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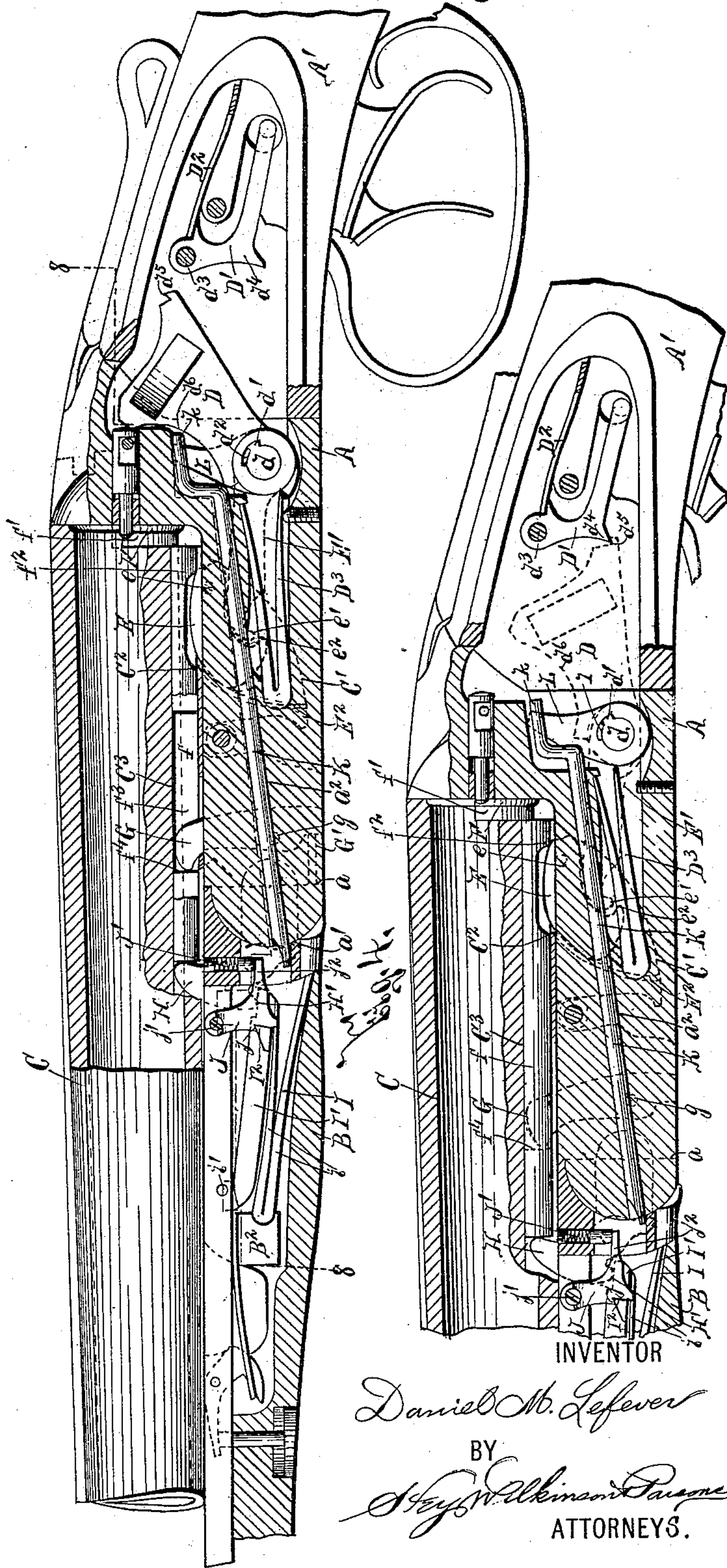
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D. M. LEFEVER.

EJECTOR MECHANISM FOR EXPLODED SHELLS.

No. 525,272.

Patented Aug. 28, 1894.



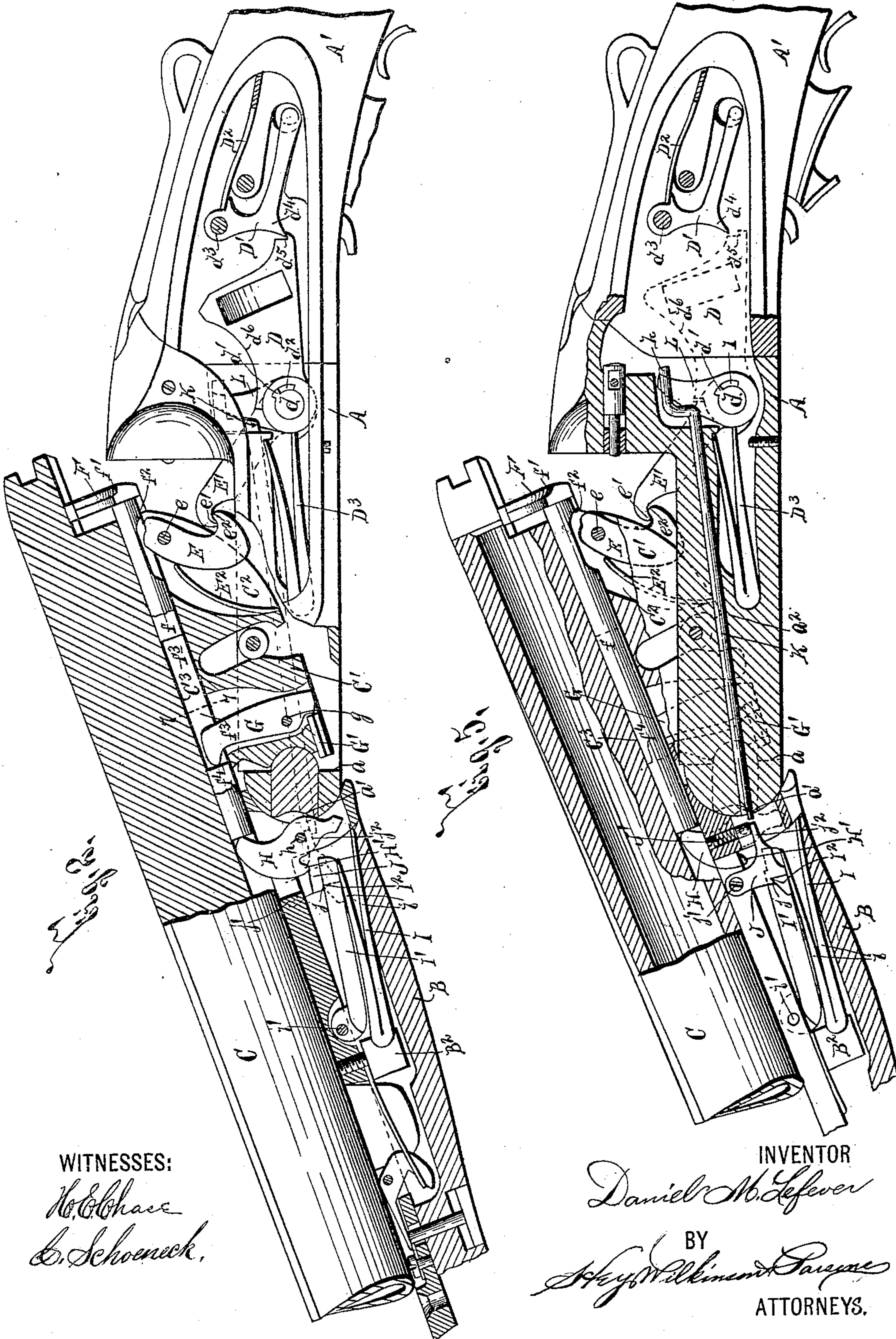
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4 Sheets—Sheet 2.

