

(No Model.)

F. D. HOLTON.

COMBINED MINER'S CANDLE HOLDER AND POCKET TOOL.

No. 549,791.

Patented Nov. 12, 1895.

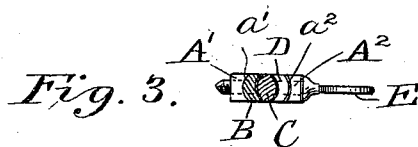
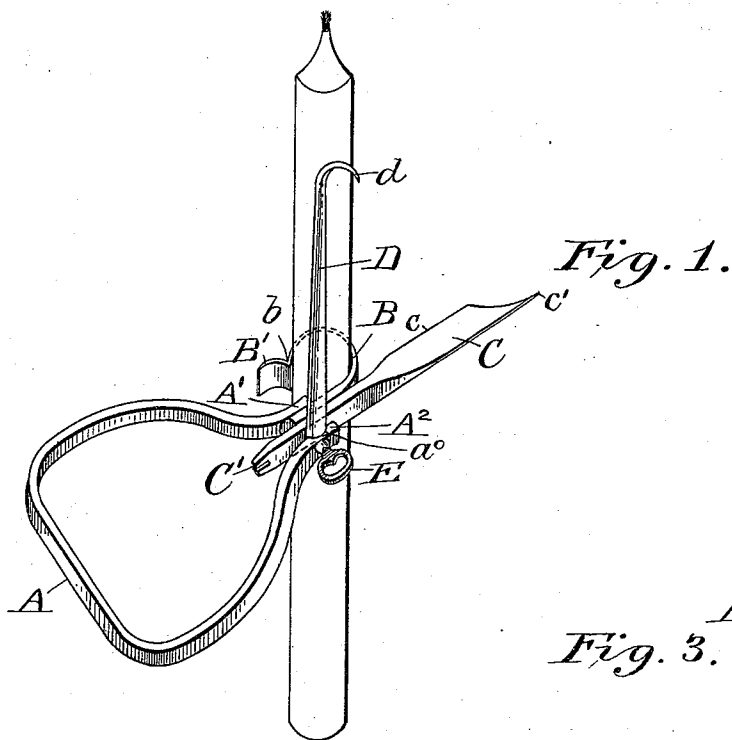
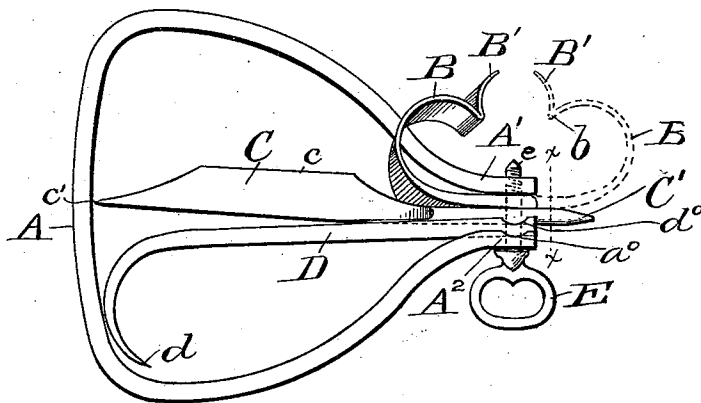


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK DUDLEY HOLTON, OF HILL CITY, SOUTH DAKOTA.

COMBINED MINER'S CANDLE-HOLDER AND POCKET-TOOL.

SPECIFICATION forming part of Letters Patent No. 549,791, dated November 12, 1895.

Application filed April 16, 1895. Serial No. 545,950. (No model.)

To all whom it may concern:

Be it known that I, FRANK DUDLEY HOLTON, a citizen of the United States, residing at Hill City, in the county of Pennington and State of South Dakota, have invented certain new and useful Improvements in a Combined Miner's Candle-Holder and Pocket-Tool; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in miners' implements, and more especially to miners' candle-holders and the like.

My invention consists in providing a combination instrument which serves as a holder for a candle, a knife for cutting a fuse, a screwdriver, and various other purposes.

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters.

Figure 1 is a perspective view of my instrument, showing the knife-blade open, the hook in the raised position, and the candle as clamped and held by the candle-holding device. Fig. 2 is a plan view of my instrument, showing the candle-holding device in full lines as folded over upon the spring, as would be the case when the miner puts the instrument into his pocket, and in dotted lines as extended in the position for holding the candle; and Fig. 3 is a sectional view taken on the line $x x$ of Fig. 2, and looking to the left, showing the construction for locking the parts in position.

