

No. 765,805.

PATENTED JULY 26, 1904.

C. W. BARTHOLMES.
BREECH LOADING ORDNANCE.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.

Fig. 1.

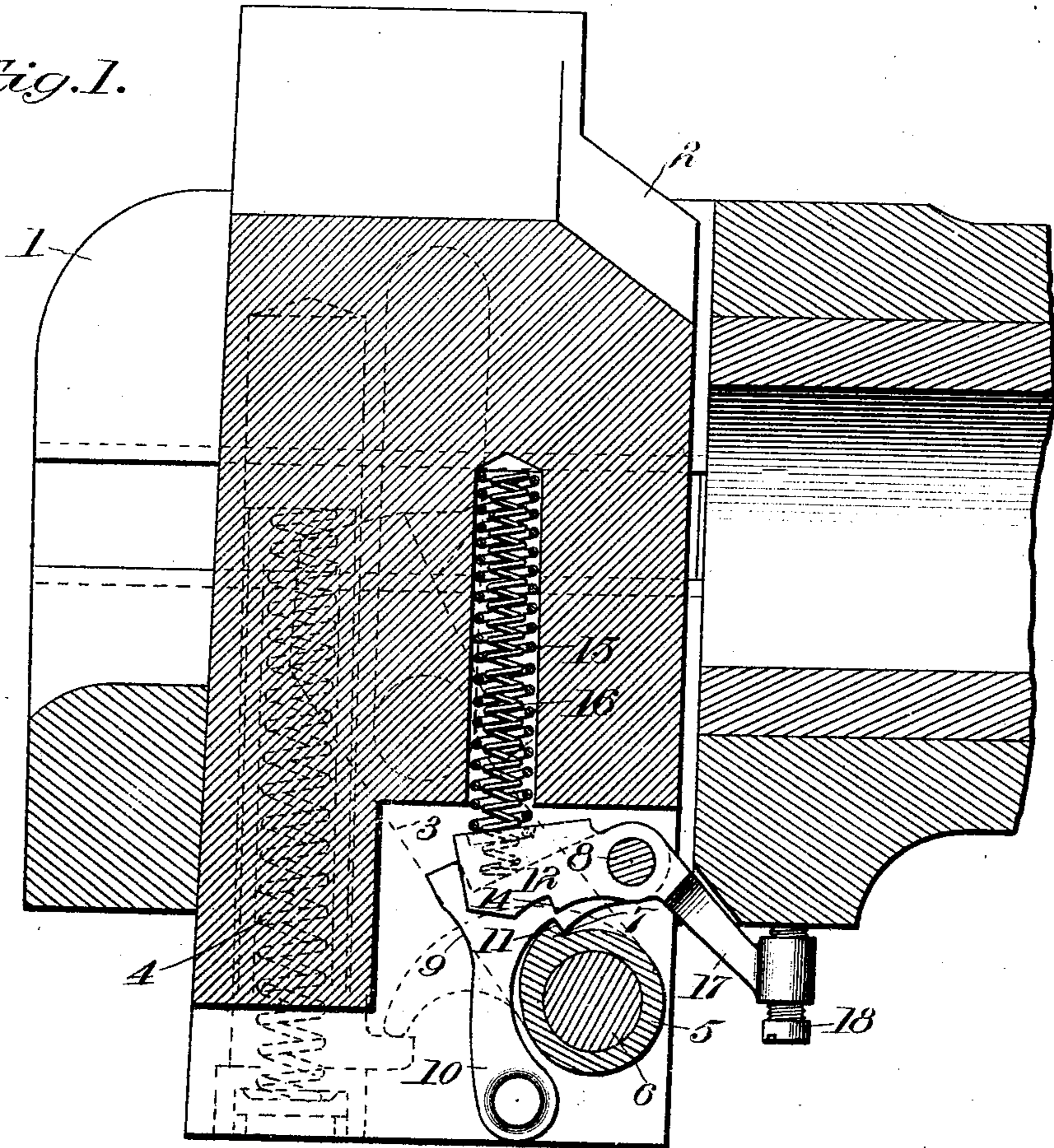


Fig. 2.