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WITNESSES:

H. C. Chase
G. Schoenack

INVENTOR

Daniel M. Lefever

BY

Wm. W. Wilkins & P. S. Paine

ATTORNEYS.

(No Model.)

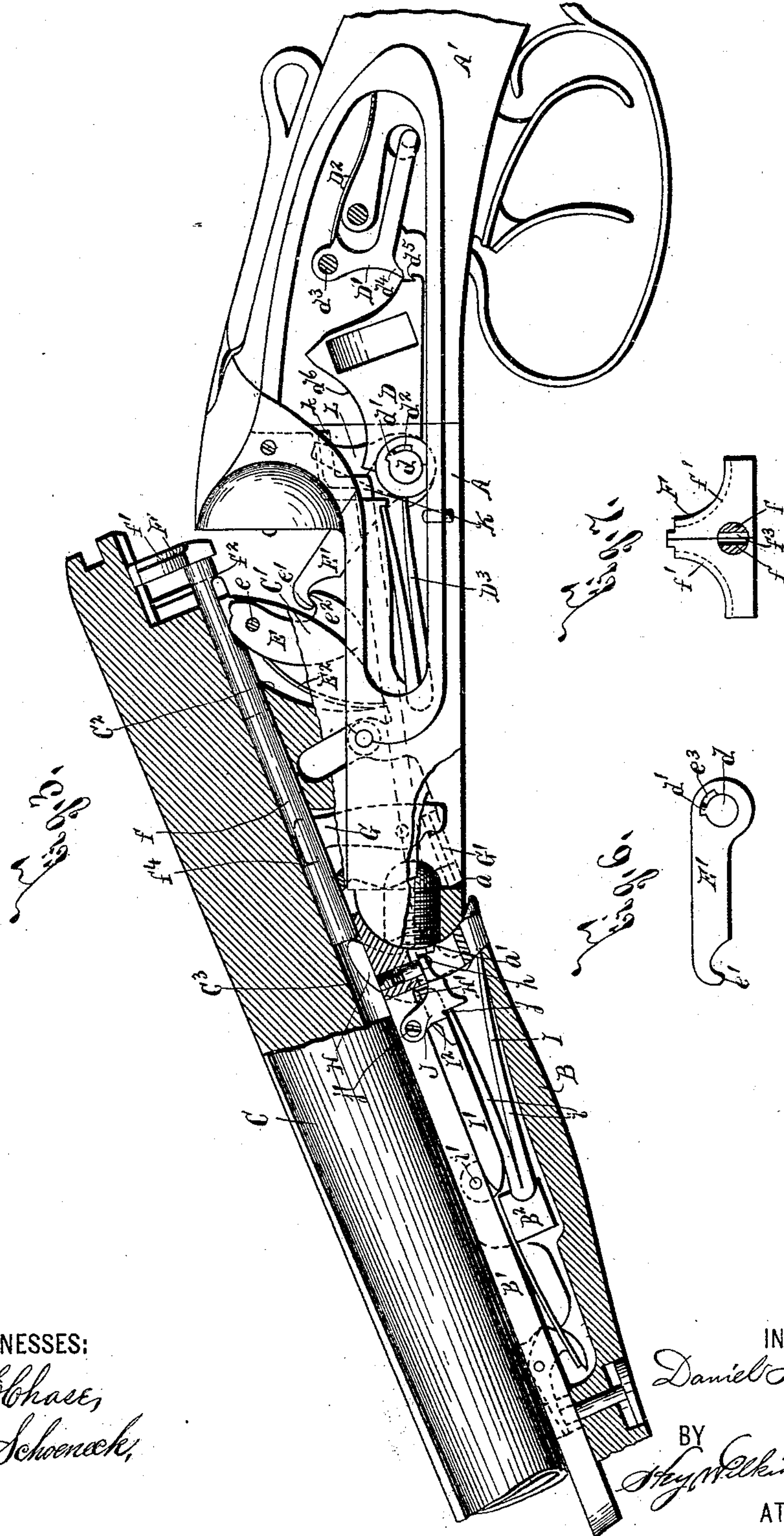
