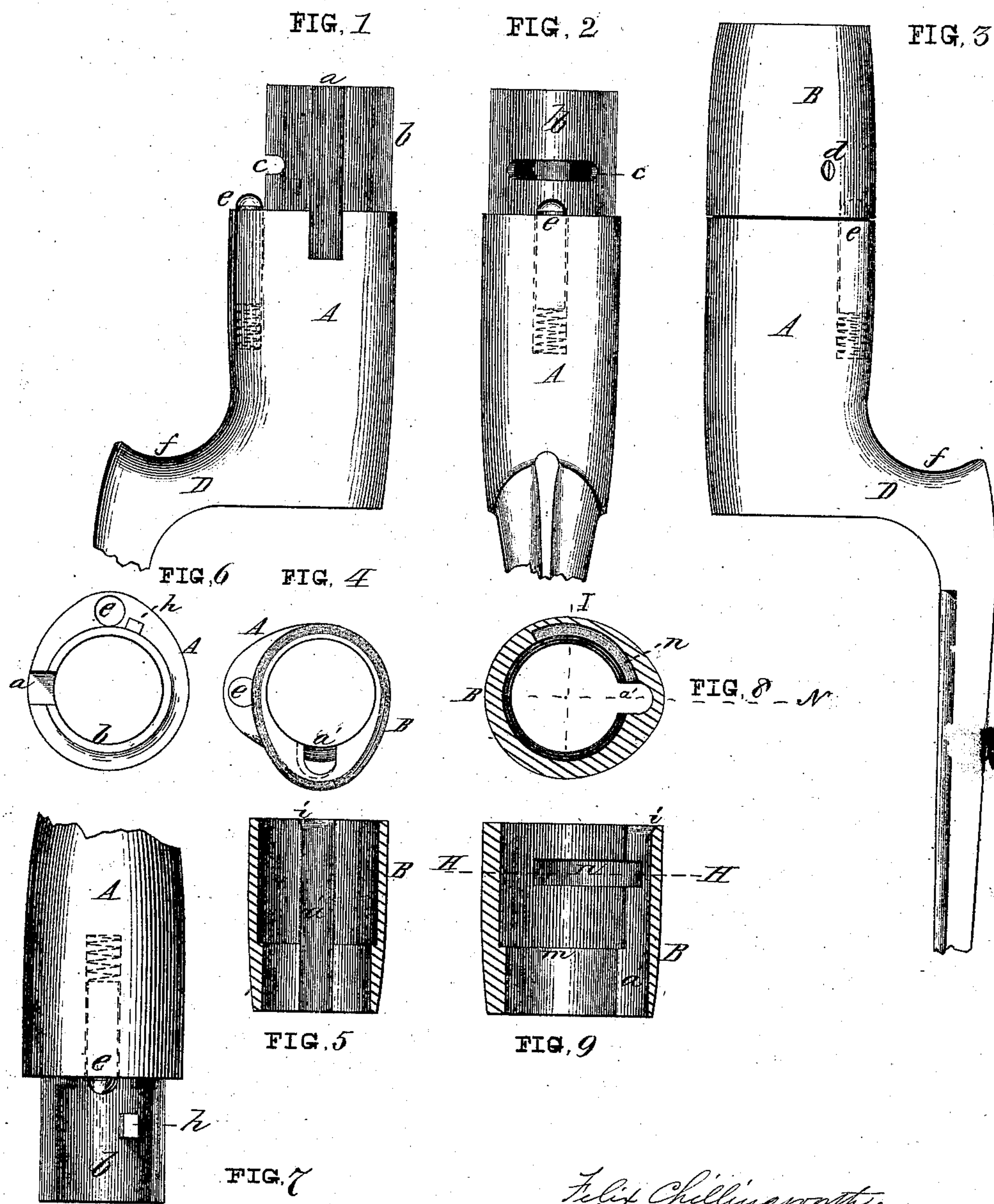


F. CHILLINGWORTH & I. MERRILL.

Improvement in Spade Bayonets.

No. 125,720.

Patented April 16, 1872.



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UNITED STATES PATENT OFFICE

FELIX CHILLINGWORTH AND IRA MERRILL, OF SPRINGFIELD, MASSACHUSETTS; SAID MERRILL ASSIGNOR TO SAID CHILLINGWORTH.

IMPROVEMENT IN SPADE-BAYONETS AND BAYONET-FASTENINGS.

Specification forming part of Letters Patent No. 125,720, dated April 16, 1872.

To all whom it may concern:

Be it known that we, FELIX CHILLINGWORTH and IRA MERRILL, both of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Bayonet-Fastening; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side view of a bayonet-shank made according to one modification of our invention. Fig. 2. is another view of the same. Fig. 3 is another side view of the same with the sleeve attached. Fig. 4 is an end view of the same. Fig. 5 is a longitudinal section of the sleeve through line I. Fig. 6 is an end view of another modification of our invention. Fig. 7 is a side view of the same. Fig. 8 is a transverse section of the sleeve through line H, and Fig. 9 is a longitudinal section of the sleeve through line N of Fig. 8.

The object of our invention is to make the bayonet-shank of regular form, free from angular projections, for the purpose of providing a smooth handle for the spade-bayonet, so as to obviate the cutting of the hand of the operator or soldier when the same is detached and used for digging, and at the same time to improve the means of securing the bayonet to the gun.

That others skilled in the art may be able to make and use our invention, we will proceed to describe its construction and operation.

