

(No Model.)

2 Sheets—Sheet 1.

N. G. HANSON.  
CANE GUN.

No. 547,117.

Patented Oct. 1, 1895.

WITNESSES:

E. B. Bolton  
C. A. Scott.

INVENTOR

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Fig. 3.

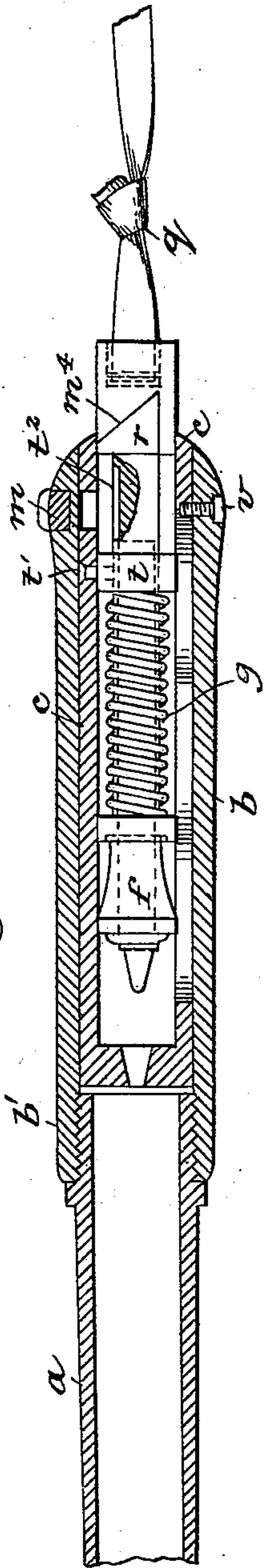


Fig. 5.

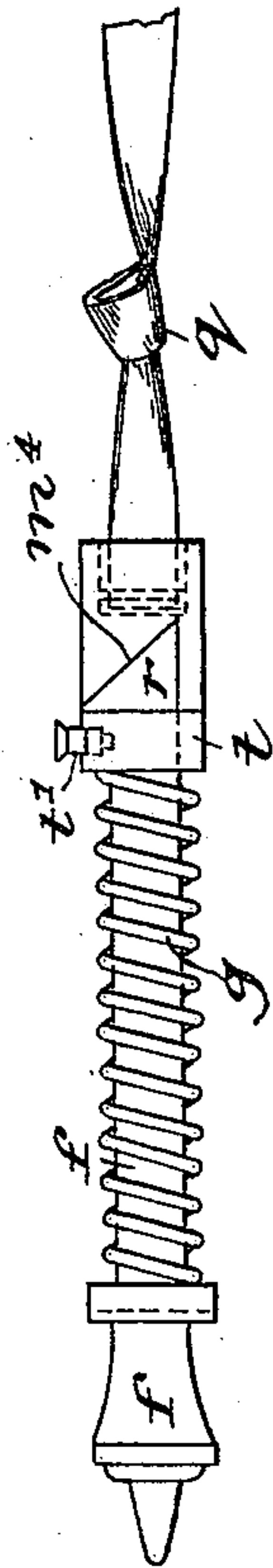
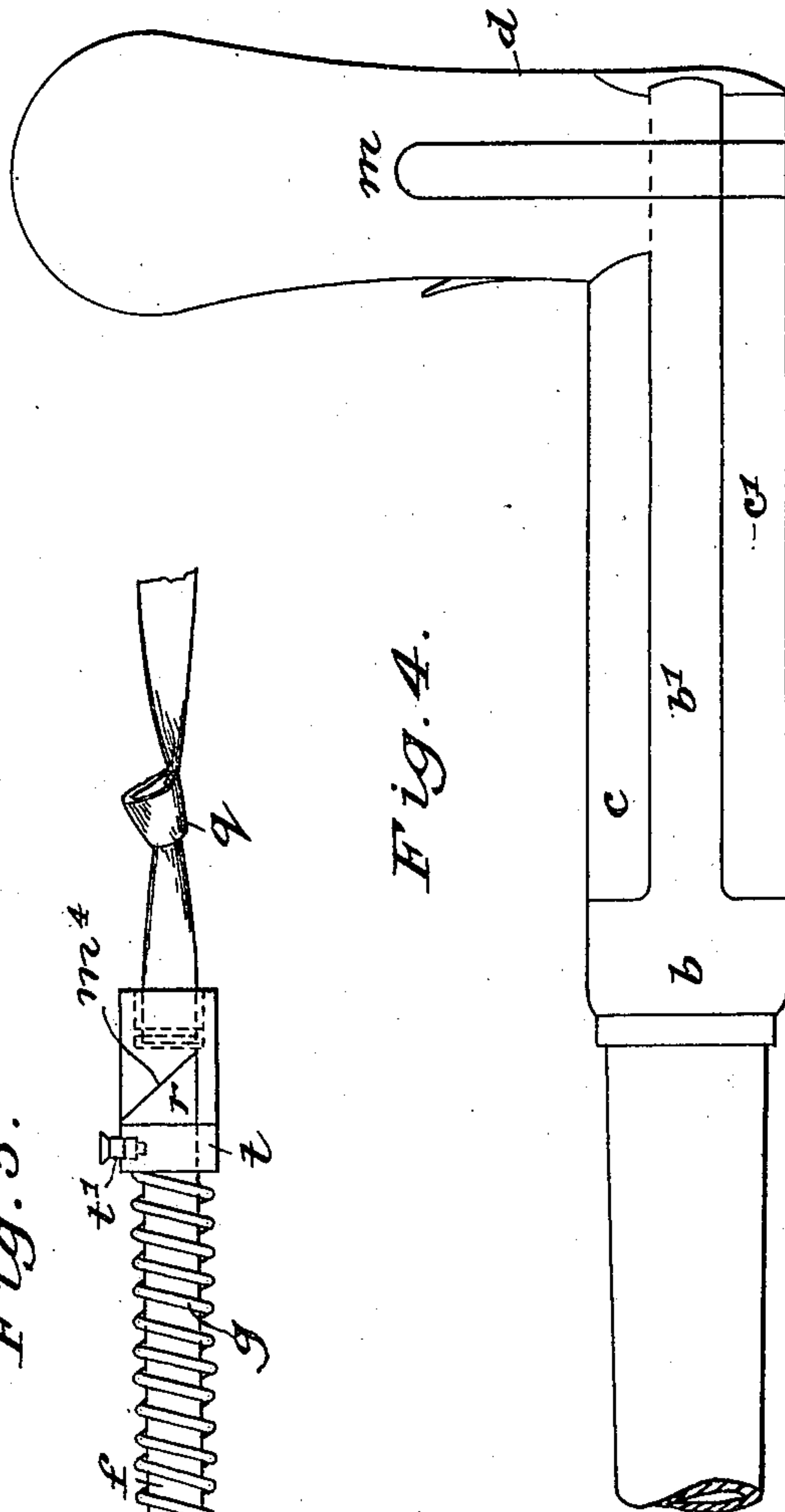


