

(No Model.)

A. STRUM.
MINER'S COMBINATION TOOL.

No. 580,235.

Patented Apr. 6, 1897.

Fig. 1.

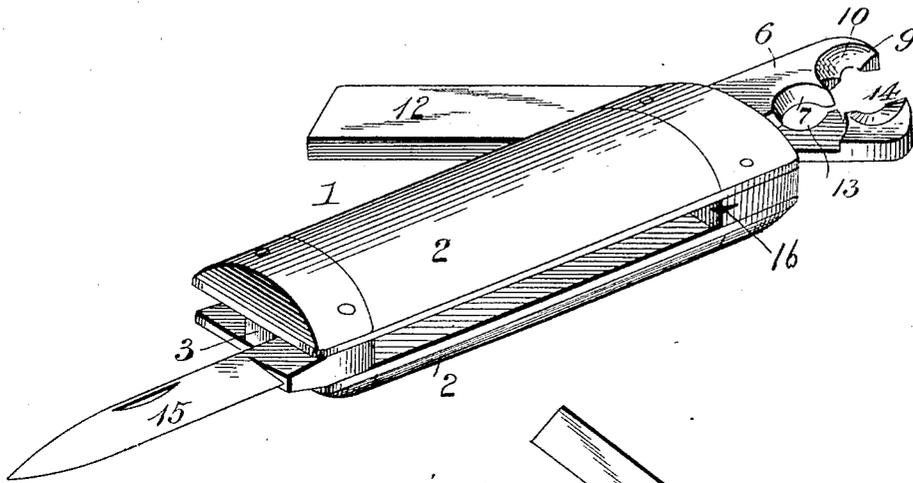


Fig. 2.

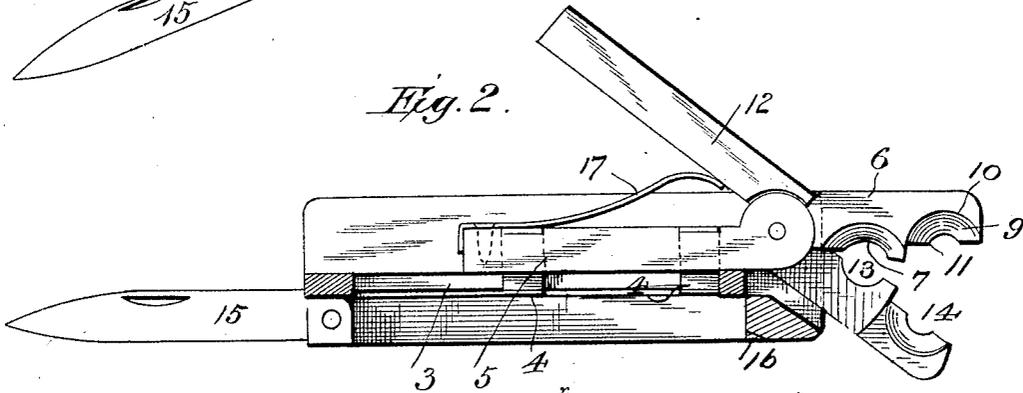


Fig. 3.

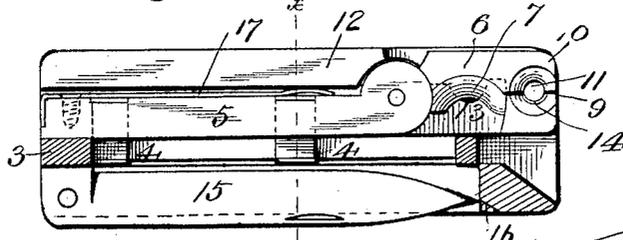


Fig. 5.

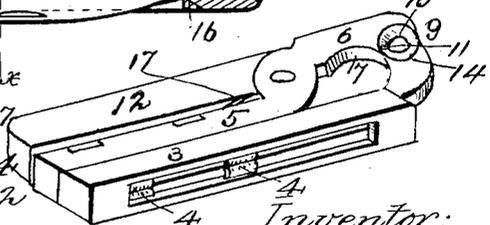
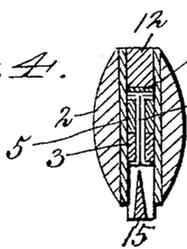


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALFRED STRUM, OF WICKES, MONTANA.

MINER'S COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 580,235, dated April 6, 1897.

Application filed July 20, 1896. Serial No. 599,982. (No model.)

To all whom it may concern:

Be it known that I, ALFRED STRUM, a citizen of the United States, and a resident of Wickes, in the county of Jefferson and State of Montana, have invented certain new and useful Improvements in Miners' Combination-Tools; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a combination-tool designed more especially for the use of miners in preparing fuses for setting off blasts; and its object is to provide an improved construction of tool which can be closed when not in use, so as to be conveniently carried in a pocket, and which can readily be opened for use in preparing fuses.

The invention consists in the novel construction and combination of parts herein-after fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the tool, showing the same open. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a similar view showing the same closed. Fig. 4 is a cross-section on the line *x x*, Fig. 1. Fig. 5 is a detail view showing the strip, arms, and slide.

In the said drawings the reference-numeral 1 designates a handle consisting of the sides 2, secured to a longitudinal strip 3, so as to leave a space therebetween to receive the tools hereinafter described. The said strip 3 is formed with a longitudinal slot or opening extending to near each end thereof, in which work arms 4, placed back to back and attached to a slide 5. These arms each consist of a sheet-metal strip bent around the said slide and its ends extended through said slot and the extremities bent at a right angle, so as to bear against the opposite side of the strip 3, so as to hold the slide in place, but permit it to have longitudinal movement. This slide is rectangular in cross-section, and near one end is formed with a cutting-jaw 6, having a curved cutting edge 7 and concaved at one side around said edge. The extremities of

this slide are cut away at 9, forming a jaw 10, which is concaved or recessed on opposite sides and formed with a concave recess 11. Pivoted to this slide is a lever 12, formed with a curved cutting edge 13, coinciding with the cutting edge 7. It is also cut away at the extremity, forming a jaw 14, similar to jaw 10. Pivoted to said sides 2 is a knife-blade 15, the point of which engages with a slot in a block 16 at the opposite end of the handle.

The numeral 17 designates a flat spring secured to the slide 5 and bearing against the lever for throwing it outward.

The operation is as follows: When the device is closed, the slide is pushed into the handle, and the outer end of the lever in which the jaw and cutting edge is formed rests on the strip 3 and holds the handle of the lever down upon the slide. To open the tool, the slide is pushed out, when the spring will force the lever outward, expanding the jaws. The said jaws can now be used for crimping a cap for a blast-fuse, while the cutting edges 7 and 13 are employed for cutting off the fuse to the required length. When through using the same, the slide is again pushed in, so that the device can be readily carried in a pocket. The knife-blade can be used for any purpose found applicable.

Having thus fully described my invention, what I claim is—

In a tool of the character described, the combination with the handle comprising the sides, the slotted strip, and the slotted block, of the slide, the arms bent over the same and projecting through the slot in said strip and the ends bent at right angles in opposite directions, and said slide formed with a concave cutting edge and a concaved jaw, the lever pivoted to said slide formed with a straight cutting edge and a concave jaw, the spring and the pivoted knife-blade; substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ALFRED STRUM.

Witnesses:

H. D. TAYLOR,
D. H. EDWARDS.