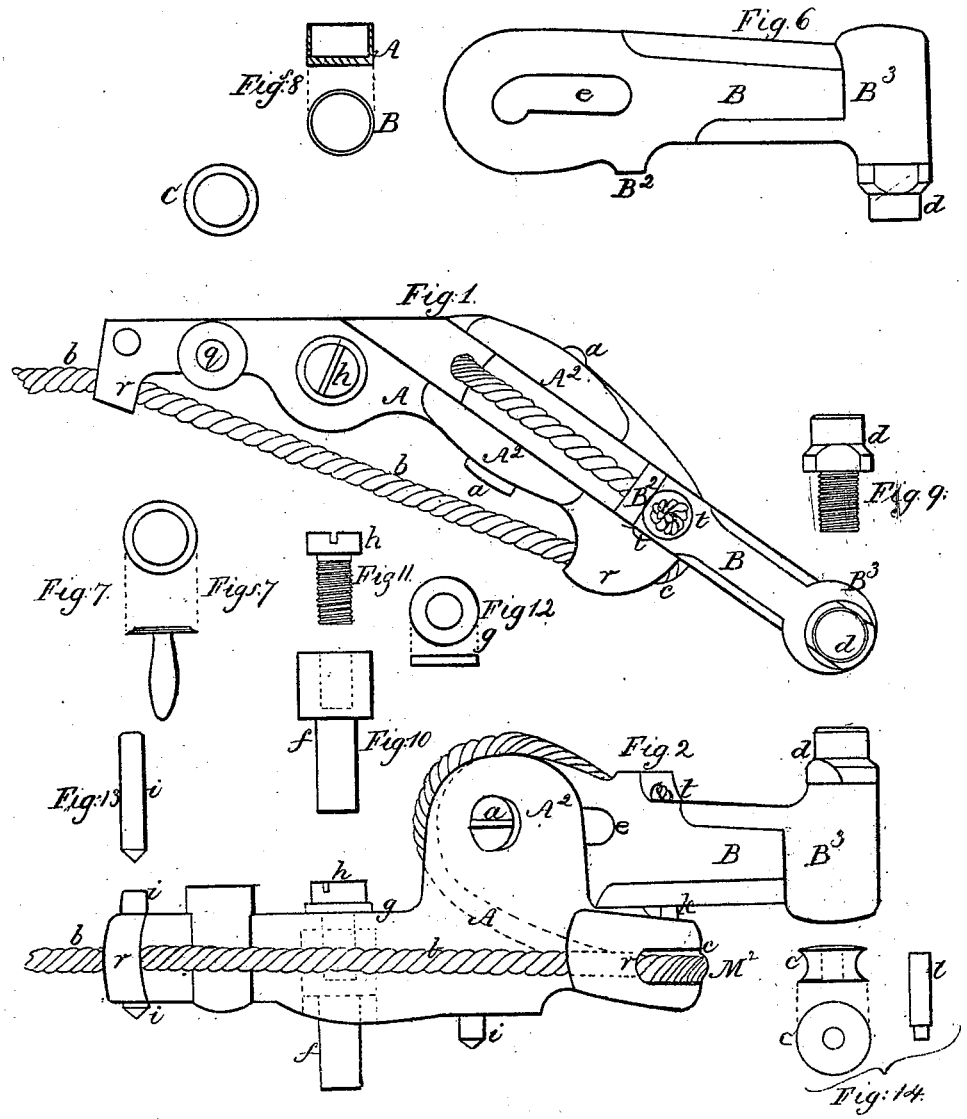
2 Sheets—Sheet 1.

HIDDEN & SAWYER.

Lock for Ordnance.

No. 2,594. Patented Apr. 29, 1842.