In the drawing, A represents the shank, and E the blade of a trowel-bayonet, upon the end of which shank is made the arm *b*, having the sight-slot *a* made therein, extending into the shank sufficiently to receive the sight of the gun; and a sleeve, B, having a longitudinal groove, *a'*, therein—which I denominate the sight-groove—is made to fit said arm properly. A hole is made in the shank, which is made sufficiently thick for that purpose, and a pin, *e*, is inserted therein, with a spring behind it, as shown in dotted lines in Figs. 1, 2, 3, and 4, so that the end of the pin may project a little from the shank, as shown in same figures; and a projection, *h*, is made upon the arm, which projection should not be placed upon the

arm *b* at any point between the friction-pin *e* and the sight-slot *a*, but may be placed upon any other portion of said arm. I prefer to place it a little to one side of the line of the friction-pin *e*, as shown in Figs. 6 and 7. That part of the sleeve having the largest inside diameter fits upon the arm, and a shoulder, *m*, in said sleeve meets the end of the arm, so that the part of the sleeve having the smallest inside diameter forms a continuation of the inside of the arm, both being of the same inside diameter. A groove, *n*, is formed on the inside of the sleeve, at right angles to the sight-groove *a'*, of sufficient size to allow the projection or stud *h* to move therein; and the groove *n* is of such length (extending from the sight-groove) as to allow the sleeve to be turned upon the arm until the sight-groove *a'* and the friction-pin *e* coincide, and also in the other direction until the sight-groove *a'* and sight-slot *a* in the arm coincide. The extreme inner end of the sight-groove is beveled or rounded off upon one side, as shown at *i*, and the other side of the same is straight, as shown in Fig. 5; and the outer end of the friction-pin is rounded, as shown in Figs. 1, 2, and 7. This construction of the end of the sight-groove and the end of the pin allows the sleeve to be turned upon the arm in attaching the bayonet to and detaching it from the gun; for when the sleeve is in its place upon the arm, with the end of the friction-pin *e* projecting slightly into the groove *a'*, if the sleeve is forcibly turned upon the arm *b* in a direction to bring the sight-groove *a'* directly over the sight-slot *a*, the bevel *i* rides over the rounded end of the pin *e*, and pushes the pin back into its socket. The pin remains in this position until the sleeve is turned back again; and, when the sight-groove *a'* is brought again into line with the friction-pin *e*, said pin is pushed into the groove by the spring behind it, and, as the straight side of the sight-groove strikes the pin, the sleeve is prevented from turning any further. If it is desired to detach the sleeve from the arm, it is only necessary to insert a strong wire into the sight-groove in the sleeve, and press back the friction-pin, at the same time turning the sleeve so that the sight-groove *a'* shall be in line with the projection or stud *h*, when it may be easily withdrawn from the arm.

A modification of the same invention is shown in Figs. 1, 2, 3, 4, and 5, in which, instead of the groove *n* being made in the sleeve, the groove *c* is made in the arm *b*, and a small screw, *d*, is inserted into a threaded hole in the sleeve. The screw being turned out, the sleeve B is placed upon the arm *b*, and the screw *d* is turned into the threaded hole until the inner end protrudes into the groove *c*, and the sleeve is then turned to and fro upon the arm in securing the bayonet upon and detaching it from the gun. The groove *c* is made of the proper length to permit the sleeve to turn to the proper positions in attaching it to and detaching it from the gun. We prefer, however, the first-described modification as being the best in practice.

The neck which connects the blade E to the shank is made concave upon the outside, as shown at *f*, to give suitable bearing for the forefinger when pressing the bayonet, as a spade, into the ground, thereby preventing the hand from slipping over the neck *f* and being cut by the blade, and so that the soldier, in lying upon the ground and firing from behind his intrenchments, may use it as a rest to fire from, by sticking the blade in the ground and placing the band of his gun in the concave part *f*, and thus keep the gun clean from the dirt; and in using a breech-loading gun he would not be obliged to remove his gun from the rest after every discharge of the piece.

The friction-pin might have an elongated part of smaller diameter extending through the shank to the front part of the neck, the shank having a hole for that purpose, and a small knob on the extreme end of the elongated part, so that in case dirt should get into the socket of the friction-pin and cause the pin to stick, a slight pressure upon the knob would force

the pin out again into its place. This attachment is equally applicable to the ordinary bayonet and to the trowel-bayonet, with perhaps some little variation in the length of the shank, if necessary, to accommodate the construction of the bayonet.

The friction-pin *e* may be corrugated, and the sleeve may also be corrugated upon the inside, to prevent the surfaces from rusting together, and also to prevent their sticking from dirt getting in.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The sleeve or socket B, when combined for operation with the arm *b*, and made of the same external form as the shank A, whereby an improved fastening as well as symmetrical handle is provided for a spade-bayonet, substantially as specified.

2. The combination, with the socket A, provided with slot *a*, of the sleeve B, provided with a groove, *a'*, whereby the socket may be adjusted and secured upon the barrel of a gun, as specified.

3. In a bayonet-shank, I claim the combination of the stud *h*, the groove *a'* and *n*, and a spring-catch, whereby the sleeve is coupled with the shank, substantially as set forth.

4. In combination with a spade-bayonet, I claim the neck or shank thereof, when provided with the concave bearing *f*, whereby a convenient gun-rest as well as hand-guard is provided, substantially as specified.

F. CHILLINGWORTH.
IRA MERRILL.

Witnesses:

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