N° 13,649 A.D. 1900

Date of Application, 30th July, 1900
Complete Specification Left, 29th Apr., 1901—Accepted, 29th June, 1901

PROVISIONAL SPECIFICATION

"Improvements in Breech Mechanism for Automatic Fire-arms"

I, CLAUS HERMANN RICHARD CLAUSIUS, of No. 1 Margarethenstrasse, Hamburg, in the Empire of Germany, Ex Captain of the Royal Hunters, do hereby declare the nature of this invention to be as follows;—

The present invention relates to improvements in breech mechanism for automatic fire-arms and particularly of that class in which the recoil is utilized for moving back the breech block and the barrel, separating the breech block from the said barrel, placing a new cartridge between breech block and barrel, and then returning the breech block, feeding the said new cartridge into the cartridge chamber of the barrel and locking the breech block to the barrel.

The object of the improvements is to provide means whereby only a part of the barrel is moved rearwardly by the recoil, instead of the entire barrel as heretofore.

The breech mechanism proper remains substantially the same as in the automatic fire-arms above referred to and in which the entire barrel recoils; such breech mechanism consists, as is well known, of a cylindrical breech block adapted to slide and turn in a tubular chamber secured to the stock of the weapon; the said tubular chamber being open to the cartridge magazine and provided with an aperture for the ejection of the empty cartridge shells.

The outer surface of the breech block is formed with a groove which is parallel to the longitudinal axis of the fire-arm, a portion of the said groove being inclined at the rear end thereof. A pin or stud fast on the tubular chamber engages with the said groove in such a manner that such pin or stud is located in the inclined portion of the groove when the breech is closed; this arrangement may be reversed when required, *i.e.* the groove may be provided in the tubular chamber and the pin on the breech block.

The breech block is retained in its closed position by means of a bolt or catch which engages with a notch or recess formed in a rearwardly extending arm of a movable or recoiling part of the barrel, or *vice versa*, whilst the latter itself is arranged stationary and does not partake in the recoiling movement. The movable part of the barrel may serve as the cartridge chamber of the barrel which for this purpose consists of a sleeve or socket adapted to receive the cartridge and snugly fitting in a suitable bore in the rear end of the stationary barrel. The movable sleeve or socket is provided with a notch or the like for a spring actuated locking catch adapted to arrest the recoiling motion of the said sleeve or socket; the latter is also provided with a lug or the like on which acts a suitable spring adapted to run out or move forward the said sleeve or socket and to retain the same within the barrel-bore in its forward or firing position.

The firing-pin arrangement, the spring for moving forward the breech block, the cocking lever and the trigger mechanism are of well known construction, arrangement, and operation, and need not be particularly described herein.

It is obvious that the present invention according to which not the entire barrel but only a part of the same partakes in the recoil motion will be of great value and advantage particularly in those cases in which the barrel is

proportionately long and heavy in weight, as in such cases the recoil force has to overcome not the entire weight and friction of the sliding barrel but only the weight and frictional resistance of a relatively small part of the otherwise stationary barrel. In consequence of this fact also a much lighter spring may be employed for actuating the said movable part of the barrel or for retaining it in its forward or firing position respectively.

Dated this 30th day of July 1900.

HASELTINE LAKE & Co.
45 Southampton Buildings, London, W.C.
Agents for the Applicant.

COMPLETE SPECIFICATION

"Improvements in Breech Mechanism for Automatic Fire-arms."

I, CLAUS HERMANN RICHARD CLAUSIUS, of No. 1 Margarethenstrasse, Hamburg, in the Empire of Germany, Ex Captain of the Royal Hunters, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to improvements in breech mechanism for automatic fire-arms and particularly of that class in which the recoil is utilized for moving back the breech block and the barrel, separating the breech block from the said barrel, placing a new cartridge between breech block and barrel, and then returning the breech block, feeding the said new cartridge into the cartridge chamber of the barrel and locking the breech block to the barrel, and which class of fire-arms, I have fully described in the Specification of my prior British Patent No. 2882 A.D. 1900.

