is then ready for firing. When firing, the trigger 43 is pulled, whereupon the upper portion 42 acts on the cam-face 41 of the sear-support 38, so that the sear-frame 35 is released. The bolt 28 is then released and under the influence of the compression-spring 30 strikes the cartridge 16. When firing again, the same process is repeated. After the lowering of the loading-chamber 3 and the advance of a new cartridge the empty cartridge is pushed through an opening in the front wall 6 and falls to the ground. As the rifle is made somewhat heavy by the magazine, it is lightened at the expense of the stock, the latter being made of some very light wood 50—for instance, poplar or the like—and strengthened and protected by an aluminium or steel casing 51, made in two or more parts.

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

1. A firearm of the class described, comprising a gun-lock, a magazine arranged forwardly of said lock, a vertically-moving loading-chamber arranged forwardly of said magazine and adapted when at the limit of its movement in one direction to receive a



cartridge from the magazine and when at the limit of its movement in the other direction to position the cartridge for firing, links for elevating and lowering said chamber, a rotatable spindle for contracting and extending said links, and means carried by the spindle for locking said chamber from movement when the cartridge is positioned for firing.

2. A firearm of the class described, comprising a gun-lock, a supporting member projecting forwardly from said gun-lock and carrying the firing-pin, a magazine surrounding said supporting member, and a vertically-movable loading-chamber arranged forwardly of said magazine and adapted when at the limit of its movement in one direction to receive the cartridge from the magazine and when at the limit of its movement in the other direction to position the cartridge for firing.

3. A firearm of the class described, comprising a gun-lock and carrying a firing-pin, a magazine surrounding said supporting member, a vertically-movable loading-chamber arranged forwardly of said magazine and adapted when at the limit of its movement in one direction to receive the cartridge from the magazine and when at the limit of its movement in the other direction to position the cartridge for firing, and means for elevating and lowering said chamber and for locking said chamber from movement when the cartridge is positioned for firing.

4. A firearm of the class described, comprising a magazine, a casing arranged forwardly of the magazine and communicating with the bore of the gun-barrel, and a vertically-movable loading-chamber arranged within said casing and adapted when at the limit of its movement in one direction to receive the cartridge from the magazine and when at the limit of its movement in the other direction to position the cartridge for firing, said casing having the inner face of its front wall inclined rearwardly from bottom to top and said chamber having the front thereof inclined rearwardly from bottom to top for forming a tight joint when the chamber has positioned the cartridge for firing.

5. A firearm of the class described, comprising a magazine, a casing arranged forwardly of the magazine and communicating with the bore of the gun-barrel, a vertically-movable loading-chamber arranged within said casing and adapted when at the limit of its movement in one direction to receive the cartridge from the magazine and when at the limit of its movement in the other direction to position the cartridge for firing, said casing and chamber each provided with means associating with one another for forming a tight joint when the chamber has positioned

the cartridge for firing, and means for elevating and lowering said chamber and for locking said chamber from movement when the cartridge is positioned for firing.

6. A firearm of the character described, comprising a firing-pin, a firing mechanism therefor, a support for the firing-pin, and a magazine entirely surrounding said support.

7. A firearm of the character described, comprising a firing-pin, a firing mechanism therefor, a support for the firing-pin and a magazine entirely surrounding said support and consisting of two compartments adapted to communicate with one another when one of the compartments is emptied.

8. A firearm of the character described, comprising a gun-lock casing, a firing mechanism, a loading-chamber, a casing for said chamber, a magazine clamped between the two casings, and means for moving said loading-chamber to receive a cartridge from the magazine and to position the cartridge for firing.

9. A firearm of the character described, comprising a gun-lock casing, a firing mechanism, a loading-chamber, a casing for said chamber, a magazine clamped between the two casings, and means for moving said loading-chamber to receive a cartridge from the magazine and to position the cartridge for firing, said loading-chamber provided with means to prevent the cartridge from movement when the cartridge is positioned for firing.

10. A firearm of the character described, comprising a magazine formed of two compartments with a recess between the two compartments at the top thereof to enable the viewing of the sight of the firearm.

11. A firearm of the character described, comprising a magazine formed of two compartments with a recess between the two compartments at the top thereof to enable the viewing of the sight of the firearm, and means carried by one of said compartments for opening and closing communication between said compartments.

12. A firearm of the character described, comprising a vertically-movable loading-chamber adapted to receive a cartridge, links for elevating and lowering said chamber, operating means for the links, and an eccentric means for fixing said chamber from movement when the cartridge is positioned for firing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GUSTAV HAGEN.

Witnesses:

HENRICH FUCHS,  
KURT GÖRNER.