Fig. 4.



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# UNITED STATES PATENT OFFICE.

NILS GUSTAF HANSON, OF STOCKHOLM, SWEDEN.

## CANE-GUN.

SPECIFICATION forming part of Letters Patent No. 547,117, dated October 1, 1895.

Application filed April 22, 1895. Serial No. 546,746. (No model.)

*To all whom it may concern:*

Be it known that I, NILS GUSTAF HANSON, manufacturer, a subject of the King of Sweden and Norway, and a resident of Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Breech-Loading Mechanisms, especially in Cane-Guns, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is a cane-gun, and I aim to provide such a firing mechanism as will permit of the ready loading of the gun and prevent its accidental discharge.

The invention includes firing mechanism applied to a cane of ordinary form having a laterally-extending handle, said firing mechanism having a lock by which the firing mechanism is held locked when the handle is grasped by the hand.

On the accompanying drawings a cane-gun provided with the mechanism in question is shown in longitudinal section along the handle in Figure 1, in cross-section through the handle in Fig. 2, and in longitudinal section perpendicularly to the handle in Fig. 3. Fig. 4 shows a side view of the same. Fig. 5 shows the firing-pin, and Fig. 6 the locking-arm alone.

The barrel *a*, which forms the very stick, and which is mounted with a ferrule-shaped plug on its lower end, has screwed upon its upper end a casing *b*, in which the breech-bolt *c* slides in the usual manner. The casing itself is formed of two rigid bars *b'*, which at their rear ends are connected by means of the handle *d*. The breech-bolt is provided with grooves, into which the bars *b'* are completely sunk, so that the whole forms a cylinder, the exterior of which is even. In the cylinder are applied the firing-pin *f*, the spring *g*, the extractor *h*, and the sear *i*, the latter forming a lever and pressed inward toward the firing-pin by the spring *k*. In the opposite direction the sear *i* is acted upon by the trigger *l*, fixed to the handle in the angle between the stick and the handle. The breech-bolt cannot be turned, but instead its locking-arm *m* is rotatable on a pin *n*, fixed to the breech-bolt and in a plane perpendicular to the longitudinal axis of the stick. A recess *m'*, running across one of the guiding-bars *b'* and continuing into the handle, serves to receive

the locking-arm when the breech-bolt is pushed in, whereby the breech-bolt is locked.