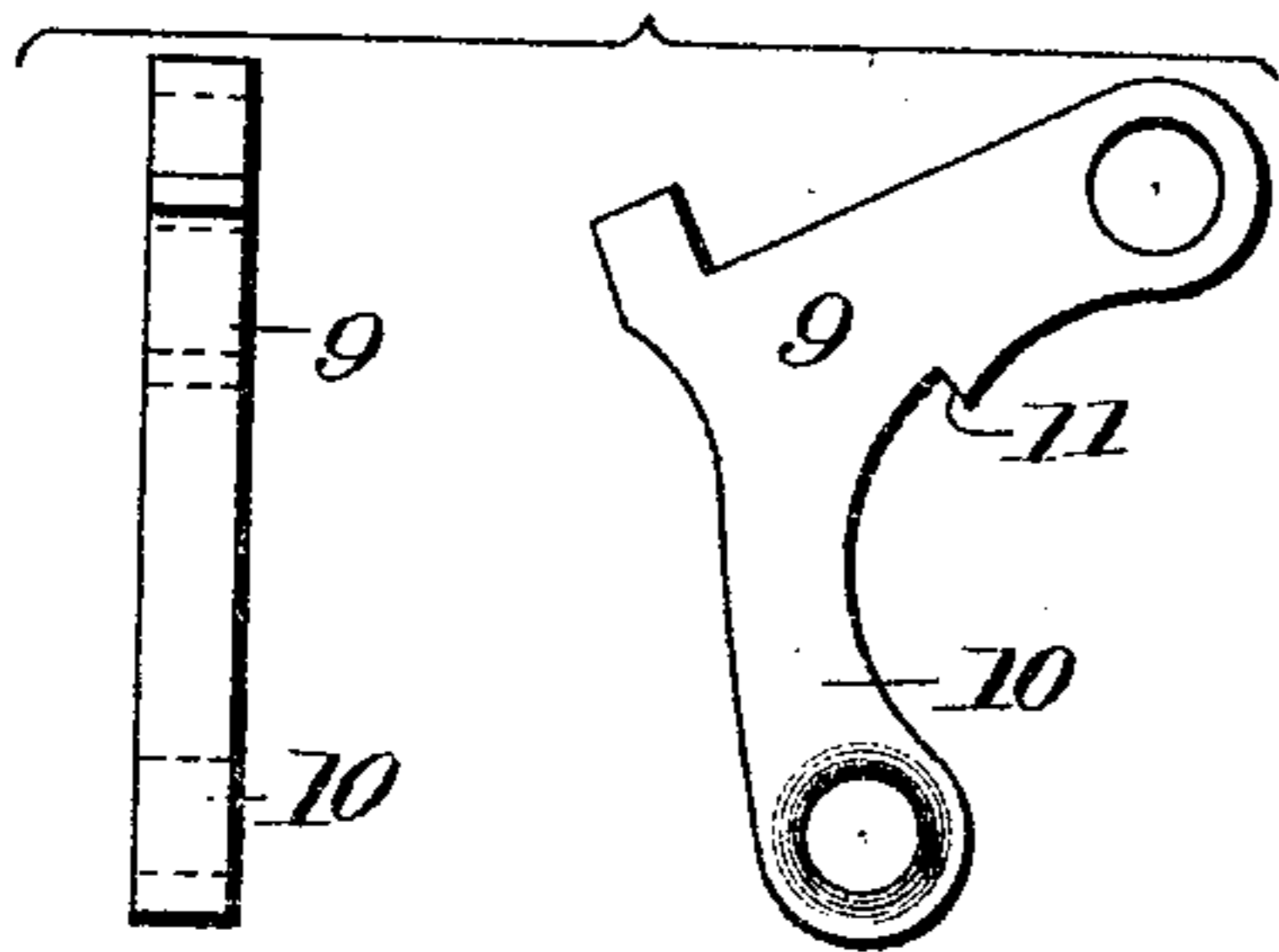
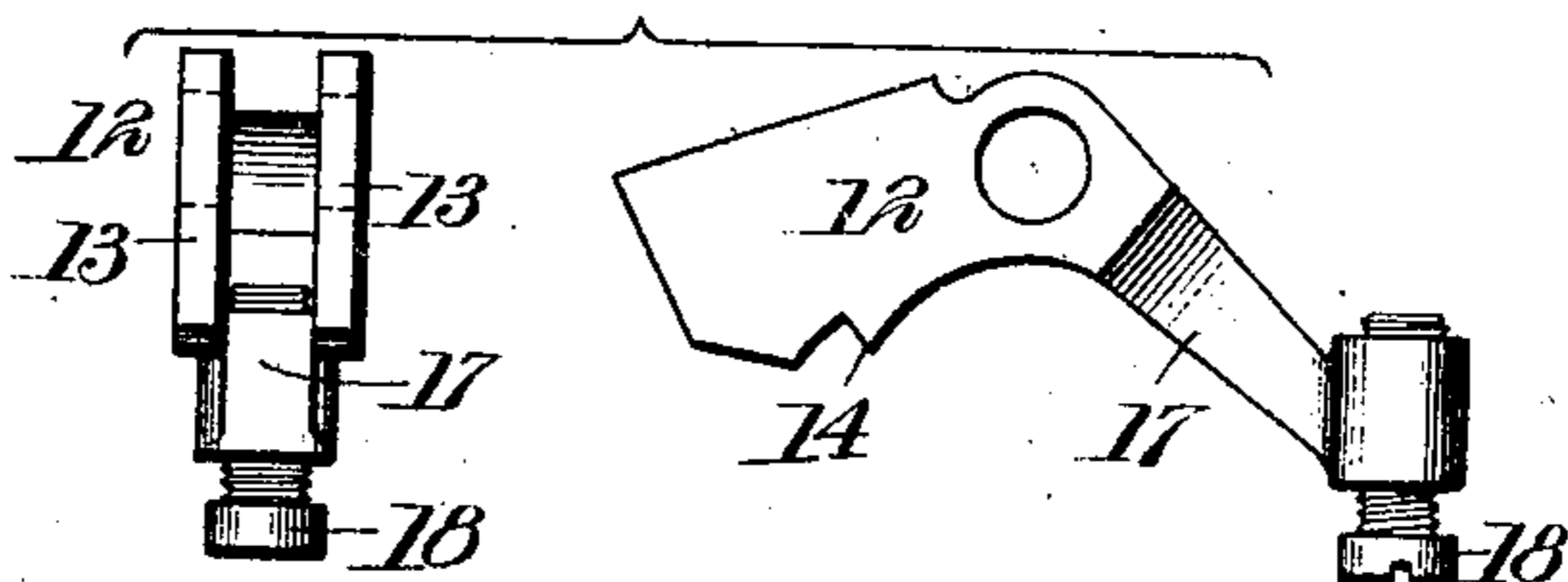