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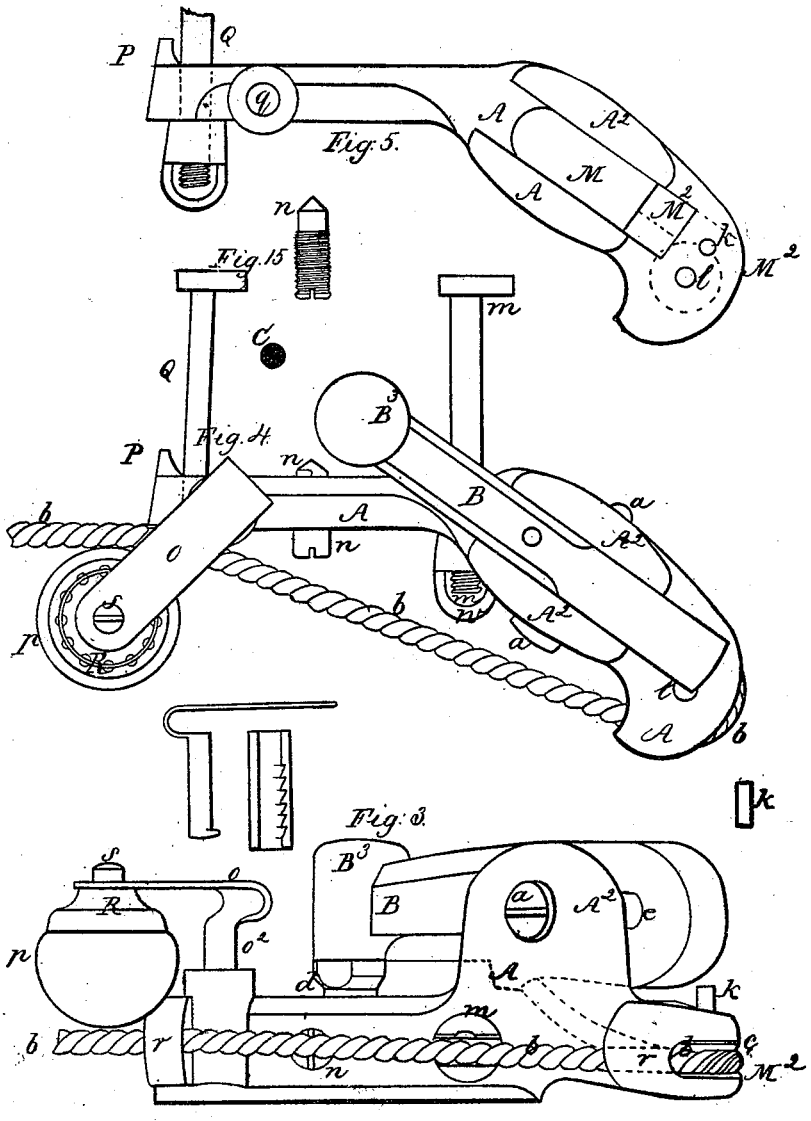

UNITED STATES PATENT OFFICE.

ENOCH HIDDEN, OF NEW YORK, N. Y., (IN PART ASSIGNEE,) AND S. SAWYER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CANNON-LOCKS.

Specification forming part of Letters Patent No. **2,594**, dated April 29, 1842.

To all whom it may concern:

Be it known that we, ENOCH HIDDEN, of the city, county, and State of New York, and SAMUEL SAWYER, of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Cannon-Locks, or the apparatus usually affixed on the breech of a piece of ordnance for the purpose of discharging said ordnance by percussion or other powder, caps, wafers, or otherwise, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a top view of the lock, having no vent-field, showing the hammer thrown back ready to be discharged. Fig. 2 is a side elevation of the aforesaid lock in the same position. Fig. 3 is a side elevation of a lock fastened to a vent-field, the hammer being in the position it would assume the moment after the blow is given, also showing the vent-stopper attached to the body of the lock and turned aside from over the vent; Fig. 4, top view of same; Fig. 5, top view of the body of the lock by itself; Fig. 6, side view of the hammer detached from the body; Fig. 7, top and side views of a primer, with a wire attached to hold it over the vent; Fig. 8, plan and section of a thimble-shaped primer, to be put over the steel head or face of the hammer; Fig. 9, side view of the steel face detached from the hammer; Fig. 10, side elevation of a pin to be driven or screwed into the gun, having a female screw to admit a male screw; Fig. 11, the male screw of same; Fig. 12, top and side view of a washer placed under the head of the male screw; Fig. 13, steadying-pin driven through the lock into the gun; Fig. 14, pulley and axle at the back end of the lock; Fig. 15, an adjustable horizontal bearing-pin screwed through the lock against the side of the vent-field for adjusting the lock to the vent when the lock is made without the projections P, which answer the same purpose when filed to fit the vent-field; and in the use of this projection the screw *n* is omitted and another screw-bolt, Q, added at the front part of the lock, passing through the vent-field, similar to the screw-bolt *m*.

Similar letters refer to corresponding parts in the several figures.

The body of the lock A is made or cast of metal, somewhat harder than the usual gun-metal, or of any suitable material, and when adapted to a gun without a vent-field is made of a corresponding shape on the under side to that of the upper surface of the gun to which it is to be fitted, having an aperture extending vertically through it, near the middle of the body of the lock, of the diameter of the head of the pin *f* about two-thirds through, to admit said head or the upper or larger end of the pin *f*, whose small end is driven or screwed into the gun, and to which the lock is secured by the male screw *h*, passed through the upper or smaller part of the aforesaid aperture in the body of the lock and screwed into the female screw in the head of the pin *f*, which thus secures the lock to the gun and also allows the body of the lock to have a slight movement on said pin for the adjustment of the hammer to the vent. (See dotted lines, Fig. 2.) Two small apertures are made in the body to admit the steadying-pins *i i*, which are inserted into corresponding apertures in the gun for securing and steadying the lock and preventing it from having any movement at the moment of discharging the gun. Another vertical aperture is made through the body of the lock near the front end thereof, to admit the vertical part O^2 of the spring O of the vent-stopper *p*.

