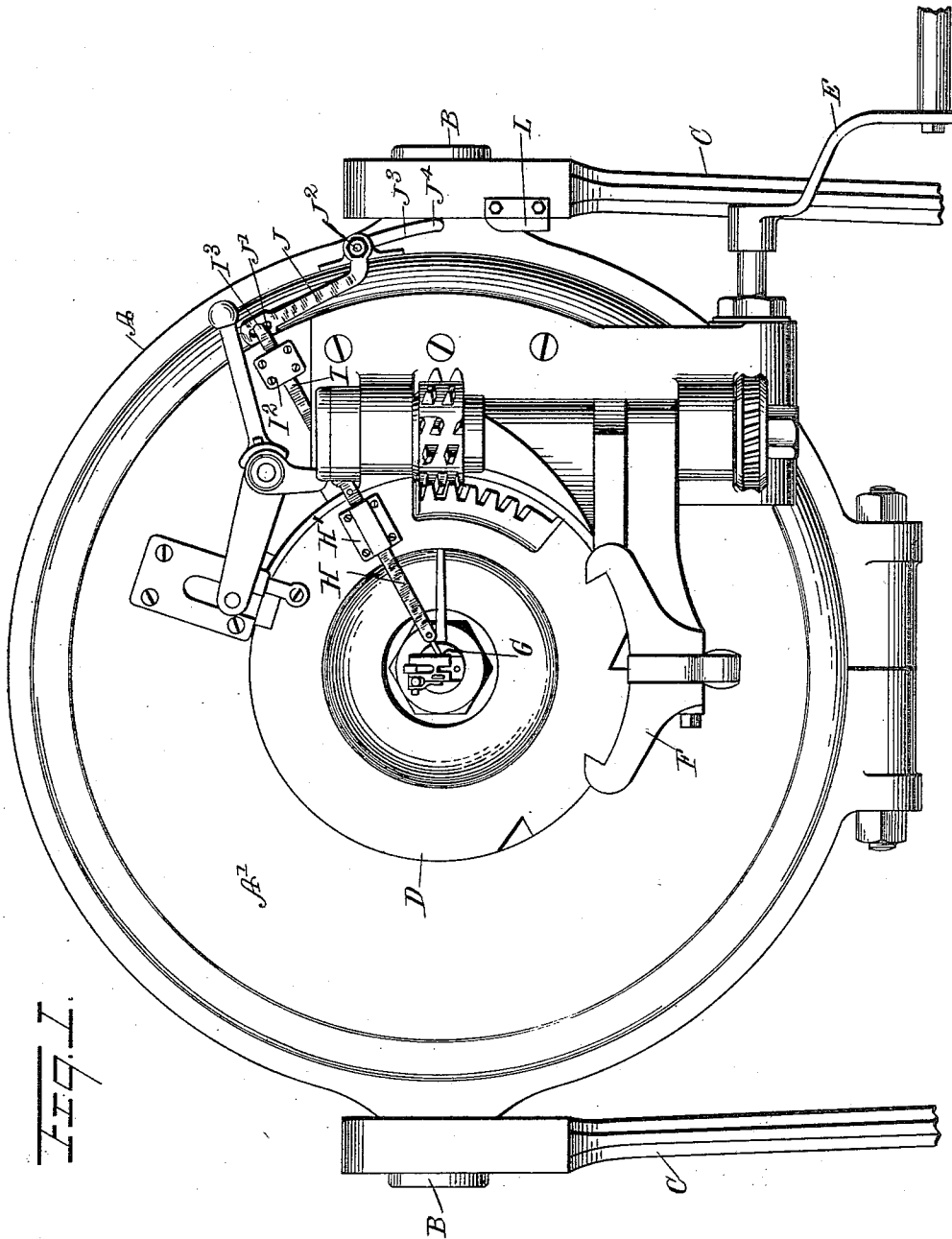


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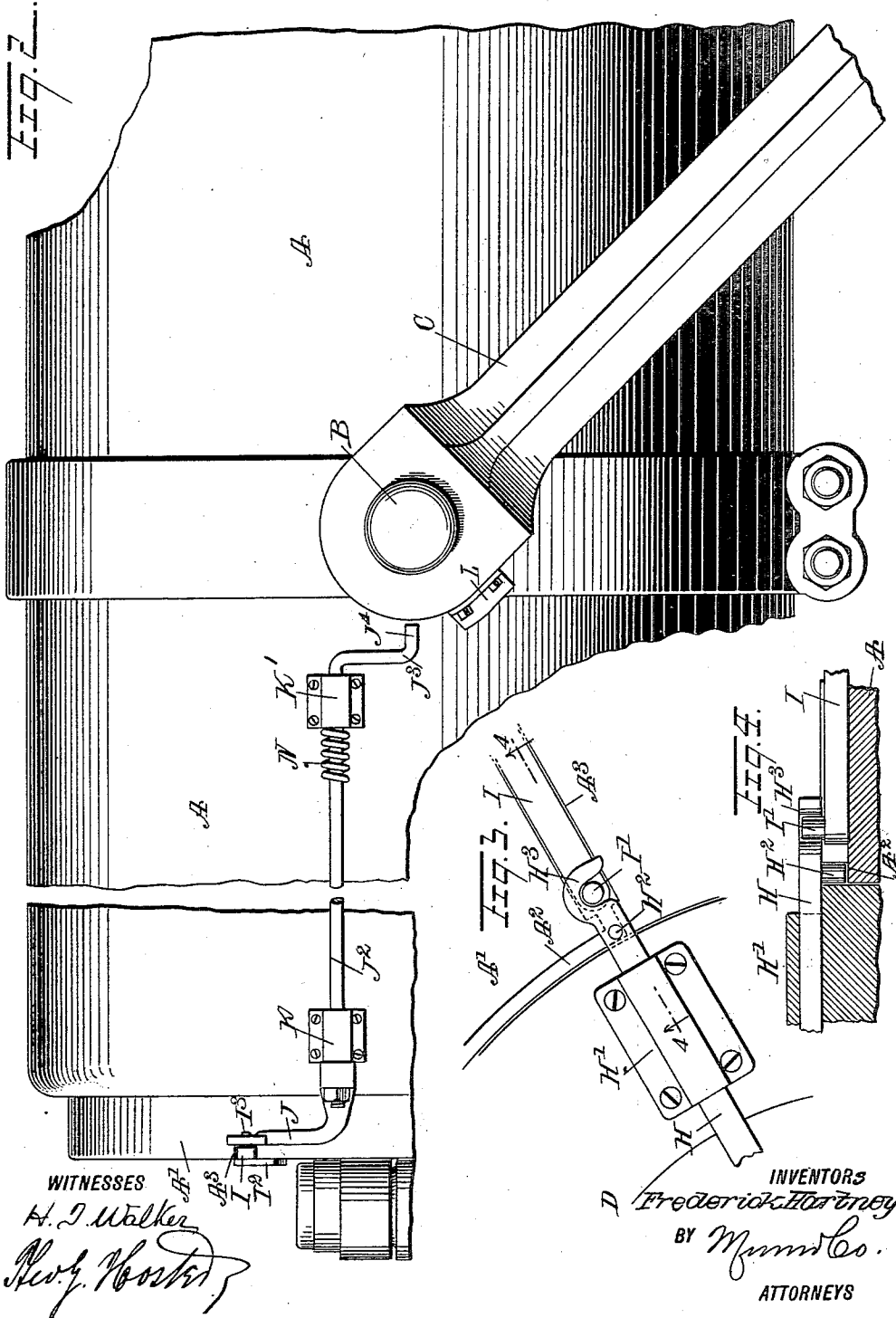
COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

F. HARTNEY.
SAFETY FIRING ATTACHMENT FOR BREECH LOADING RIFLES.
APPLICATION FILED JULY 25, 1911.

1,030,087.

Patented June 18, 1912.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

FREDERICK HARTNEY, OF HIGGINSVILLE, MISSOURI.

SAFETY FIRING ATTACHMENT FOR BREECH-LOADING RIFLES.

1,030,087.

Specification of Letters Patent.

Patented June 18, 1912.

Application filed July 25, 1911. Serial No. 640,415.

To all whom it may concern:

Be it known that I, FREDERICK HARTNEY, a citizen of the United States, and a resident of Higginsville, in the county of Lafayette and State of Missouri, have invented a new and Improved Safety Firing Attachment for Breech-Loading Rifles, of which the following is a full, clear, and exact description.

10 The invention relates to breech-loading rifles for sea coast defense and mounted on disappearing carriages.

The object of the invention is to provide a new and improved safety firing attachment for breech-loading rifles, arranged to prevent firing of the loaded gun until the latter is raised to firing position, thus preventing premature discharge of the gun into the protecting parapet.

20 In order to accomplish the desired result, use is made of a safety device arranged to lock the firing leaf in position; not only when the breech block is in any other position than closed and locked, but also in any position of the rifle except when the latter is elevated above the parapet and truly ready to be fired.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

30 Figure 1 is a rear end view of a disappearing breech-loading rifle provided with the improvement, the rifle being in loading position with the breech block closed; Fig. 2 is a side elevation of the same; Fig. 3 is an enlarged rear end view of the connection between the safety bar and the actuating bar for the safety bar; and Fig. 4 is an inverted sectional plan view of the same on the line 4-4 of Fig. 3.

45 The barrel A of the gun is mounted by trunnions B on the swinging side arms C of a disappearing carriage of the usual construction, to permit of moving the gun into depressed position for loading, or elevated position for firing. The breech block D is of the usual construction and is manipulated by suitable mechanism under the control of an operator manipulating the crank arm E, so that the breech block D is secured in or out of position in the breech plate A' and moves onto the tray F for supporting the breech block D in an open position.