Fig. 3.



Witnesses

C. H. Walker.
J. T. Walker.

Charles W. Bartholmes Inventor

By *James W. Bensus*
his Attorney

UNITED STATES PATENT OFFICE.

CHARLES W. BARTHOLMES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR,
BY DIRECT AND MESNE ASSIGNMENTS, TO AMERICAN MACHINE &
ORDNANCE COMPANY AND AMERICAN AND BRITISH MANUFACTUR-
ING COMPANY, OF NEW YORK, N. Y., CORPORATIONS OF NEW YORK.

BREECH-LOADING ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 765,805, dated July 26, 1904.

Application filed November 13, 1902. Serial No. 131,194. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BARTHOLMES, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Ordnance; and I do hereby 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.

This invention relates to improvements in breech-loading ordnance, and particularly to an improved sear therefor, the object being to provide a sear especially adapted for use in connection with automatic and semi-automatic guns, the object sought in the first-mentioned type of guns being the provision of a sear which will automatically engage and release the hammer or which may be so controlled as to permit of the firing of a single round, if desired, and in the last-mentioned class of guns the provision of a sear which will insure positive engagement of the hammer when the latter is retracted irrespective of whether or not the lanyard is released by the operator.

With the above objects in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a gun-breech provided with my improved sear, the hammer being cocked ready for firing; Fig. 2, a detached view of one member of the sear, showing the same in side and edge elevation; and Fig. 3, a similar view of the other member of the sear.

Referring now more particularly to the accompanying drawings, 1 indicates the gun-breech; 2, the breech-block, which is of the "drop-block" type; 3, the hammer; 4, the hammer-spring, and 5 the sleeve or hub of the hammer secured to the shaft 6, mounted

in the block and provided with a shoulder or detent 7. The above is the ordinary construction of "Hotchkiss" gun, in connection with which I have here illustrated and described my improved sear. In a gun of this type provided with a semi-automatic attachment, as that shown and described in Patent No. 673,594, dated May 7, 1901, upon counter-recoil the block is automatically moved downwardly to unmask the bore of the gun, the hammer is retracted, and a spring energized to move the block to close the breech, when said block is released by the insertion of a fresh cartridge. In the case of the ordinary sear designed to engage the hammer when the latter is retracted and operated to release the same by a pull upon the lanyard it is possible to prevent the sear from engaging the hammer upon retraction of the latter by the continuation of the rearward pull upon the lanyard by the operator sufficiently to retard the actuating-spring of the sear, and consequently the hammer immediately drops back to fired position, necessitating recocking by hand. This difficulty is avoided by my improved sear, in which provision is made for an engagement of the hammer regardless of whether or not the operator has released the sear by discontinuing the pull upon the lanyard.