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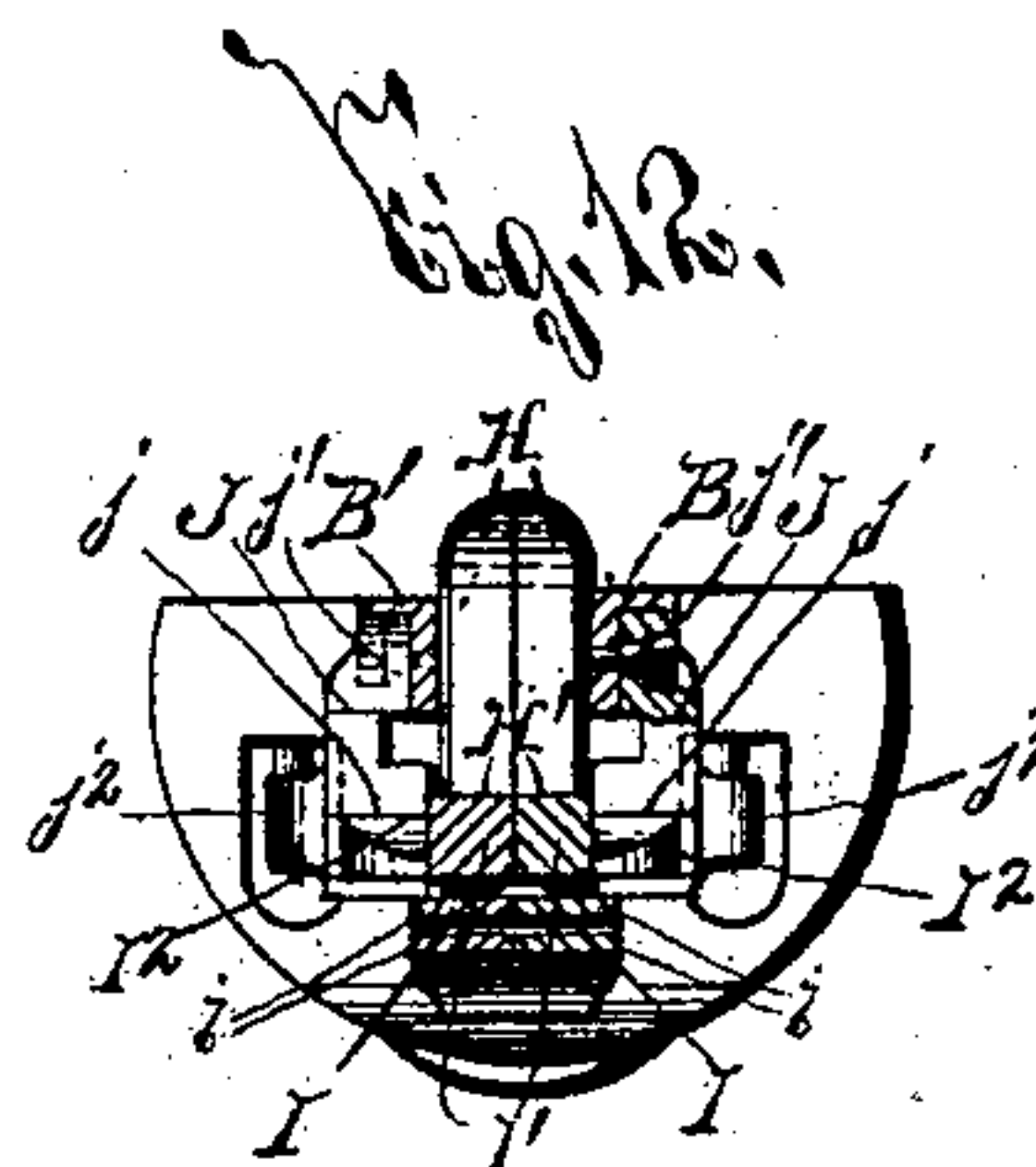
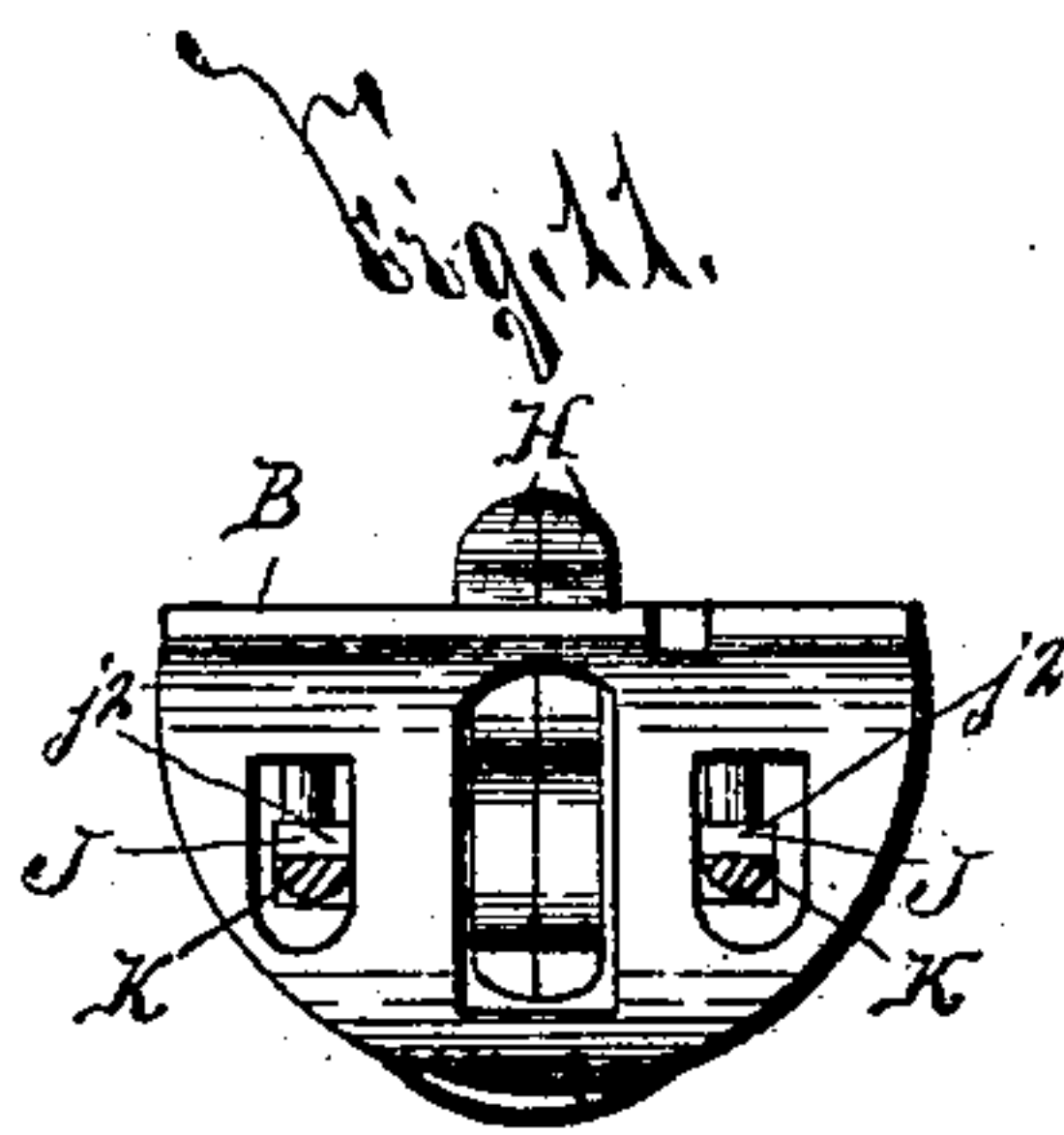
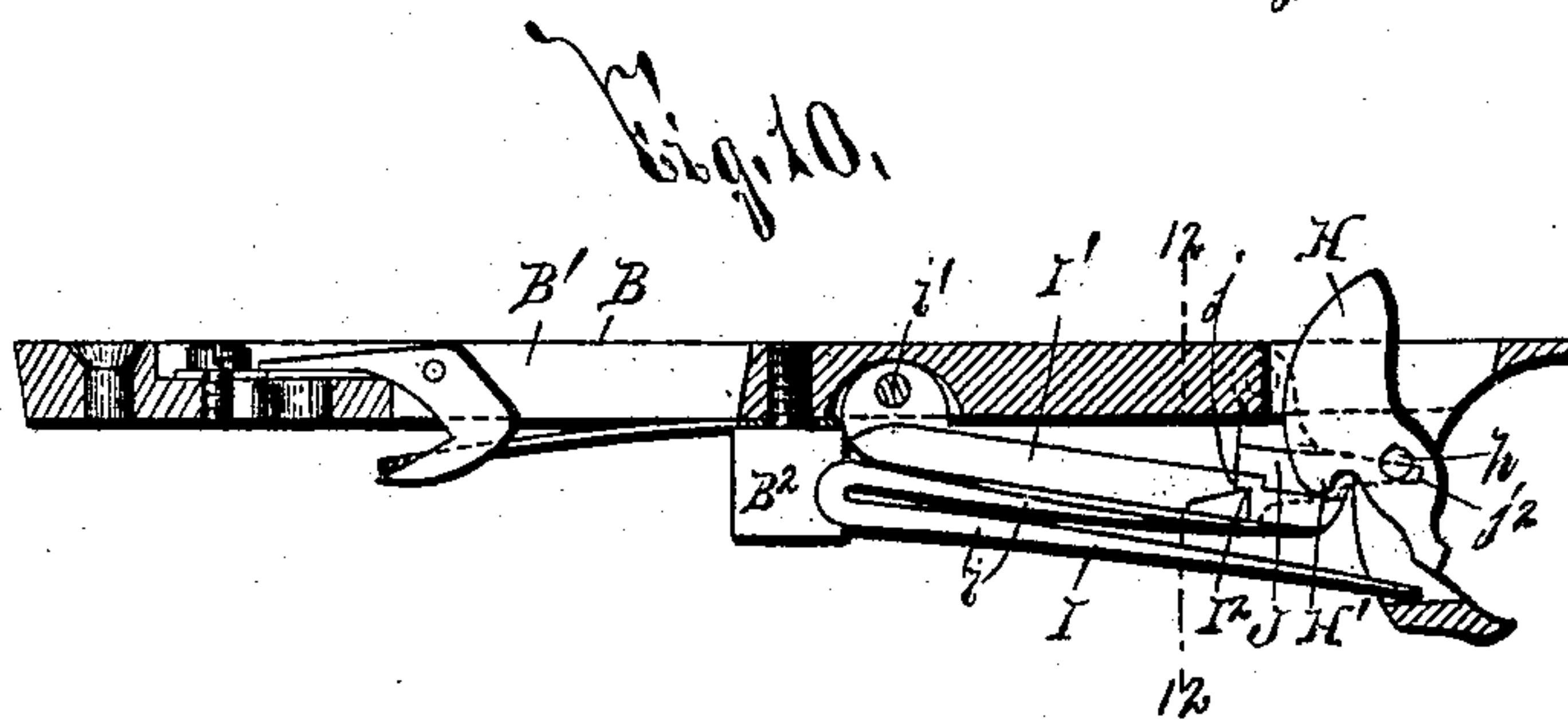
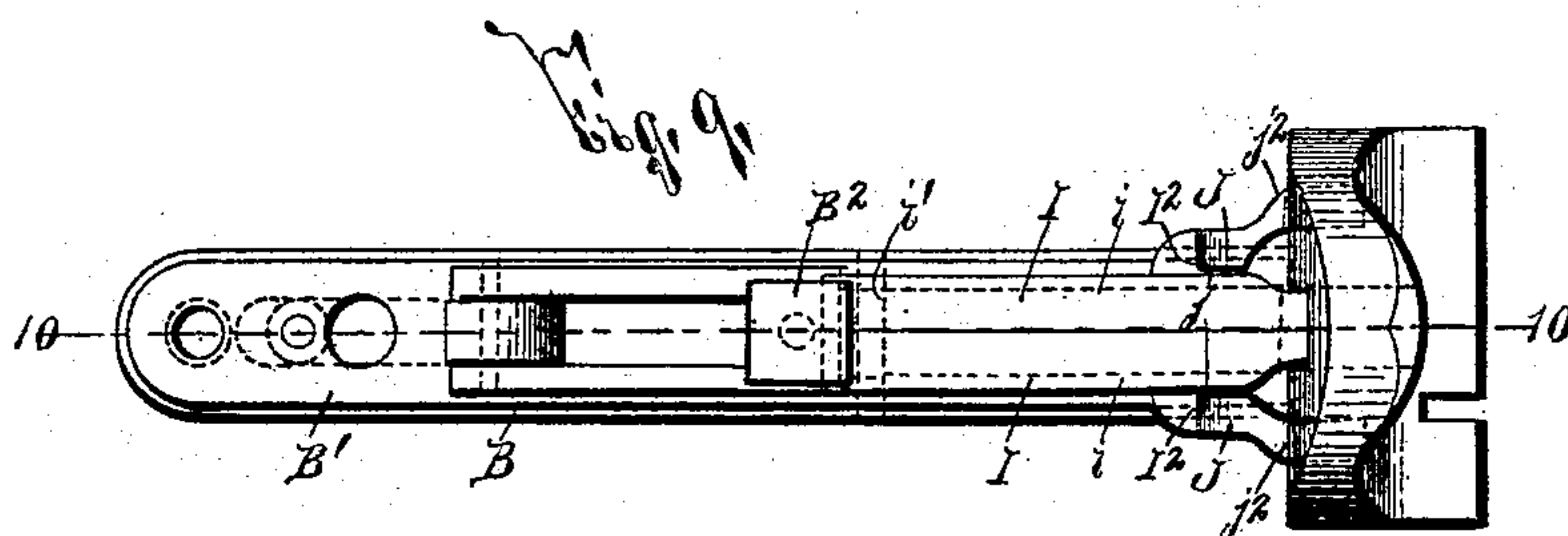
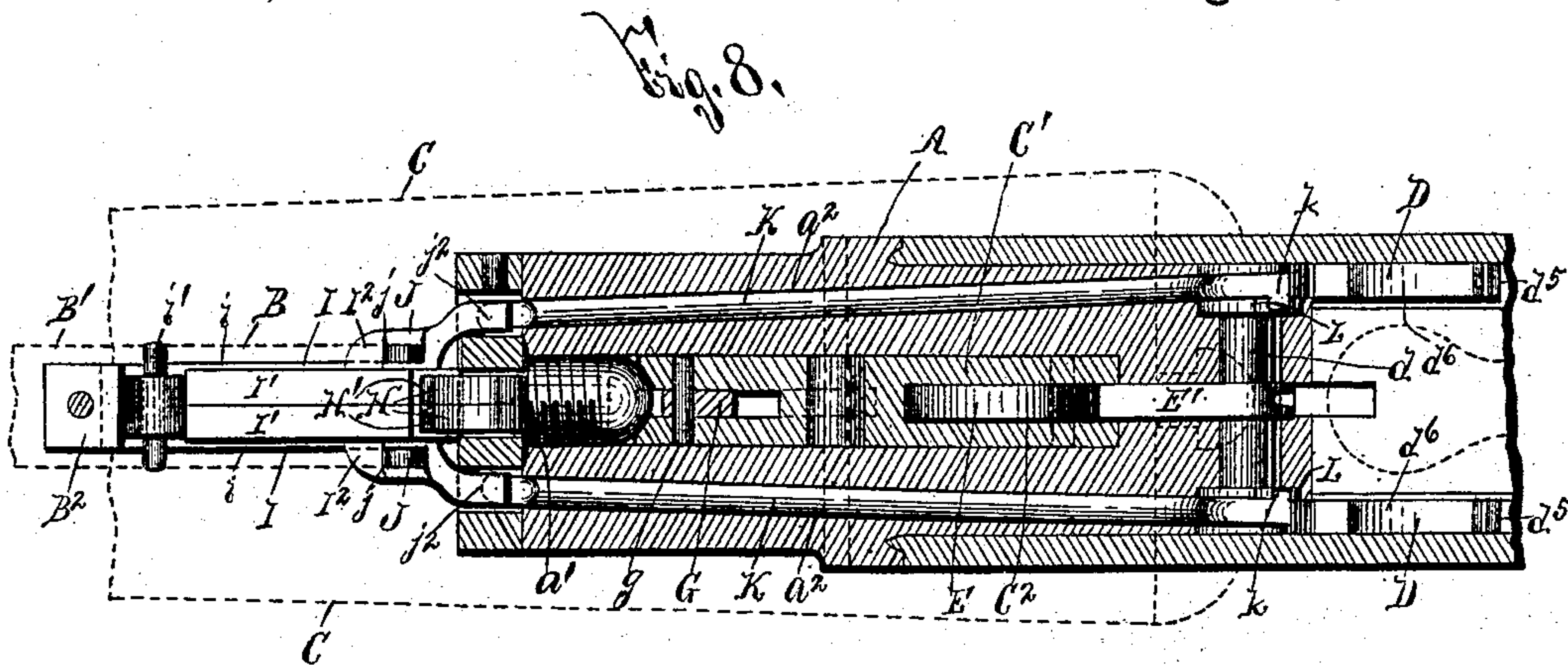
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Patented Aug. 28, 1894.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL M. LEFEVER, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE
LEFEVER ARMS COMPANY, OF SAME PLACE.

