

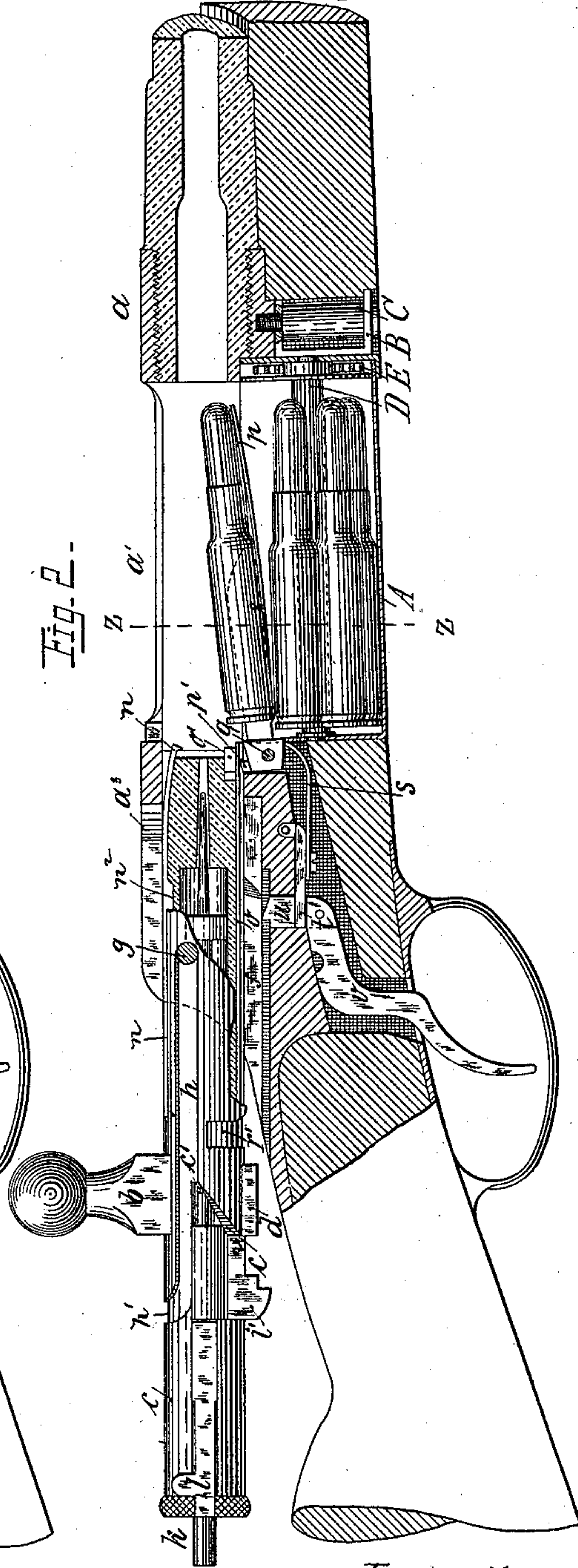
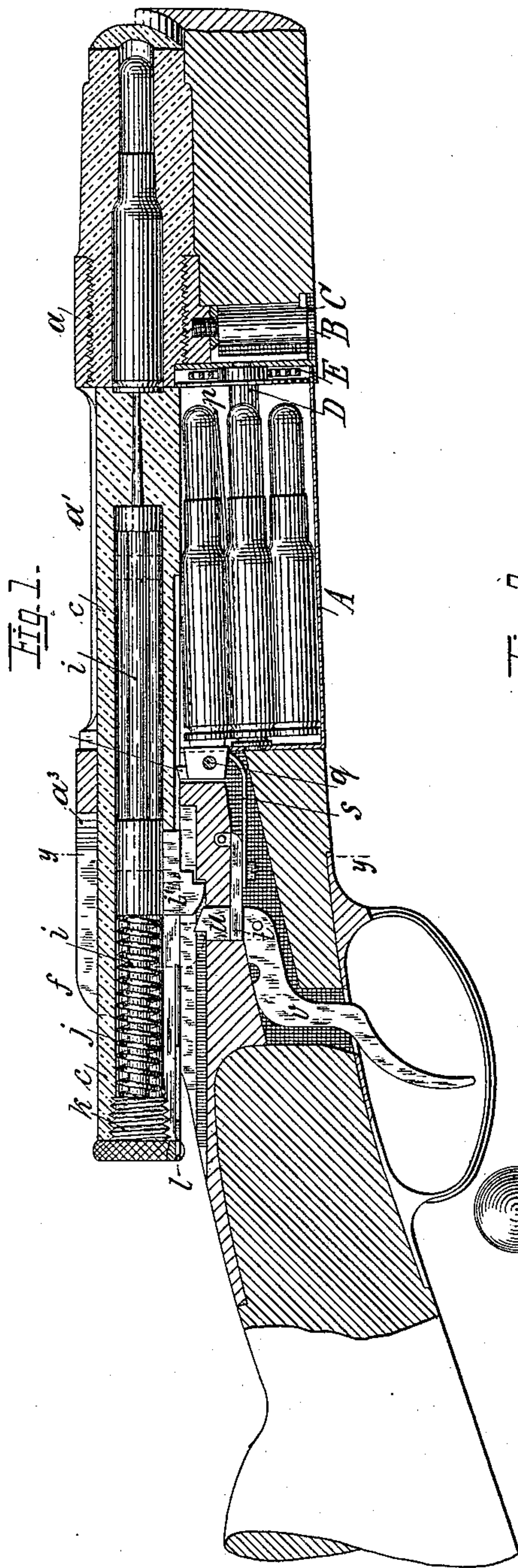
(No Model.)