It is understood that the mechanism for operating the breech block D may be of any approved construction, and as such a mechanism forms no part of my invention it is not deemed necessary to further describe the same. The firing mechanism for the breech block D may also be of any approved construction, and hence it is not deemed necessary to describe the same in detail, it being sufficient to state that the firing mechanism is provided with the usual firing leaf G adapted to be locked against being actuated by a safety device, consisting of a safety slide mounted to slide in a suitable bearing H' arranged on the outer face of the breech block D. The slide H is provided with a pin H², extending in a segmental slot A² formed in the breech plate A', the said pin H² engaging the slot A² at the time the breech block D is in closed position in the breech. The outer end of the slide H terminates in a hook H³ adapted to engage a pin I' on a slide I mounted to slide in a guideway A³ formed in the face of the breech plate A', and the said slide I is preferably flush with the face of the breech plate A' and is held in place by a covering plate I² attached to the breech plate A'. The outer end of the slide I is provided with a pin I³ engaging an elongated slot J' in the arm J of a lever having a shaft J² journaled in suitable bearings K and K' arranged on one side of the barrel A, as plainly indicated in Fig. 2. The lever arm J³ on the forward end of the shaft J² is provided with a pin or a lug J⁴, adapted to be engaged by a cam L attached to the corresponding arm C of the disappearing carriage, it being understood that the said cam L is out of engagement with the lug J⁴, at the time the gun is in a depressed position, and when the gun is elevated and moves into firing position then the cam L engages the lug J⁴ and thus imparts a swinging motion to the lever consisting of the arms J³, shaft J² and arm J, whereby an outward sliding movement is given to the slide I, which by the pin I' engaging the hook H³ causes an outward sliding movement of the slide H, whereby the firing leaf G is unlocked or released, thus permitting of firing the gun in the usual manner.

It is understood that by the arrangement described, the gun cannot be fired when in depressed or loading position, and only when the gun moves into the final elevated

position for firing then the firing leaf G is released to permit of firing the gun.

From the foregoing it will be seen that a premature discharge of the gun into the protecting parapet is not liable to take place.

The shaft J² is pressed on by a spring N so as to return the lever and with it the slides I and H to previous position when depressing the gun into loading position.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a safety firing attachment for a breech-loading disappearing gun, a carriage on which the gun is mounted, a movable member mounted on the breech block of the gun for holding the firing mechanism thereof against operation, a lever mounted on the gun, means operated by the lever and connected with the movable member when the breech block is in closed position, and means for operating the lever from the carriage at the time the gun is elevated in firing position.

2. In a safety firing attachment for a breech-loading disappearing gun, a carriage upon which the gun is mounted, a movable member on the breech block of the gun for holding the firing mechanism thereof against operation, a second movable member on the breech of the gun and engaging the first member when the breech block is closed, a lever mounted on the gun and connected with the said second member, and means on the carriage for operating the lever at the time the gun is elevated in firing position.

3. A safety firing attachment for a breech-loading rifle mounted on a disappearing carriage and provided with a firing leaf on the breech block, a safety bar on the breech block for holding the firing leaf against operation, a slide mounted on the breech plate of the rifle and adapted to engage the said safety bar at the time the breech block is in closed position, an operating lever fulcrumed on the gun, and a cam on the carriage for engagement with the said lever at the time the gun is elevated to firing position.

4. In a safety firing attachment for a breech-loading disappearing gun, a carriage upon which the gun is mounted, a movable member on the breech block of the gun for locking the firing mechanism thereof in inoperative position at the time the gun is lowered in loading position, a second movable member on the breech of the gun, the said members having interlocking engagement when the breech block is in closed position and being out of engagement when the breech

block is in open position, and means for operating the said second member from the carriage when the gun is elevated in firing position.

5. A breech-loading rifle mounted on a disappearing carriage and provided with a firing mechanism having a firing leaf and a safety bar for holding the firing leaf against release, the safety bar being slidably mounted on the breech block, a slide mounted on the breech, the said slide and safety bar having engaging means to connect them with each other at the time the breech block is in closed position in the breech of the gun, a lever fulcrumed on the gun, and connected with the said breech slide, and a cam on the carriage adapted to engage the said lever at the time the carriage is elevated to firing position.

6. A breech-loading rifle mounted on a disappearing carriage and provided with a firing mechanism having a firing leaf and a safety bar for holding the firing leaf against release, the safety bar being in the form of a slide and mounted on the breech block, a second slide mounted on the breech, one of the slides having a hook and the other slide having a pin for engagement by the said hook to connect the slides with each other at the time the breech block is in closed position in the breech of the gun, a lever fulcrumed on the gun and connected with the said breech slide, and a cam on the carriage adapted to engage the said lever at the time the carriage is elevated to firing position.

7. A breech-loading rifle mounted on a disappearing carriage and provided with a firing mechanism having a firing leaf and a safety bar for holding the firing leaf against release, the safety bar being in the form of a slide and mounted on the breech block, a second slide mounted on the breech, one of the slides having a hook and the other slide having a pin for engagement by the said hook to connect the slides with each other at the time the breech block is in closed position in the breech of the gun, a lever fulcrumed on the gun and connected with the said breech slide, a cam on the carriage adapted to engage the said lever at the time the carriage is elevated to firing position, and a spring pressing the said lever.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK HARTNEY.

Witnesses:

JAS. W. B. SCOTT,
JOHN M. INNES.