EJECTOR MECHANISM FOR EXPLODED SHELLS.

SPECIFICATION forming part of Letters Patent No. 525,272, dated August 28, 1894.

Application filed June 13, 1893. Serial No. 477,501. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. LEFEVER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Breech-Loading Guns, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in
10 breech loading guns of the class set forth in my previous patent, No. 475,873, of May 31, 1892, and has for its object the production of a simple and effective device which, upon the usual breaking of the gun, automatically
15 cocks the hammer, and extracts the previously fired cartridge shell, and, when the barrel or barrels are returned to their normal position, forces the extractor to its normal position and locks the cocking device from oper-
20 ative engagement to permit the removal of the barrel from the frame for cleaning or other purposes. It also has for its object the production of a device for effecting the afore-
25 said operations, which operates with great efficiency and with a minimum degree of wear upon the parts, is simple in construction, is economically manufactured and assembled, and is durable and effective in use.

To this end my present invention consists,
30 essentially, in an extractor, a spring connected to the extractor for operating the same, a stop or sear for preventing the operation of the spring, and an automatically movable connection between the hammer of the gun
35 and said stop, whereby the stop or sear is forced from operative position.

The invention also consists in an ejector
40 hammer interposed between the frame of the gun and the extractor for forcing the extractor a limited distance from its normal position, a lever interposed between the extractor operating-spring and the ejector hammer and engaged with said stop, whereby the
45 ejector is free to move a limited distance without retardment by said spring, and is forced to the limit of its movement as soon as the stop for preventing the action of said spring is released, and a lever connected by
50 a lost motion to the hammer pivotal pin of the hammers and detachably connected to

one end of the connection between said stop and the hammers.

The invention furthermore consists in a cocking lever connected to the hammer pivotal pin, a movable dog secured to the barrel
55 lug for operating the cocking lever, and normally engaged with said extractor whereby the movable dog is normally disengaged from said cocking lever, and in the detail construction and arrangement of the parts, all as
60 hereinafter more particularly described and pointed out in the claims.

In describing this invention, reference is had to the accompanying drawings, forming
65 a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is an elevation, partly in section, of my improved gun having the outer ends of its barrels and its stock broken away, and hav-
70 ing its component parts shown as in their normal closed position and the left-hand hammer as in its elevated or uncocked position. Fig. 2 is a view similar to Fig. 1 illustrating the barrels as dropped or broken al-
75 most to the limit of their movement, the left-hand hammer as cocked, and the extractor as forced outwardly a limited distance by the ejector. Fig. 3 is an elevation, partly in sec-
80 tion, similar to Fig. 1, illustrating the barrels as dropped or broken to the limit of their movement and the extractor as forced outwardly to the limit of its movement for ex-
tracting the shell, a greater portion of the barrels being broken away than at Figs. 1
85 and 2. Fig. 4 is an elevation, partly in section, similar to Fig. 3, representing the barrels as in their normal operative position and the hammer shown by dotted lines as cocked.
90 Fig. 5 is an elevation, partly in section, similar to Fig. 4 representing the barrels as dropped or broken to the extreme limit of their movement, and the extractor as forced outwardly but a limited distance. Fig. 6 is
95 an elevation of the detached cocking lever and the hammer pivotal pin. Fig. 7 is a vertical sectional view of the extractor, taken on line —7—7—, Fig. 2. Fig. 8 is a horizontal
sectional view, looking from above taken on line —8—8—, Fig. 1. Fig. 9 is an inverted
100

plan view of the detached fore-end strap, the ejector hammers, the springs for operating the ejector hammers, and the stops or sears for engaging said springs. Fig. 10 is a longitudinal vertical sectional view, taken on line 5 —10—10—, Fig. 9. Fig. 11 is an end view of the parts as shown at Figs. 9 and 10, and Fig. 12 is a sectional view, taken on line —12—12—, Fig. 10.