In Fig. 2 the locking-arm is shown with full lines in locking position and with dotted lines in open position. When turned down, the locking-arm enters into the breech-bolt, also below the guiding-bar *b'*, as the shoulder *m*<sup>2</sup> on the same enters below a notch in the bar *b'* into an extension of that recess in the breech-bolt in which the upper end of the arm is situated. (See Fig. 2.) Thereby a very effective locking of the breech-bolt is obtained, so that the cylinder cannot slide relative to the casing *b*. The end of the arm *m*, which may be pushed into the handle, is bent outward a little, so that it may be seized from below for being turned up. It is kept in its locking position by the spring *o*, placed in the breech-bolt and fixed by means of the pin *c'*, the one end of this spring forming the extractor *h*. The spring *o* acts upon the locking-arm by means of two plane surfaces *p* and *p'* on the latter separated by a rounded ridge. The locking-arm is retained in its locking position when the spring *o* acts upon the surface *p* and in its open position when the spring acts upon the surface *p'*. The firing-pin may be drawn backward by pulling in the band *q*. Then the sear *i* enters into the half-cock notch *a'* or the full-cock notch *a*<sup>2</sup>, both made on the under side of the firing-pin, depending on the distance which the firing-pin is drawn backward. The sear *i*, as well as the sear-notch *a'*, is undercut, in consequence of which discharge, which is made by applying a pressure on the trigger *l*, so that the sear *i* is brought downward, cannot take place when the sear *i* engages with the sear-notch *a'*. The half-cocking of the firearm takes place automatically at the opening of the locking-arm *m*, as this locking-arm forms a lever, and its inner end has a beveled shoulder *m*<sup>3</sup>, which enters into a recess *r* on the upper side of the firing-pin *f*. The rear border of said recess forms an acute angle relative to the longitudinal axis of the firing-pin. At the opening the shoulder *m*<sup>3</sup> of the locking-arm *m* acts against said border in such a manner that the firing-pin is pressed backward and the sear *i* engages with the sear-notch *a'*. For preventing, however, an unintended discharge of the shot when the breech-bolt is free the locking-



arm is at  $m^2$  so formed with relation to the slope of the shoulder  $m^3$  and the border  $m^4$  that the half-cocking of the hammer has already taken place before the locking-arm has quite left the recesses in the guiding-bar  $b'$  and the butt or the handle. The firing-pin remains half-cocked with relation to the breech-bolt while this is drawn backward for the extraction of the empty cartridge and for the insertion of a new cartridge, after which the breech-bolt is pushed in and locked.

If the locking-arm by some reason is turned up in the upper position after the cocking of the firing-pin, and if the trigger thereafter is touched, the border  $m^4$  of the free firing-pin impinges against the shoulder  $m^3$  and the firing-pin stops in the half-cock position, so that the discharge cannot take place. If the slope of the surfaces on the parts  $m^3$  and  $m^4$  is so great that the firing-pin spring prevails in bringing the firing-pin past the half-cock position, it must first turn down the locking-arm, and the breech-bolt is then locked, so that the shot cannot go off backward. The fore-end of the firing-pin is then drawn in behind the fore plane of the cylinder, and firing cannot take place. For cocking the gun the firing-pin is drawn backward by seizing the band  $q$ , so that the sear  $i$  engages with the sear-notch  $a^2$ . The shot may then be discharged by a pressure on the trigger  $l$ . The firing-pin moves freely in the ring  $t$ , firmly connected to the breech-bolt and forming an abutment for the spring  $g$ . Through the ring passes a screw  $t'$ , for the end of which a longitudinal groove  $t^2$  is made in the firing-pin, whereby the firing-pin is prevented from turning. A similar screw  $v$ , entering into a groove in the cylinder through the guiding-bar  $b'$ , limits the extraction of the breech-bolt. Instead of the recess  $r$ , with its beveled border  $m^4$ , the firing-pin may be provided with a shoulder, upon which acts the locking-arm  $m$ .

In breech-loading mechanisms generally—for instance, muskets—the recess for the lock-

ing-arm, which is pivotally connected to the breech-bolt, is made in the one guiding-bar of the cylinder and extends down in the butt or the casing of the mechanism of the gun.

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

1. In a breech loading fire arm, the barrel, the casing, the breech bolt arranged to slide therein and held against rotation, the guide bars for guiding the breech bolt, a locking arm  $m$  pivoted to the breech bolt and the handle having a recess in which the locking arm fits to be held by the hand, one of said guide bars being also recessed to receive the locking arm, substantially as described.

2. In combination in a fire arm, the casing, the sliding breech bolt, the firing pin having a beveled shoulder  $m^4$  the handle or butt and the locking arm  $m$  pivoted to the breech bolt and adapted to enter a recess in the handle or butt, said arm having a beveled shoulder  $m^3$  to act on the shoulder  $m^4$  of the firing-pin to force the same to half cock position and having also a shoulder  $m^2$  adapted to still lie in the recess of the handle when the locking arm has moved the firing pin to half cock position and the sear for engaging the firing pin, substantially as described.

3. In combination in a cane gun the hollow stick forming the barrel, the handle extending laterally from the barrel, the breech bolt movable therein, the lock pivoted to the breech bolt and adapted to enter a recess in the handle, the firing pin, the sear and the trigger at the angle between the handle and stick.

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

NILS GUSTAF HANSON.

Witnesses:

ERNST SVANQVIST,  
CARL TH. SUNDHOLM.