In a gun of the above-mentioned type provided with means whereby its entire action is automatic it is necessary to provide a sear which will automatically engage and hold the hammer retracted until the gun is loaded and the breech closed and then be automatically operated to release the hammer, and it is also desirable to provide a sear by means of which the rounds of ammunition may be fired singly at the will of the operator. By the provision of my improved sear the above results are accomplished in a very effective manner.

Referring now more particularly to my invention, 9 designates the primary member of my sear, which is pivotally mounted in a recess in the block at the point 8. This mem-

ber corresponds to the sears now in general use and is provided with an arm 10, to which the lanyard is attached, and with a detent 11, adapted to coact with the shoulder or detent 7 when the hammer is retracted for the purpose of holding said hammer in that position until disengaged therefrom by a pull upon the lanyard. Pivoted at the same point is the secondary member 12, which is bifurcated, the bifurcations 13 receiving between them the primary member 10. This secondary member is also provided with a detent 14, adapted to engage the detent of the hammer. A coiled spring 15 in a recess in the block tends to force said secondary member in engagement with the sleeve of the hammer, and a smaller coiled spring 16, placed within said spring 15, engages and normally presses said primary member in engagement with said sleeve. The secondary member is provided with an arm 17, extending on the opposite side of its pivot to the detent 14, and this arm is provided with an adjustable contacting portion in the form of a screw 18.

The action of my invention in a semi-automatic gun hereinbefore mentioned is as follows: Assuming that the breech is closed and the gun cocked ready for firing, the primary member is disengaged by the rearward pull of the lanyard, the rearward movement being limited to an amount necessary to unlock the hammer. The counter recoil of the gun in conjunction with the semi-automatic attachment opens the breech, allowing the secondary member to engage the hammer, as will also the primary member when not prevented by retention of the lanyard. A round is inserted in the breech and the block released to be automatically moved to close the breech. By the movement of the block the secondary member is released, the contact portion 18 coming in contact with the gun-housing. The primary sear, however, is not released from the hammer, but holds the same cocked until the lanyard is drawn upon. If after the gun has been fired by the pull upon the lanyard and the lanyard is not released or slackened sufficiently to permit the primary sear to be in position to engage and hold the hammer retracted, the hammer will not drop back to fired position immediately, as it will be engaged by the secondary sear.

In a full automatic gun by a continued pull upon the lanyard the gun is fired automatically as soon as the secondary sear is tripped by the movement of the block. A single

round may be fired at the will of the operator by simply slackening the lanyard and permitting the primary sear to engage the hammer.

I do not limit my invention to the exact details of construction herein shown and described, as it will be apparent that many modifications and variations might be made without departing from the scope thereof.

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

1. In a gun having a vertically-movable block, the combination with the hammer, of a primary sear pivotally mounted in said block and adapted to hold the hammer retracted, a spring having a tendency to force said sear in engagement with the hammer, a secondary sear pivotally mounted in the block and having an engaging portion adapted to engage and hold said hammer retracted, and a tripping portion disposed to contact with the wall of the gun and disengage the engaging portion from the hammer when the block is moved to closed position, and a spring having a tendency to force said secondary sear in engagement with the hammer, substantially as described.

2. In a gun, the combination with the hammer, of a sear adapted to automatically engage and hold the hammer retracted, a tripping portion carried by said sear adapted to effect the disengagement of the sear from the hammer by the movement of the block in closing the breech, and means for adjusting said portion to vary the time of tripping of the sear, substantially as described.

3. In a gun, the combination with the hammer, of a sear comprising two members disposed in position to engage the hammer when the latter is retracted and hold the same in that position, one of the members arranged to be manually operated to release the hammer, and the other member arranged to be automatically operated to release the hammer, and two coiled springs arranged one within the other, one of said springs engaging one of said sear members and the other passing through said member and engaging the other sear member.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

CHARLES W. BARTHOLMES.

Witnesses:

W. H. BEVANS,

A. R. JONES.

It is hereby certified that Letters Patent No. 765,805, granted July 26, 1904, upon the application of Charles W. Bartholmes, of Bridgeport, Connecticut, for an improvement in "Breech-Loading Ordnance," was erroneously issued to the American Machine & Ordnance Company and American and British Manufacturing Company, of New York, N. Y., corporations of New York, as joint owners of said invention; whereas the patent should have been granted to said *American and British Manufacturing Company, of New York, N. Y.*, a corporation of New York, it being sole owner of the entire interest as shown by the assignments of record in the Patent Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 16th day of August, A. D., 1904.

[SEAL.]

E. B. MOORE,
Acting Commissioner of Patents.