—A— represents the gun frame; —A'— the stock; —B— the fore-end piece; —C— the barrel, and —C'— the barrel lug, all of which parts may be of any suitable form, size, and construction.

—D— is a hammer connected by a lost motion to a hammer pivotal pin —d—, which is formed with a feather —d'— movable in a key-way —d²— in the journal opening of the hammer —D—.

—D'— is a sear pivoted at —d³— and provided with an arm —d⁴— for engaging a shoulder —d⁵— upon the hammer —D— and holding the same in its cocked position, and —D²— is a spring for forcing the sear —D'— into operative position.

—D³— is a suitable main spring for raising the hammer from its cocked position as soon as the hammer is released from engagement with the sear —D'—. I have here illustrated a double barreled gun, and, as clearly seen at Fig. 7, a hammer is mounted upon each of the opposite ends of the pivotal pin —d—. As will be readily understood by one skilled in the art the hammers are cocked simultaneously by rocking the pivotal pin —d— backwardly, and either may operate independently to fire the gun, owing to their peculiar connection to said pivotal pin.

—E— is a movable dog mounted in a recess 40 —C²— in the rear end of the barrel lug —C'— and having its upper end pivoted by a pin —e— to said barrel lug —C'—, and —E'— is a cocking lever having its lower end connected to the hammer pivotal pin —d— by a lost motion and having its upper end formed with a rounding extremity —e'— engaged with a corresponding extremity or lug —e²— upon the lower end of the movable dog —E—. The journal opening of the lower end of the 45 cocking lever —E'— is formed with a key-way —e³—, Fig. 6, for receiving the key —d'— of the hammer pivotal pin —d— and permitting of the lost motion between said cocking lever and hammer pivotal pin, and the movable dog —E— is forced into engagement with the cocking lever —E'— by a suitable spring —E²—, Figs. 2 and 3. As the forward ends of the barrels are dropped or broken, as shown at Figs. 2 and 3, the dog —E— elevates the cocking lever —E'— and rocks the 50 hammer pivotal pin —d— backwardly, thus cocking the hammers —D—D— against the action of their main springs, and, when the barrels are returned to their normal closed position, the cocking lever —E'— drops downwardly by gravity and the dog —E— enters the recess —C²— in the barrel lug.

—F— represents the extractor, which is movable lengthwisely of the barrels —C— in a guide-way —C³—, and consists of two independently movable sections, each being composed of a rod-section —f— and a head-section —f'—. The upper end of the dog —E— enters the guide-way —C³— for the extractor —F—, and, as best seen at Fig. 1, a shoulder 75 —f²—, formed upon the rear end of the extractor, rides upon the upper end of the dog —E— and normally disengages the ends of the dog —E— and the cocking lever —E'— in order to facilitate the ready removal of the 80 barrels from the frame after the fore-end piece —B— is disengaged from said barrels and frame.

The described construction of the movable dog secured to the barrel lug, the cocking lever, and the extractor is very similar to that set forth in my aforesaid patent, No. 475,873, and is particularly applicable for use with my improved extractor ejecting mechanism and the automatically operating connection for 90 controlling the action of the extractor ejecting mechanism which form the essential features of my present invention.

—G— is the retractor lever for the extractor, and, as best seen at Fig. 2, the retractor 95 lever —G— is pivoted at —g— to the barrel lug and having its upper end movable in cut-outs —f³—f³— in the adjacent sides of the central portions of the extractor rod sections —f—f—. The lower end of the retractor lever —G— bears against a rectilinearly movable piece or bar —G'— guided lengthwise in the forward end of the barrel lug —C'— and having its forward end bearing against a shoulder —a— upon the frame —A—. As 105 the barrels are dropped the front shoulders —f⁴— of the cut-outs —f³— bear against the lever —G— and rock its upper end backwardly, and, as the barrels assume their normal position, the sliding piece or bar —G'— 110 is forced backwardly and the upper end of the retractor lever —G— is forced forwardly toward the front ends of the barrels and retracts the extractor positively and effectually without permitting the outer faces of the 115 head-sections of the extractor to rub against the adjacent face of the breech block of the frame —A—.

—H—H— are independently movable ejector hammers pivoted at —h— to the rear end 120 of the fore-end strap and having their upper ends engaged with the forward ends of the extractor rod-sections —f—f— and their lower ends engaged with a cam face —a'— upon the forward rounding end of the frame —A—. 125 As the barrels are dropped or broken the lower ends of the ejector hammers are rocked forwardly and their upper ends are rocked backwardly for forcing the extractor sections outwardly a limited distance from their normal 130 positions, and, as previously described, when the barrels are returned to their normal position, the retractor lever —G— returns the extractor sections to their normal position,

and consequently returns the ejector hammers —H—H— to their normal position.

—I—I— are suitable springs for rocking the ejector hammers to the limit of their movement, and —J—J— are stops or sears for preventing the springs —I—I— from operation. These springs —I—I— are preferably V-shaped with separated arms —i—i— at their rear ends, and their forward ends are mounted in a lug —B²— projecting from the fore-end strap —B'—. The upper arms of the springs —I—I— bear against levers —I'—I'— arranged above said springs and having their front ends hinged at —i'— to the fore-end strap —B'—, and said arms of the springs —I—I— tend to force upwardly the opposite or rear ends of said levers —I'—I'—. These levers —I'—I'— are provided at their rear ends with laterally projecting shoulders —I²— which engage shoulders —j— upon the stops or sears —J—. The stops or sears —J— are pivoted at —j'— to the fore-end strap —B'—, and are each provided with a rearwardly extending arm —j²— which is forced downwardly by a suitable spring —J'—.

The ejector hammers —H—H— are each formed with a rounding bearing face —H'—, which is engaged by the corresponding lever —I'— when the spring engaged with said lever rocks the same upwardly and forces the ejector hammer backwardly for forcing the corresponding extractor section to the extreme limit of its motion. As the barrels assume their normal position the ejector hammers, as previously described, are forced to their normal position, and, since they bear against the free rear ends of the levers —I'—I'—, the springs —I—I— are compressed until the shoulders —I²—I²— are engaged by the sears or stops —J—J—, whereupon the force of the springs —I—I— is restrained and the ejector hammers are free to move without being actuated by said springs until the stops or sears for said springs are released as immediately described. This is an important feature of my invention, since, as is evident to one skilled in the art, it is extremely desirable that the dropping of the barrels shall occasion as little friction as possible, and that the extractor may move outwardly for a limited distance, even when the cartridge shell has not been fired, as it is frequently desirable to remove a shell before the same is fired. This action is greatly facilitated if the rim of the shell is forced outwardly for a slight distance beyond the rear end or breech of the barrel.