2 Sheets—Sheet 1.

A. LINDNER.
MAGAZINE GUN.

No. 483,229.

Patented Sept. 27, 1892.



Witnesses:

Ad vos.

E. L. Richards

Inventor:

Adolph Lindner.

By

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Attorneys.

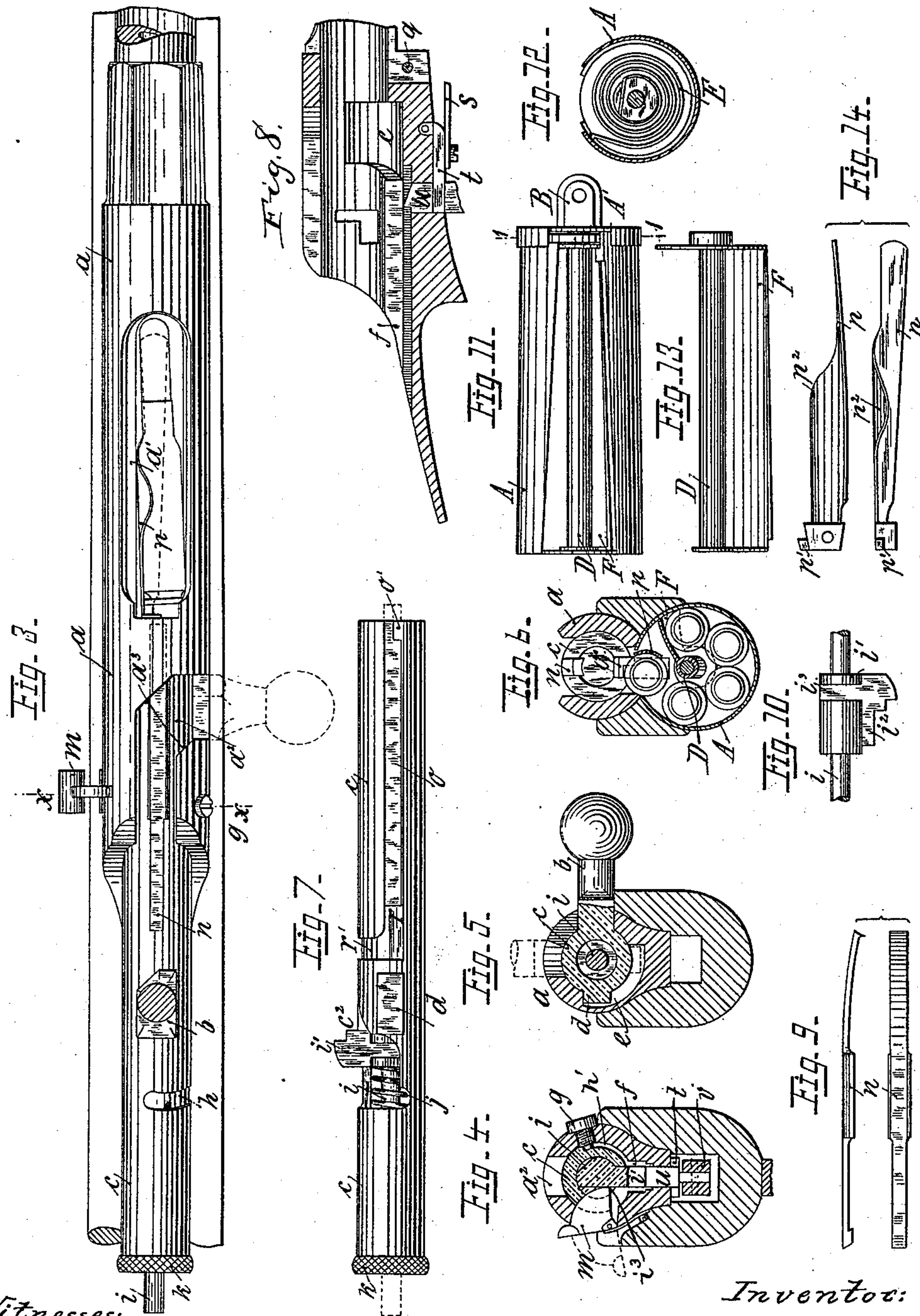
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H. de Vos.
C. L. Richards