A represents a spring-frame made, preferably, of spring-steel; but may be made of any other suitable metal. This frame is preferably heart-shaped, as shown, and is provided with arms A' and A^2 , which for a short distance near their ends are approximately parallel. A smooth hole is provided in one of these arms, as A^2 in the drawings, and in the other arm, as A' , a screw-threaded hole is provided. A thumb-screw E, provided at its end with screw-threads e for a short distance, is adapted to pass through the smooth hole in one arm A^2 , and to screw into the internally screw-threaded hole in the opposite arm A' . By means of this thumb-screw the two arms

with concave surfaces a' and a^2 , as shown most clearly in Fig. 3, for the purpose hereinafter to be described.

B represents the candle-holding device. This holding or clamping device is made of spring metal and is of sufficient width to support the candle firmly and steadily. The inner end or shank of this holding device is made concave on one side and convex on the opposite side, to register with the concave surface a' on the inner side of the arm A' . Near the end of the shank of this holding device a smooth hole is provided, through which the thumb-screw E may pass freely. This candle-holding device is bent into the proper shape to clamp the candle securely, as shown, and has its outer end bent backward about half the distance to form the finger-catch B', by means of which the device may be sprung open to remove the candle or to place a new candle in the said holding device.

C represents a knife-blade provided with sharp cutting-edge c and point c' . This point c' is preferably thickened and rounded so that the blade may be stuck into a crevice in a rock to support the candle when desired. The extreme opposite end of the knife-blade is formed into a screwdriver, as indicated by C', and when the instrument is folded up in the position shown in full lines in Fig. 2, may be conveniently used as such, the frame A serving as the handle for turning the screwdriver. The shank of this knife-blade is formed convex on both sides to register with the concave surfaces on the inner sides of the adjacent shanks of the candle-holding device and the hook D, as will be seen most clearly in Fig. 3. A smooth hole is also provided through the shank of this knife-blade for the free passage of the thumb-screw E.

D represents a curved hook having sharp point d . This hook has one side of its shank made concave; in which concavity the shank of the knife-blade registers when in a position parallel thereto, and has the opposite side of its shank made convex to register in the concavity a^2 in the arm A^2 . A smooth hole is also provided in the shank of this hook, through which passes the clamping thumb-screw E, in similar manner as the candle-holder and knife-blade. It will be seen that by means of these longitudinal concave and convex sur-

faces the various parts of the instrument may be firmly locked either in the open or closed position by screwing up on the clamp-screw E.

On the inner side of the arm A² a transverse groove or concavity *a*⁰ is provided, the center of which crosses the center of the hole in said arm, and when the hook D is raised into the upright position, as shown in Fig. 1, the convex side of its shank will register in this groove. The opposite side of the shank of this hook is provided with a transverse groove *c*⁰ similar to the groove *a*⁰ in the arm A², into which the adjacent side of the shank of the knife-blade fits when the said hook is in the upright position and the knife-blade is either closed or open. By means of these transverse grooves the hook D may be firmly clamped in the position shown in Fig. 1 by screwing up on the thumb-screw C, and the instrument may be suspended with the candle, by means of the said hook, from any convenient surface when that be desirable or most convenient.

It will be seen that the instrument carrying the candle may be hung or supported in a great many ways, according to the exigencies of the occasion, by means of either the hook D or the pointed knife-blade C, or it may be stood up on a flat surface by opening the blade and hook and sliding the holding-clamp down to the lower end of the candle.

By having the candle-holder made separate from any other part of the tool it will be evident that, should the said holder become broken by any means, it may be readily repaired or a new one might be easily made with very little trouble or expense. By having it pivoted as shown it may be folded over upon the frame into a smaller space, and thus the tool is more readily carried in the pocket and the candle-holder is less apt to become broken.

The knife-blade is a particularly useful part of my tool. In it are combined a knife

which may be used for cutting a fuse, or for any other similar purpose for which a knife may be used, a sticker, which may be inserted into the earth or a crevice in the side of the mine for supporting the candle-holder, and the elongated shank of the knife-blade being formed into a screwdriver, the tool may be used as such when desired.

The many uses to which my tool may be applied will be apparent to any practical mind.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a miner's pocket tool, the combination with the spring frame A having the parallel holding arms A' and A² provided with the longitudinal concave surfaces *a*' and *a*² on their inner sides; one of said arms having a smooth hole therethrough, and the other having a screwthreaded hole therethrough; of the spring candle holder B provided with finger catch B' for springing same open; the knife blade C having flat cutting edge *c* and sticker point *c*', and having its shank elongated and formed into the screwdriver C'; and the pointed hook D'; the said candle holder, knife blade, and pointed hook all pivoted in said frame between said holding arms, and provided with locking faces; and a clamp screw passing through a smooth hole in the shank of each and in one of said holding arms, and screwing into a screwthreaded hole in the other holding arm, and adapted to clamp the parts firmly together between said holding arms, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK DUDLEY HOLTON.

Witnesses:

O. E. SILVERTHORN,
H. L. WAGNER.