The object of the improvements is to provide means whereby only a part of the barrel is moved rearwardly by the recoil, instead of the entire barrel as heretofore.

In the accompanying drawing:

Figure 1 is a longitudinal sectional elevation of an automatic fire-arm constructed in accordance with my invention with closed breech and cocked firing-pin;

Figure 2 is a similar sectional view with open breech; the breech block and sliding part of the barrel being in the recoiled position, and the latter arrested therein by its locking catch; and

Figure 3 is a longitudinal horizontal section of Figure 2.

Similar letters refer to similar parts throughout the several figures.

The breech mechanism proper remains substantially the same as in the automatic fire-arms above referred to and in which the entire barrel recoils; such breech mechanism consists, as is well known, of a cylindrical breech block *a* adapted to slide and turn in a tubular chamber *b* secured to the stock of the weapon; the said tubular chamber *b* being open to the cartridge magazine *c* and provided in well known manner with an aperture for the ejection of the empty cartridge case.

The outer surface of the breech block is formed with a groove *f* which is parallel to the longitudinal axis of the fire-arm, a portion f^1 of the said groove being inclined at the rear end thereof. A pin or stud *g* fast on the tubular chamber *b* engages with the said groove in such a manner that such pin or stud *g* is located in the inclined portion f^1 of the groove when the breech is closed; (Figure 1); this arrangement may be reversed when required, *i.e.* the groove may be provided in the tubular chamber and the pin on the breech block.

The breech block *a* is retained in its closed position by means of a bolt or

catch *i* which engages with a notch or recess *k* formed in a rearwardly extending arm *l* of a movable or recoiling part *q* of the barrel *h*, or *vice versa*, whilst the latter itself is arranged stationary and does not partake in the recoiling movement. The movable part *q* of the barrel may serve as the cartridge chamber of the barrel, which for this purpose consists of a sleeve or socket adapted to receive the cartridge and snugly fitting in a suitable bore h^1 in the rear end of the stationary barrel *h*. The movable sleeve or socket *q* is provided with a notch *y* or the like for a locking catch *v* actuated by a spring *w* and adapted to arrest the recoiling motion of the said sleeve or socket *q*; the latter is also provided with a lug *n* or the like on which acts a suitable spring *m* adapted to run out or move forward the said sleeve or socket *q* and to retain the same within the barrel bore h^1 in its forward or firing position (Figure 1). The disengagement of the catch *v* from the notch *y* of the socket *q* is effected by the forward moving breech block by its pressing upon the sloped nose *z* of the spring catch *v* and thus moving the latter down and out of the path of the socket *q*.

The firing-pin arrangement, the spring for moving forward the breech block, the cocking lever and the trigger mechanism are of well known construction, arrangement and operation, and need not be particularly described herein.

It is obvious that the present invention, according to which not the entire barrel, but only a part of the same partakes in the recoil motion, will be of great value and advantage particularly in those cases in which the barrel is proportionately long and heavy in weight, as in such cases the recoil force has to overcome not the entire weight and friction of the sliding barrel but only the weight and frictional resistance of a relatively small part of the otherwise stationary barrel. In consequence of this fact also a much lighter spring may be employed for actuating the said movable part of the barrel or for retaining it in its forward or firing position respectively.

Having now particularly described and ascertained the nature of this invention, and in what manner the same is to be performed, I declare that what I claim is:—

A breech mechanism for automatic fire-arms with recoiling breech block and stationary barrel, thereby characterized, that the stationary barrel is provided with a slidable and arrestable part (*q*) with which the breech block is detachably connected, so that during the coupling or uncoupling of the breech block only the said slidable part of the barrel partakes in the recoiling or closing motion of the breech block, substantially as and for the purpose set forth.

Dated this 29th day of April 1901.