Inventor:
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Attorneys.

UNITED STATES PATENT OFFICE.

ADOLPH LINDNER, OF BERLIN, GERMANY.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 483,229, dated September 27, 1892.

Application filed March 18, 1889. Serial No. 303,711. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH LINDNER, of the city of Berlin, Germany, have invented certain new and useful Improvements in Fire-arms and Drum-Like Magazines for the Same, of which the following is a specification.

My invention relates to improvements in firearms with sliding breech-piece and in drum-like magazines which can be arranged beneath the breech-receiver, the magazine-drum being so arranged that it lies flush with the shaft of the firearm and is filled from above by simply pressing the cartridges into the cartridge-receiver, while the automatic upward feed of a cartridge is effected at each opening of the breech, or, in other words, the cartridge is brought into such position that when the breech is closed the cartridge is driven into the cartridge-chamber in the barrel. The mechanism of the breech-piece is so constructed that the number of the parts is reduced to a minimum and the construction of the entire firearm so simplified that the form and action can be readily understood. The breech piece or bolt is made of one piece and forms a safe closure of the barrel not only against back-pressure from escaping powder-gases, but also against the penetration of dust and wet, so that all danger of the weapon becoming unserviceable is absolutely precluded.

Figure 1 of the accompanying drawings is a vertical longitudinal section of the firearm in fired-off condition. Fig. 2 is a like section of the firearm with open breech, the breech-piece chiefly in elevation and the parts at half-cock in order to better show the same. Fig. 3 is a top view with opened breech and with the handle broken away. Fig. 4 is a cross-section on the line xx in Fig. 3. Fig. 5 is a cross-section on the line yy , Fig. 1, and Fig. 6 a section on the line zz in Fig. 2. Fig. 7 is a view of the lower side of the bolt with the spring in discharged position. Fig. 8 is a vertical section of the tail or rear end of the breech-receiver or shoe. Fig. 9 represents the extractor in side and top view. Fig. 10 represents the central part of the firing-pin with the nose for cocking the same and the recess for receiving the safety device. Fig. 11 is a top view of the magazine-drum. Fig. 12 is a section on the line 11 in Fig. 11, showing the spring for operating the cartridge-

transporter. Fig. 13 represents the cartridge transporter or wing F . Fig. 14 represents in side and top view the spoon or cartridge bearing lever arranged to swing in the slot in the breech-receiver so that it receives a fresh cartridge at each operation of the bolt.