Two vertical oblique ears, A^2, are cast on the upper surface of the body of the lock near the rear end thereof, which also stands oblique to the front part, between which the rounded end of the hammer B is placed in an oblique position, and works over a horizontal pin or axle, *a*, passed through said ears and through the chase-mortise in said rounded end of the hammer and on which the hammer works. Between these ears and in the upper surface of the body A a mortise, M, is formed to allow the rounded end of the hammer and the cord *b* to work freely therein, said cord being attached to the hammer near the middle thereof, and passing over the round end and through the mortise M to the horizontal mortise M^2. This horizontal mortise or cavity is formed in the end of the body A, to admit a horizontal grooved pulley, C, turning on a vertical axle, K, passed through the body A, and around

which pulley the cord *b* is passed which moves the hammer. In Figs. 2 and 3 the direction of the cord *b* is shown by dotted lines.

The chase-mortise *e*, as before stated, is formed in the main body of the cock or hammer, near the rounded end thereof, about one inch and an eighth in length, and in width equal to the diameter of the pin or axle *a*, passed through it and the ears, and to which it should be neatly fitted, being rounded at each end.

A projection, B^2, is formed on the side of the cock next the face, through which a hole is drilled and countersunk, to admit the end of the cord *b* to be passed through, previously knotted at the other end at *t*. The cord is then carried around the rounded end or heel of the cock and through the mortise M, and around the grooved pulley or wheel C, and through the cavity at the rear end of the body of the lock, and from thence to the hand of the person who discharges the gun, either directly or through the projection *r*, or otherwise, as may be preferred. (See Figs. 1 and 2.) The head, B^3, of the cock or hammer is covered with a steel face, *d*, screwed into the same, for the purpose of making it resist the action of the blow, and thus render it more durable.

The chase-mortise *e* is used in place of the cylindrical hole, which admits of the cock having a horizontal longitudinal movement from the vent toward the muzzle of the gun the instant the hammer has struck the primer at C, Fig. 4, placed over the vent of the gun.

In Fig. 4 the point is shown to which the cock recedes from directly over the vent of the gun when discharging to the position where it remains at rest, by which the cock completely clears or avoids the force of the ignited gunpowder, and which forms the chief excellence of this lock, and which is directly accomplished by the same line *b b* without the intervention of springs or adjusting-screws, &c., as heretofore used, by simply jerking the cord suddenly when the cock is in the position shown in Figs. 1 and 2, avoiding the explosion and clearing the vent at the same jerk.

Figs. 3, 4 show a lock as adapted to a gun having a vent-field cast on it, in which *m m* is a horizontal screw-bolt, with a nut, *w*, for securing the lock to the gun; and *n n* is an adjusting-screw for bringing and firmly retaining the face of the cock correctly over the vent, the screw *n* bearing against the vent-field. As a substitute for this screw *n n*, a projection, P, may be cast on the inner side of the body of the lock at the front end, which rests against the side of the vent-field, and which can be filed to adjust the cock over any width of vent-field.

In Figs. 3 and 4 is shown a pad, *p p*, with its spring *o o* inserted into the hole *q* in the body A, before described, which pad can be turned over the vent *c c* when required, or turned out of the way, as shown in said figures, when taking aim or discharging. The vent-stopper is a spherical or oval or other curved pad, *p*, stuffed with hair or other elastic substance, attached to an inverted metallic cup, R, by sewing or otherwise, said cup being attached to the horizontal arm of the spring O by a screw, *s*, turning in the aperture in the spring, the vertical part O^2 of said pad-spring being cylindrical, and having a tooth or projection on its surface, which falls into notches or depressions made on the inside of the aperture *q* in the body of the lock, so that when the pad is brought over the vent and pressed down the tooth falls into the notches, and thus the pad is firmly held over the vent, which is thus rendered completely air-tight. When the pad is required to be removed from the vent, the spring is pushed toward the pad, which liberates the tooth upon the notches, when the pad can be turned from over the vent in the manner of a swivel.

Fig. 7 shows an improvement in the construction of the primer, where a steel wire having sufficient spring is attached, which is pressed into the vent of the gun, and which thereby retains the primer in its place till dissipated by the blow from the cock.

Fig. 8 shows another form of primer, being a percussion-cap, thimble, or cup. A shows a section through the cap or cylindrical part of it, being made of leather with a double paper head containing the percussion-powder between the layers of paper forming said head. B shows a plan of it, the whole being varnished to secure it from the atmosphere. The tubular or cylindrical part fits on the steel face of the cock B, Figs. 1, 2, 3, and 4, and completely answers the intended purpose. This form of primer is not liable to be blown off or be displaced from any of the causes which usually displace the common primer.

What we claim as our invention, and which we desire to secure by Letters Patent, is—

1. Causing the cock or hammer to strike over the vent and instantly to recede therefrom by means of the chase-mortise in the cock, and the cord being suddenly jerked by the person firing the gun, in the manner before described, or in any other mode or method substantially the same.

2. The method of adjusting the cock to the vent by means of the screw *n n*, or projection P on the body of the lock, as described.

3. The mode of fastening the lock to a gun that has no vent-field by means of the pin *f*, screw *h*, and pins *i i*, as described.

4. The construction and arrangement of the vent-stopper, as described.

ENOCH HIDDEN.
SAMUEL SAWYER.

Witnesses to the signing of E. Hidden:
WM. P. ELLIOT,
EDM. MAHER.
Witnesses to the signing of S. Sawyer:
GEO. F. HOMER,
W. G. STEARNS.