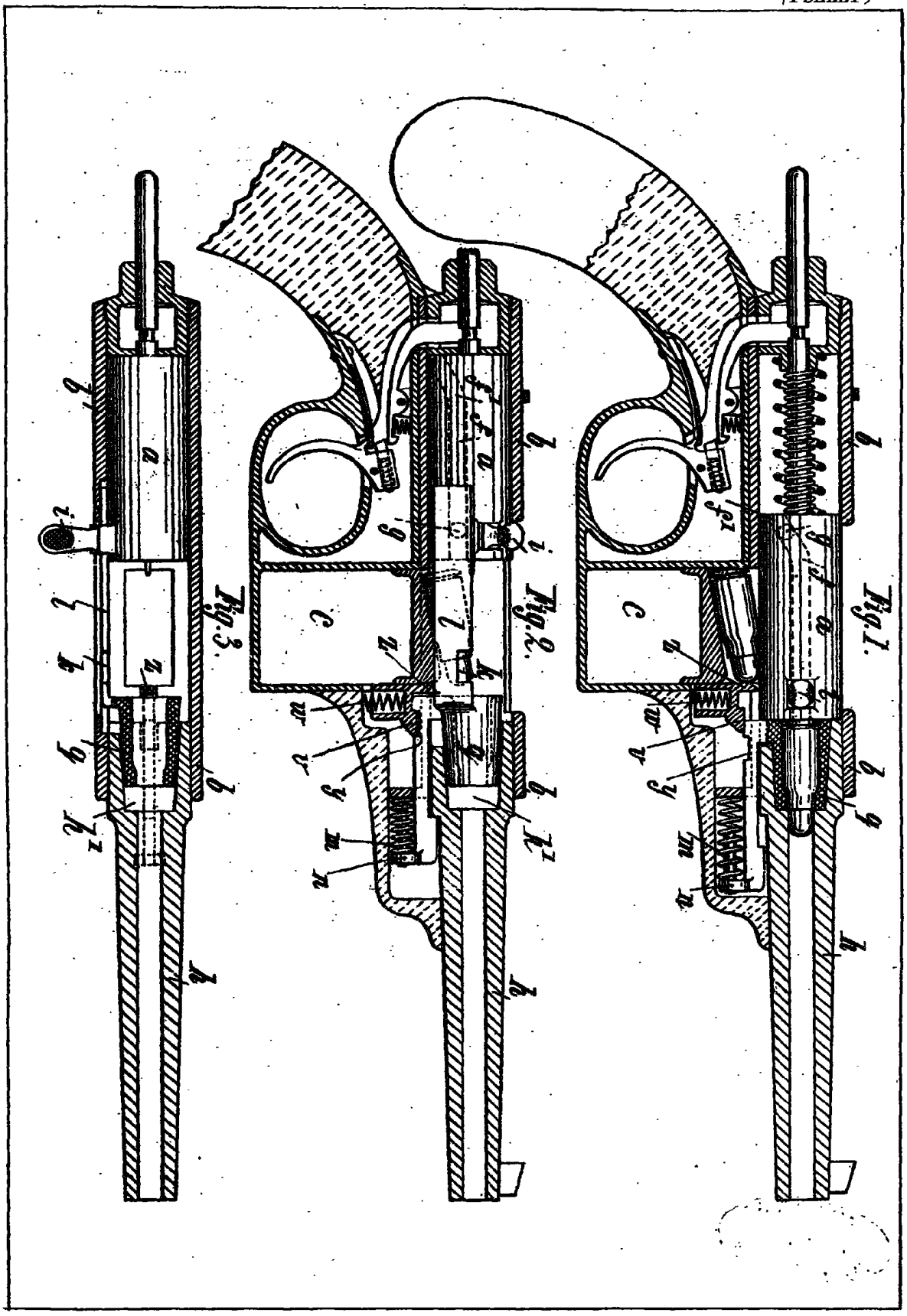
HASELTINE LAKE & Co.
45 Southampton Buildings, London, W.C.
Agents for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Malcomson & Co., Ltd.—1901.

A.D. 1900. July 30. Nº 13,649.

CLAUSIUS' Complete Specification.

(1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale.]

Malby&Sons, Photo-Litho.