The breech-receiver or shoe a is provided with a longitudinal slot a' for inserting the cartridges and an angular rear open slot a^2 for the bolt-handle b , said slot having an inclined surface a^3 , against which the handle b of the bolt operates in order to facilitate the closing of the bolt c against the end of the breech. An absolute safe closure of the breech is attained on the one hand by the handle b being held in snug contact with the recoil-shoulder of the slot a^2 and on the other hand by means of a stud or projection d of the bolt c , which enters a recess e (see Fig. 8) in the breech-receiver or shoe a when the handle b is turned into the position represented by the dotted lines in Fig. 3, so that no back-pressure of the powder-gases, however powerful they may be, can drive back the bolt, which is securely held on both sides. The said stud or projection d moves in the longitudinal groove f in the shoe or breech-receiver and serves as guide for the bolt c , which is also guided by the screw g , which passes through the breech-receiver or shoe into a groove $h h'$ in the bolt c , and also serves to retain the bolt in the said receiver or shoe a .

In order to be able to fully cock the firing-pin i and firing-spring j in closing the bolt, the firing-pin is provided with a nose or projection i' , which protrudes from the surface of the bolt c and is guided in a groove in the breech-receiver a . In moving the bolt forward to close the breech this nose i' comes in contact with the nose of the trigger, (see dotted lines in Fig. 1,) and is thus prevented from moving forward with the bolt, thus compressing the spring j and full-cocking the firing-pin, the bolt being provided with the customary recess c^2 with inclined surface, so that the firing-pin is half-cocked by the action of turning the bolt to the left in opening the breech, the parts remaining at half-cock until the breech is closed, as aforementioned.

The firing-pin i is guided at its rear end in a boring in the screw-stopper k , screwed into the end of the bolt c and in the boring of the

latter by means of the collar near the forward end of the pin and the annular enlargement of the said firing-pin above the cocking-nose i' . The screw-stopper k is securely held in position by means of a flat spring l , the foot of which glides in a dovetailed groove of the bolt, while the rear end fits into a recess in the milled head or flange of the screw-stopper k .

A safety device for securing the parts in cocked position is attached to the breech-receiver or shoe a and consists of the part m , Figs. 3 and 4, pivoted to the shoe and engaging the slot i^3 , Figs. 4 and 10, of the part of the firing-pin above the nose i' , so as to securely hold the said firing-pin and prevent the same from being driven forward by the spring j when the trigger is pressed back, thus avoiding all possibility of a premature explosion.

The extractor n , Fig. 9, for extracting the cartridge when the bolt is drawn back and the breech is opened is arranged in a groove in the bolt and is provided at both ends with a hook or claw, so that it engages at the one end a groove in or over a flange on the head of the cartridge, while the hook at the opposite or rear end engages a recess in the bolt. The center of the extractor is of dovetail form and fits into a longitudinal dovetail groove n^2 in the bolt. If it is desired to remove the extractor from the bolt, it is necessary to raise the rear end out of the recess in the bolt, when the extractor can be pushed forward and out of the groove.

In order to rapidly eject the cartridge when the breech piece or bolt is drawn back and the breech opened, an ejector o , which has a limited movement, is arranged in a groove r in the under side of the bolt. The injector is made in the form of a flat slide with an enlarged hook-like head o' , which is so formed that when the breech is closed the cartridge-head will rest in a corresponding recess in the head of the bolt and in front of the ejector. When the bolt is drawn back in opening the breech, the hooked end of the ejector o will strike a nose p' on the magazine-spoon p , arranged on the pivot q in the bottom of the cartridge-chamber in the breech-receiver, thus driving the cartridge out of the recess in the bolt-head and ejecting the discharged shell from the firearm. The nose p' of the spoon p glides in the groove r of the ejector when the breech is closed, the bolt being provided with a groove r' , in which the said nose p' glides when the bolt is fully closed. The spoon receives a springy action through the spring s , which lays itself against the rear end of the spoon forward of the pivot q and presses the same upward. This spring s serves, also, as trigger-spring and is screwed to the lever t , fixed to the breech-receiver a , the trigger-arm u and trigger v being in connection with the said lever t . As will be evident from Fig. 2, the spring s has the tendency

to raise the forward end of the spoon, so that the cartridge lying on the same will have an inclined position with the tip of the ball immediately in front of the center of the cartridge-chamber in the barrel, so that when the bolt is pushed forward and the breech closed the cartridge will be automatically forced into the said cartridge-chamber.