—K—K— are automatically movable connections or bars between the hammers —D—D— and the extractor ejecting mechanism consisting of the springs —I—I—, the levers —I'—I'—, and the stops or sears —J—J— for regulating the action of the extractor-ejecting mechanism by the position of said hammer. These bars —K—K— are preferably of similar construction, are movable in guides —a²—a²— in the frame —A—, and

are so constructed and arranged that, as the barrels are dropped, their forward ends force the stops or sears —J—J— from operative position immediately after the hammers previously raised by their main springs to fire the cartridge shells, are forced to their cocked position and before the barrels are dropped to the limit of the movement, and do not operate upon said stops unless the hammers have been previously raised from their cocked positions.

—L—L— are levers which are connected to the hammer pivotal pin —d— by a lost motion, and are for this reason provided with key-ways —l—l— in their journal openings for registering with the feather or spline —d'— of the pin —d—. The upper ends of the levers —L—L— are detachably connected to arms —k—k— upon the rear ends of the connections —K—K—, and consequently, as the hammers are forced to their cocked position as previously described, the upper ends of the levers —L—L— retract the connections —K—K— and withdraw the forward ends of said connections out of the paths of movement of the stops or sears —J—J— in order that said sears may remain in their operative position when the barrels are dropped before the hammers are released from their cocked position. As the hammers are fired the levers —L—L— are forced forwardly out of engagement with the shoulders —k—k— without moving the connections —K—K— forwardly, and the front faces —d⁶—d⁶— of said hammers engage the rear ends of the connections —K—K— and force the same forwardly, so that their forward ends project in the paths of movement of the stops or sears —J—J—, as shown at Fig. 2, and serve to release said stops or sears from operative position when the gun is broken, whereupon the springs —I—I— force the extractor sections outwardly as previously described. As the hammers —D—D— are capable of independent action it is evident that, if one hammer is released and assumes its up position for firing the cartridge shell and thereby throws the corresponding connection —K— into position to release the extractor operating mechanism for the corresponding section of the extractor, the opposite hammer, if unfired, does not operate upon the other connection —K—, and consequently the corresponding extractor section is not forced to its extreme outward position, and does not extract the cartridge shell engaged thereby. As illustrated at Fig. 2 the sear for the left-hand hammer is shown as just engaged with the adjacent hammer, but the corresponding lever —L— has not yet been moved backwardly to the extreme limit of its movement, and has not retracted the connection —K—. Consequently the forward end of said connection projects into the path of movement of the corresponding stop or sear —J— and rocks the same from operative position immediately after the hammer is cocked. The barrels then continue their downward

or dropping movement until the hammer is rocked downwardly to a position slightly below its normal cocked position for retracting the levers —L—L— to their extreme backward position and withdrawing the connections —K—K— backwardly until their forward ends are out of the paths of movement of the stops or sears —J—J—. As the barrels are dropped the hammers are rocked upwardly a slight distance by their main springs until their upward movement is checked by engagement with the sears —D'—, and, as the levers —L—L— are detachably engaged with the shoulders —k—k— of the connections —K—K—, said connections remain in their retracted position until forced forwardly by the upward movement of the hammers.

It will thus be readily understood from the foregoing description and upon reference to the drawings that, as the barrels are dropped, the hammers are cocked, the shells are extracted, and the connections for automatically regulating the action of the extractor ejecting mechanism are forced backwardly out of operative position; that, as the barrels are dropped, the extractors are forced to their normal positions, the ejector operating springs are compressed and restrained from movement by the stops or sears for engaging the same; that the hammers are operated independently; and that, after the hammer has been forced upwardly, the corresponding extractor is operated to extract the shell fired by said hammer, and, if the hammer remains in its normal cocked position, the shell is only withdrawn a limited distance to facilitate engagement thereof by the sportman's fingers.

To one skilled in the art it will be readily understood that my improved gun is particularly simple, and that its parts are strong, durable, and effective in operation. It will also be evident that the friction incidental to the dropping of the barrels and the operation of the extractors is reduced to a minimum; that the extractor sections are not subjected to the force of the springs for forcing the same to their outward position until the hammers are cocked by the breaking of the gun, and that the action of the extractors is positive and effective, and is regulated in a simple manner by practical and efficient connections by the position of the hammers.

The detail construction and arrangement of my improved gun may be considerably varied without departing from the spirit of my invention, hence I do not herein specifically limit myself to such detail construction and arrangement.

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

1. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, connections, substantially as described, between the extractor and the frame of the gun, whereby, as the barrel is dropped, the

extractor is moved a limited distance from its normal position for partially extracting the shell, a spring for forcing the extractor to the limit of its movement, said spring being normally disconnected from the extractor, substantially as and for the purpose set forth.

2. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, an ejector hammer a spring for operating the ejector hammer, a stop or sear connected to the spring for preventing its action, the hammer of a gun, an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position and permitting the action of the spring, and a retractor lever for returning the extractor to its normal position, substantially as and for the purpose specified.

3. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, connections, substantially as described, between the extractor and the frame of the gun, whereby, as the barrel is dropped, the extractor is moved a limited distance from its normal position for partially extracting the shell, an ejector hammer a spring for actuating the ejector to force the extractor to the limit of its movement, a movable stop or sear connected to the spring for preventing its action, the hammer of a gun, and an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position and permitting the action of the spring, substantially as and for the purpose described.

4. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, connections, substantially as described, between the extractor and the frame of the gun, whereby, as the barrel is dropped, the extractor is moved a limited distance from its normal position for partially extracting the shell, an ejector hammer a spring for actuating the ejector to force the extractor to the limit of its movement, a movable stop or sear connected to the spring for preventing its action, the hammer of a gun, an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position and permitting the action of the spring, and a retractor lever for returning the extractor to its normal position, substantially as and for the purpose specified.

5. The combination with the barrel and frame of a breech loading gun, a hammer, and connections between the barrel and the hammer, whereby the hammer is cocked as the barrel is dropped; of an extractor for withdrawing the shell, an ejector hammer a spring for actuating the ejector to force the extractor, a stop or sear for preventing the action of the spring, and an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position

after the hammer assumes its cocked position, substantially as and for the purpose described.

6. The combination with the barrel and frame of a breech loading gun, a hammer and connections between the barrel and the hammer, whereby the hammer is cocked as the barrel is dropped; of an extractor for withdrawing the shell, an ejector hammer a spring for actuating the ejector to force the extractor, a stop or sear for preventing the action of the spring, an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position after the hammer assumes its cocked position, and a retractor lever for returning the extractor to its normal position, substantially as and for the purpose specified.

