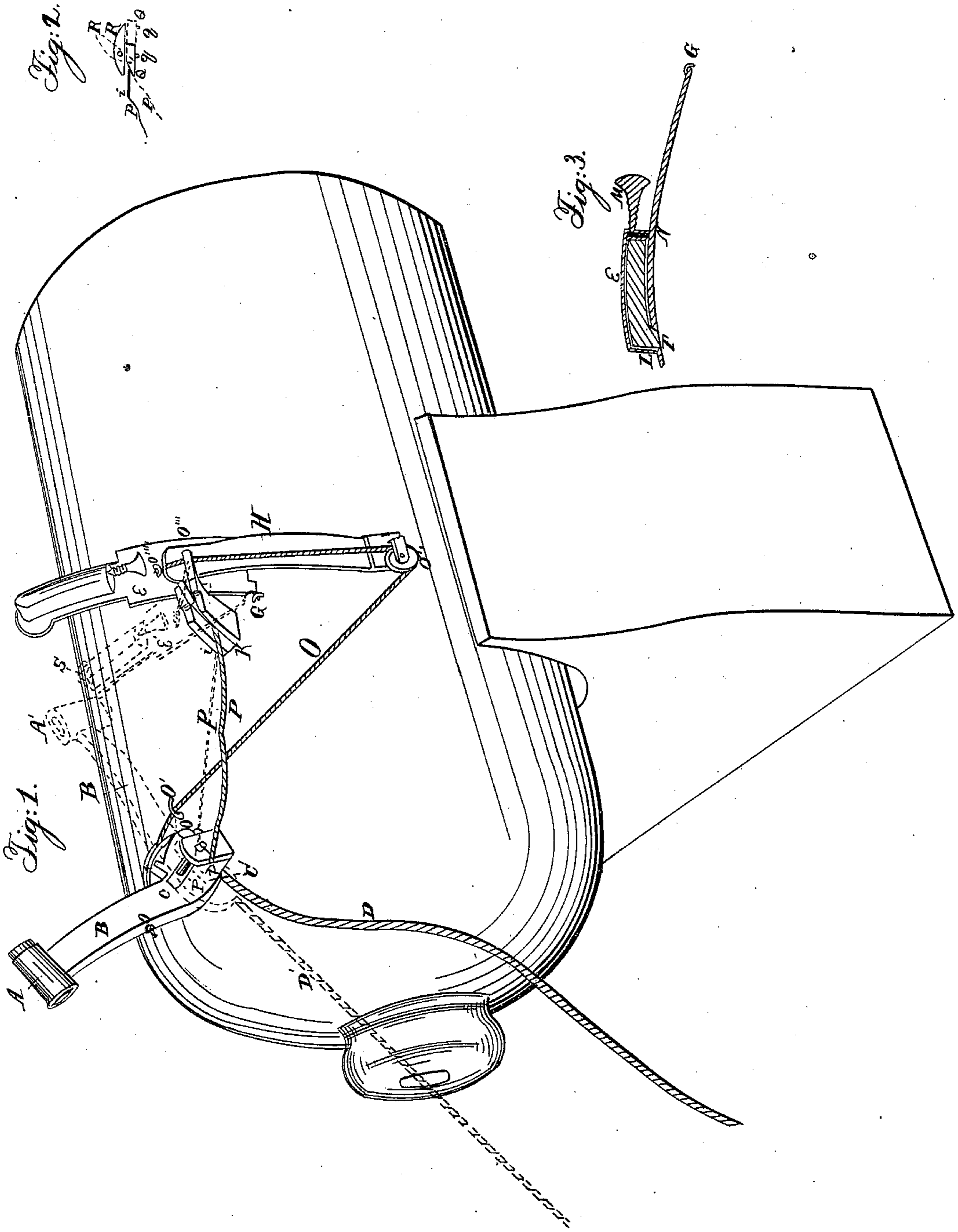


A. Le MAT.  
Lock for Ordnance.

No. 16,124.

Patented Nov. 25, 1856.





# UNITED STATES PATENT OFFICE.

ALEXANDER LE MAT, OF NEW ORLEANS, LOUISIANA.

## IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. 16,124, dated November 25, 1856.

*To all whom it may concern:*

Be it known that I, ALEXANDER LE MAT, of the city of New Orleans, State of Louisiana, have invented a new and improved appliance for stopping automatically the vent of cannons, mortars, &c., to prevent the premature explosion thereof; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents a cannon, mortar, or any other piece of ordnance to which my invention may be applied, A and A' being the head of the hammer, B and B' the shank, C and C' the elongated axial hole or slot of the hammer, and D and D' the lanyard, all these parts as used now in the United States ordnance to constitute a percussion-lock. It is known that, whatever be the superiority of this lock, a consideration of vital importance has been overlooked in this appliance, and by which a rapid service of the gun might be secured, adding to the moral security of the men serving the gun by placing them beyond the reach of any unavoidable accident, and thus elevate their courage and insure their efficiency. That consideration would consist in a contrivance by the means of which, without interference with the lock, without incumbrance to the gun, and without additional time in maneuvering or service of the gun, the vent could be stopped automatically immediately after each discharge, in order to avert the dangerous time or moment and spare man's absorbing labor in stopping said vent by the hand, to prevent the deadly effects of premature explosion in the event such a precaution should be omitted for any reason whatever. My improvement bears upon this point and in utilizing the retrograde movement of the hammer the length of its slot C and C' after each discharge, in order to effect the above automatic movement, consists the nature of my invention.

Upon any convenient place close to the lock, and so as not to interfere either with its operation or in taking aim, I adapt a finger, E and E', Figs. 1 and 3, to the cannon in such a way that when in the position marked in red ink it will press directly over the vent with its elastic end F, and when in the position marked in black ink it will be entirely out of the way of the hammer and the ignited gases and mat-

ter ejected from the vent. For this purpose the finger is pivoted at G and retained in its position upon the vent by a spring of adequate force, H. While in its upright position, out of the way of the vent, it is retained by a catch, Q Q', moving upon the base of a slot mortised through the middle of the bearing K. The front part of the finger bears a bent elastic cylinder of india rubber, gutta-percha, leather, or any other material deemed best for the purpose in view, F, which is contained in a casing, L, traversed upon its hind part by a set-screw, M, bearing upon a disk, N, Fig. 3, the purpose whereof is to push the elastic cylinder forward whenever its front end is worn off to a degree of becoming unfit to stop the vent. As a matter of course, the part worn out has to be cut off and a well-uniting surface restored. The whole cylinder being thus consumed, another may be substituted in its place.

To set the appliance in operation, a connection thereof with the lock by means of the cords or chains O O' and P P' is established, and which is simple and unfailing. The cord O is attached to the hammer at o. It passes under the loop o', from thence round the pulley o'', then through the stopple o''', surmounting the bearing K, and finally is fixed to the finger E at o'''. The cord P P' is attached by one end to the hammer p p' and by the other end to a ferrule, i, belonging to a movable catch, Q Q', Fig. 2, which, by the means of a pin, q q', moves in a horizontal direction within a slot mortised through the middle of the bearing K. Exactly over the top of this catch Q Q' is pivoted a trigger, R R'. This trigger, assuming the position marked in red, forces the jawl into the position marked in red also, and the catch being pulled back by the cord P P' in the position marked in black, the trigger re-assuming the position marked in black.

The operation is the following: The man serving the gun, when placing the hammer in the position marked in black, without any additional movement, and even without any modification of his movement, as heretofore in use, causes the cord O, attached at o, to raise the finger E E' from its position marked in red to its position marked in black. The finger, in rising, encounters the trigger in its position marked in black, and, causing it to move upon its pivot, pushes the catch Q Q' from its position marked black into its position marked



red, and thus is retained by said catch coming to stand under it in its raised position. The gun is then discharged by the usual pulling of the lanyard D D'. The hammer falls, and after having ignited the primer recedes from the vent S to its position marked in red ink; but in this retrograde movement the cord P P', attached at *p p'*, being pulled, withdraws the catch Q Q' from under the finger; hence immediately after the receding of the hammer the finger set free is forced upon the vent with all the force of the spring H, and the vent thus remains closed until the cleaning of the gun and its recharging are completed, while on revolving the hammer back again the finger is automatically elevated anew, and so on as many times as desired.

It must be clear to every one acquainted with mechanics that the peculiar method by which I avail myself of the retrograde move-

ment of the hammer to work the automatic movement of the finger may be varied infinitely, that therefore the gist of my invention is not in the cords or chains, jawl, and trigger employed, but in the use of the retrograde movement of the hammer to produce the automatic movement of the finger.

What, therefore, I claim as new and of my own invention, and what I desire to secure by Letters Patent, is—

The combination and arrangement of the hammer and finger with the mechanism, as described, whereby the retrograde movement of the hammer after the ignition of the primer produces an automatic closing of the vent by the finger.

A. LE MAT.

Attest:

C. GIRARD,  
JOHN S. HOLLINGSHEAD.