The spoon or cartridge-lever p is of peculiar form, as represented in Figs. 1, 2, and 14, so that the cartridge is not only held in exactly correct position for being forced into the chamber in the barrel, but so that when the said spoon or lever p is depressed by the action of closing the breech it will take up a fresh cartridge out of the magazine, the lateral lug or projecting side p^2 serving to securely hold the cartridge in correct position when the breech is opened and the empty shell ejected.

My improved magazine consists of a drum A , provided at its end with a holder or attaching device B , through which the screw runs, which at its upper end is firmly screwed into the breech-receiver a . This drum contains the hollow axle D and its spindle, said axle being operated on at the one end by means of a spiral or ordinary watch spring E and held in the rear wall of the drum by the spindle to the said hollow axle.

The spring E is attached at the one end to the axle D and at the other end to the drum A , said axle D being further provided with a radial wing or ledge F , which serves to transport the cartridges onto the spoon or lever P . The device is so arranged that when the bolt of the arm is pushed forward to close the breech the cartridge on the spoon or lever p will be pushed into the cartridge-chamber in the barrel and the spoon or lever p so depressed that it will take up the next cartridge in the magazine and bring the same up ready for charging into the cartridge-chamber as soon as the bolt is drawn back to open the breech and eject the discharged shell.

The spoon or lever, with the cartridge lying on the same, is compelled to rise when the bolt is drawn back as the lower protrusion or stud to the ejector o forces the nose p' to the rear, so as to bring the cartridge on the spoon or lever into the correct position for being charged into the chamber in the barrel. The loaded cartridges in the magazine A are, as shown in Fig. 6, grouped around the axle D , so that the first cartridge inserted in the magazine lies on the transporting ledge or wing F , attached to the axle D , and are brought up one after the other onto the spoon or lever p by the combined action of the spring E and the transporting ledge or wing F until the magazine is emptied.

My improved magazine is loaded from above, the cartridges being either laid successively on the spoon or lever p , and pressed downward into the magazine, while the spoon or lever recedes laterally to allow the same to

pass, the spring E being subjected to increasing tension as the cartridges are inserted; but I prefer to pack the said cartridges in sheet-metal frames, the walls of which are so cut away that although the cartridges are held firmly during transport the same can be simultaneously pressed into the magazine by inserting the edges of the metal packing into the longitudinal opening in the breech-receiver and pressing all the cartridges at one time into the magazine. In this way the magazine can be almost instantaneously loaded. The spoon or lever *p* can also readily be rendered stationary by means of a small catch or slide, so that the firearm can be used as single-loader and the magazine be retained, filled, and ready for use in case of emergency; but the magazine can be charged by using the aforescribed packing with such rapidity that the soldier can as a rule fire with cartridges taken from the magazine.

It will be evident to all versed in the art that the form and arrangements of the parts can be modified in many ways without departing from the nature of my invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, what I claim is—

1. In a breech-loading firearm, the combination, with the breech-bolt *c*, having a dovetailed groove and a recess, of an extractor *n*, having a dovetailed central part and at its forward and rear end springs terminating in a claw or hook, the rear claw being adapted to engage said recess, whereas the forward

claw grasps the cartridge, substantially as described.

2. In a breech-loading firearm, the combination, with the magazine and pivot *q*, of the laterally-arranged spoon or lever *p*, with the nose *p'* and curved edge *p''*, arranged to turn on the pivot *q*, and means for oscillating said spoon, substantially as described.

3. In combination with the barrel and bolt of the magazine-drum, the shaft having a ledge *F*, an actuating-spring for turning said shaft, and a spoon for retaining the cartridge in place, said spring being arranged within the frame of the arm at one end of the shaft, substantially as described.

4. In breech-loading firearms, the device for securely holding the parts in cocked position, consisting of the combination, with the breech-receiver and firing-pin, of a movable flap *m*, arranged to engage in the slot *i'* of the part *i'* of the firing-pin, substantially as described.

5. In combination, the barrel, the bolt, the magazine-drum, the shaft having the ledge and the spring for operating it, and the means for receiving the cartridges from the ledge, consisting of the spoon having vertical movement in the magazine, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ADOLPH LINDNER.

Witnesses:

ANTHONY STEFFEN,
FRED. J. DOWNING.