7. The combination with the barrel and frame of a breech loading gun, a hammer connections between the barrel and the hammer, whereby the hammer is cocked as the barrel is dropped and an extractor for withdrawing the shell from the barrel; of connections, substantially as described, between the extractor and the frame of the gun, whereby, as the barrel is dropped, the extractor is moved a limited distance from its normal position for partially extracting the shell, an ejector hammer a spring for actuating the ejector hammer to force the extractor to the limit of its movement, and an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position after the hammer assumes its cocked position, substantially as and for the purpose set forth.

8. The combination with the barrel and frame of a breech loading gun, a hammer connections between the barrel and the hammer, whereby the hammer is cocked as the barrel is dropped and an extractor for withdrawing the shell from the barrel; of connections, substantially as described, between the extractor and the frame of the gun, whereby, as the barrel is dropped, the extractor is moved a limited distance from its normal position for partially extracting the shell, an ejector hammer a spring for actuating the ejector hammer to force the extractor to the limit of its movement, an automatically movable connection from said stop or sear to the hammer for moving the stop from operative position after the hammer assumes its cocked position, and a retractor lever for returning the extractor to its normal position, substantially as and for the purpose described.

9. The combination with the barrel, frame and hammer of a breech loading gun; of a movable dog secured to the barrel, a cocking lever connected to the hammer and operated to cock the hammer by the movable dog secured to the barrel, an extractor adapted to engage the movable dog and lock the same from operation, an ejector hammer a spring for actuating the ejector hammer to operate the extractor, a stop or sear connected to the spring

for preventing its action, and an automatically movable connection from said hammer to the stop or sear for moving the stop from operative position and permitting the action of the spring, substantially as and for the purpose described.

10. The combination with the barrel, frame and hammer of a breech loading gun; of a movable dog secured to the barrel, a cocking lever connected to the hammer and operated to cock the hammer by the movable dog secured to the barrel, an extractor adapted to engage the movable dog and lock the same from operation, an ejector hammer a spring for actuating the ejector hammer to operate the extractor, a stop or sear connected to the spring for preventing its action, an automatically movable connection from said hammer to the stop or sear for moving the stop from operative position and permitting the action of the spring, and a lever for returning the extractor lever and said spring to their normal positions, substantially as set forth.

11. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, an ejector hammer for operating the extractor, a spring for actuating the ejector hammer to operate the extractor, a stop or sear connected to the spring for preventing its action, the hammer of a gun, and an automatically movable connection from said stop or sear to the hammer of the gun for moving the stop from operative position and permitting the action of the spring, substantially as and for the purpose described.

12. The combination with the barrel, fore-end piece and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, an ejector hammer pivoted to the fore-end piece and interposed between the extractor and the gun frame, whereby, as the barrel is dropped, the ejector hammer moves the extractor a limited distance from its normal position, a spring for actuating the ejector hammer to the limit of its movement, said spring being normally disengaged from the ejector, whereby the ejector hammer moves freely a limited distance, substantially as and for the purpose specified.

13. The combination with the barrel, fore-end piece and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, an ejector hammer pivoted to the fore-end piece and interposed between the extractor and the gun frame, whereby, as the barrel is dropped, the ejector hammer moves the extractor a limited distance from its normal position, a spring for actuating the ejector hammer to the limit of its movement, said spring being normally disengaged from the ejector, whereby the ejector hammer moves freely a limited distance, a stop or sear for preventing the action of the spring, the hammer of a gun, and an automatically movable connection from said stop

or sear to the hammer of the gun for moving the stop from operative position and permitting the action of the spring, substantially as and for the purpose described.

5 14. The combination with the barrel and frame of a breech loading gun; of an extractor for withdrawing the shell from the barrel, an ejector hammer a spring for actuating the
10 ejector hammer to operate the extractor, a lever connected, substantially as described, to compress said spring as the barrel assumes its normal position, and a stop or sear for holding the spring in its compressed condition and preventing its operation, substantially as
15 and for the purpose specified.

15. The combination with the barrel and frame of a breech loading gun; of an extractor for withdrawing the shell from the barrel, an
20 ejector hammer a spring for actuating the ejector hammer to operate the extractor, a lever movably supported on the frame and connected, substantially as described, to compress said spring as the barrel assumes its normal position, a stop or sear for holding the spring
25 in its compressed condition and preventing its operation, the hammer of the gun, and a connection between the hammer of the gun and said stop or sear for rocking the stop or sear out of operative position, substantially
30 as and for the purpose set forth.

16. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the barrel, an ejector hammer a spring connected,
35 substantially as described, to the ejector hammer for actuating the ejector hammer to operate the extractor, a pivoted stop or sear for preventing the operation of the spring, and a spring for forcing the stop or sear to
40 operative position, substantially as and for the purpose described.

17. The combination with the barrel and frame of a breech loading gun; of a movable extractor for withdrawing the shell from the
45 barrel, an ejector hammer a spring connected, substantially as described, to the ejector hammer for actuating the ejector hammer to operate the extractor, a lever engaged with the spring and ejector hammer, substantially
50 as described, for operating the extractor, and a stop or sear for engaging said lever and

preventing its operation, substantially as and for the purpose specified.

18. The combination with the barrel and frame of a breech loading gun; of a movable
55 extractor for withdrawing the shell from the barrel, an ejector hammer a spring connected, substantially as described, to the ejector hammer for actuating the ejector hammer to
60 operate said extractor, a pivoted stop or sear for preventing the operation of the spring the hammer of the gun, an arm connected to said hammer, and a sliding connection having one end connected to said arm and the
65 other engaged with the stop or sear for forcing the same from operative position, substantially as and for the purpose set forth.

19. The combination with the barrel and frame of a breech loading gun; of a movable
70 extractor for withdrawing the shell from the barrel, an ejector hammer a spring connected, substantially as described, to the ejector hammer for actuating the ejector hammer to operate said extractor, a hammer pivotal pin,
75 a hammer connected to the hammer pivotal pin with a lost motion, an arm connected to said hammer pivotal pin with a lost motion, and a sliding bar or connection having one end detachably connected to the opposite
80 end of the arm and the other end engaged with the stop or sear for forcing the same from operative position, substantially as described.

20. The combination with the barrel, barrel lug, and frame of a breech loading gun;
85 of a movable extractor for withdrawing the shell from the barrel, a retractor lever pivoted to the barrel lug, and a sliding piece or bar movable in said barrel lug and having one end bearing against said frame and the other
90 against the retractor lever, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of
95 Onondaga, in the State of New York, this 14th day of February, 1893.

DANIEL M. LEFEVER.

Witnesses:

CLARK H. NORTON,

KATHERINE H. THEOBALD.