N. THOMPSON.

Improvement in Locks for Ordnance.

No. 131,194. Patented Sep. 10, 1872.

Fig. 1.

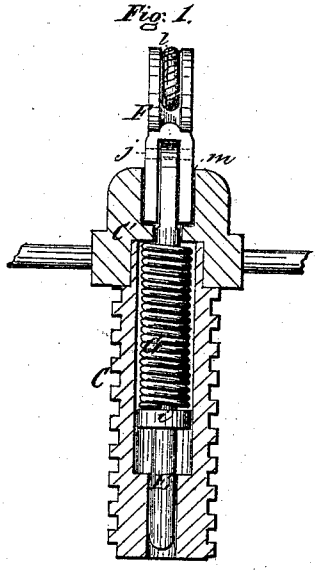


Fig. 2.

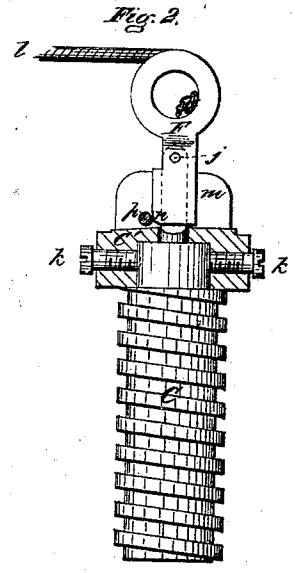


Fig. 3.

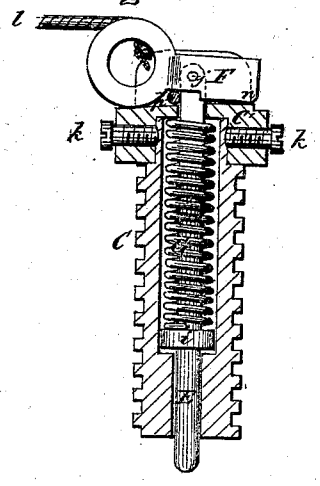
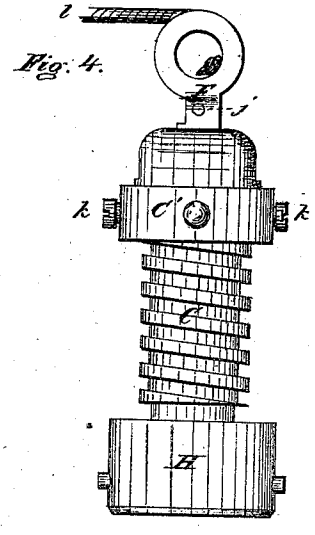


Fig. 4.



WITNESSES:

Edwin E. Smith,

W. Morris Smith

INVENTOR:

N. Thompson

UNITED STATES PATENT OFFICE.

NATHAN THOMPSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN LOCKS FOR ORDNANCE.

Specification forming part of Letters Patent No. **131,194**, dated September 10, 1872; antedated September 6, 1872.

Specification of Improvement in Firing Apparatus for Ordnance, invented by NATHAN THOMPSON, of the city of Brooklyn, in Kings county and State of New York.

This invention relates to the means of cocking and releasing a firing-pin which works through the breech portion of a gun, and is operated by a spring to produce the ignition of the fulminate priming of the cartridge and consequent explosion of the charge with which the gun is loaded; and it consists in providing the said pin with a swinging cross-head so constructed and applied with relation to proper bearing-surfaces in the breech-piece, or in some appurtenance thereof, that by moving the said cross-head to one position it is made to draw back the said pin and hold it "cocked" with its spring compressed or under tension, and by moving it from this position the pin is left free to be driven forward by the spring for the purpose of igniting the priming and exploding the charge.

In the accompanying drawing, Figure 1 represents a central longitudinal vertical section, in position, when cocked, of the means of applying and operating the firing-pin. Fig. 2 is a view of the same taken when in the same position at right angles to Fig. 1, or a horizontal plan showing part only in section. Fig. 3 is a central horizontal section of the same with the cross-head and firing-pin in their respective positions after firing the charge. These three figures represent my firing apparatus as adapted for application to muzzle-loading ordnance. Fig. 4 represent the same firing apparatus with the plug or breech-valve applied to adapt it to breech-loading ordnance.

The same letters of reference indicate corresponding parts in both figures.

Referring to the drawing, E is the firing-pin, passing longitudinally and centrally through the breech-screw C, and having provided on it a collar, *i*, behind which there is coiled around it, within a suitable cavity in the breech-screw C, the spiral main or firing spring G. To provide for the insertion of this pin and spring the breech-screw C has its head C′ made of a separate piece, which is put on like a cap and secured by set-screws *k k* or other suitable means. F is the cross-head, attached to the firing-pin by a pin, *j*. This cross-head is slotted longitudinally for nearly half its length from one end, and the rear portion of the firing-pin E is flattened to fit easily within said slot, and the pin *j* passes through both, near the end of the firing-pin and the back part of the slot in the cross-head F, and serves as a pivot upon which the said cross-head may move from a position transverse or at right angles to the firing-pin, as in Fig. 3, to a position in line with the latter, as shown in Figs. 1 and 2, and vice versa. The other end of the cross-head is made with a ring or otherwise suitably constructed for the attachment of a lanyard, *l*. A groove, *m*, is formed in the screw-head C′ to receive said cross-head and guide its movements, the said groove and the cross-head therein having a horizontal position when the screw is turned home to its seat in the breech. The slotted end of the cross-head is rounded off on one side, as shown at *n* in Fig. 2; and on the corresponding side of it, when in line with the firing-pin, a stop-pin, *p*, is inserted through the head C′, to prevent said end from moving beyond such position. By drawing the cross-head from the transverse into a longitudinal position relatively to the firing-pin the rounded portion *n* is made to act as a cam and draw back the firing-pin, which action compresses the spring, and when the cross-head arrives in the position shown in Fig. 2, beyond which the pin *p* prevents it from passing, the flat portion of its end is retained by the spring against a flat bearing at the bottom of the groove *m* in the head of the breech-screw in such manner as to hold back the firing-pin in a cocked position. To let off the firing-pin the cross-head requires to be drawn aside sufficiently from the stop-pin *p* to cause the rounded portion *n* of its end to slip on the bottom of the groove *m* in the head of the breech-screw, when the spring pulls the head F cross-wise and drives forward the firing-pin.

The construction of and mode of applying and operating the firing-pin is applicable to muzzle-loading ordnance, and to adapt it to breech-loading ordnance similar to my several

other inventions for which I have applied for Letters Patent I attach the breech plug or valve H to the inner end of the screw C, whereby the rear end of the bore of the gun is closed by turning up said screw.

What is here claimed, and desired to have secured by Letters Patent, is—

The combination, with the firing-pin, of a cross-head pivoted thereto and projecting spring, for operation substantially as specified.

NATHAN THOMPSON.

Witnesses:
SYDNEY E. SMITH,
W. MORRIS SMITH.