(No Model.)

M. HARDSOCG.

MINING TOOL.

No. 520,000. Patented May 15, 1894.

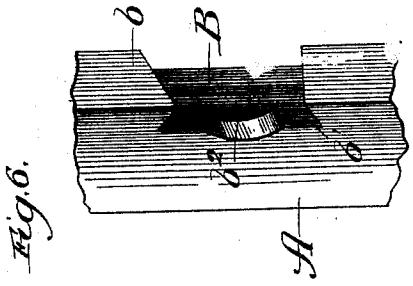

Fig. 6.

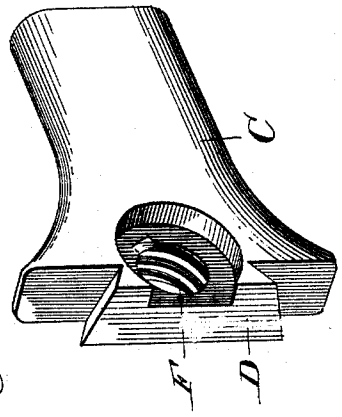

Fig. 5.

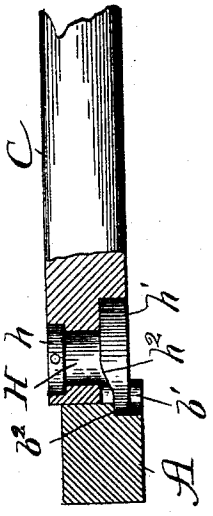

Fig. 8.

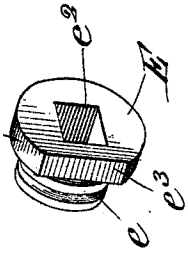

Fig. 7.

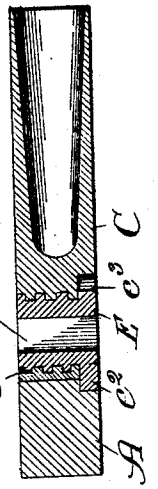

Fig. 3.

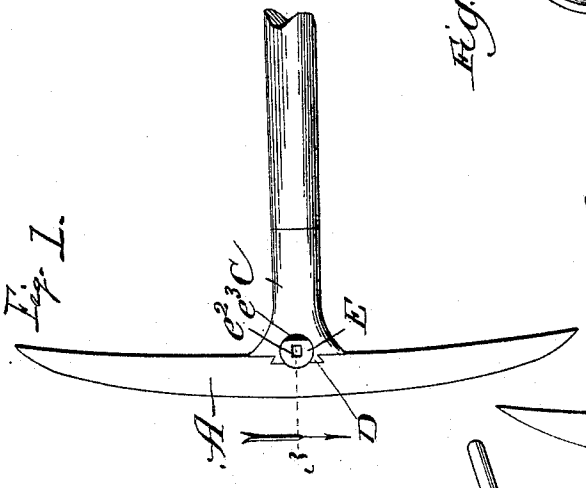

Fig. 1.

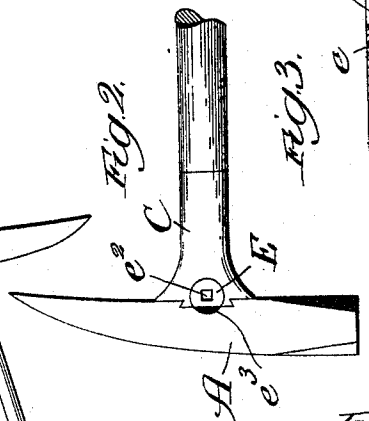

Fig. 2.

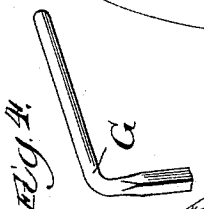

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

MARTIN HARDSOCG, OF OTTUMWA, IOWA.

MINING-TOOL.

SPECIFICATION forming part of Letters Patent No. 520,000, dated May 15, 1894.

Application filed July 10, 1893. Serial No. 480,052. (No model.)

To all whom it may concern:

Be it known that I, MARTIN HARDSOCG, of Ottumwa, Iowa, have invented certain new and useful Improvements in Mining-Tools, of which the following is a specification.

The object of my invention is to provide a simple, economical and efficient mechanism for locking the ferrule and pick or hammer of a mining tool together; and it consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my improved locking device applied to a miner's pick; Fig. 2 a side elevation of the same applied to a hammer; Fig. 3 an enlarged sectional detail taken on line 3 of Fig. 1; Fig. 4 a perspective view of the key or wrench used in connection with the locking bolt; Fig. 5 an enlarged perspective view of the ferrule; Fig. 6 an enlarged perspective view of a portion of the pick; Fig. 7 a perspective view of the locking bolt; and Fig. 8 a sectional view showing a modified form of my locking bolt.

In the ordinary construction of miner's tools—like picks, knapping hammers, axes, &c.—the main portion of the tool and ferrule are generally formed in one piece, so that the handle and tool become one consolidated structure. The objections to this form of tool are that in repairing, the entire tool, including the pick, ferrule and handle, have to be sent to the shop to be repaired, as well as taking up a great deal of space in shipping the tools with their handles. It is the design of my invention to obviate these objections, and to provide a mining tool with a ferrule so constructed as to be interchanged with any number of different kinds of tools, so that one handle may be used in connection with the pick, knapping hammer or hatchet and ax, thus reducing the cost of an entire set of tools, as well as making them easier to handle while repairing or sharpening.

As illustrated in the drawings, I have preferred to show my improved mechanism adapted to be used in connection with a miner's pick and knapping hammer.

In constructing my improved locking device, I take a pick-ax or hammer head A, and provide it with a dovetailed recess B, preferably wedge-shaped—that is, the opening at one side, b, is wider than the opening at the other side, b'. I provide the usual ferrule, C, with a dovetailed slide D, adapted to fit the recess of the pick, so that, as it is drawn forward, it will be wedged tightly in place. To securely lock the ferrule and pickax or hammer head together, I provide a locking bolt E, with a threaded portion e, adapted to enter a threaded opening F in the ferrule, and have its flanged head e' impinge against a shoulder b^2 in the pickax or hammer head, so that when the locking bolt is rotated in one direction, this head will impinge against the shoulder in the pick ax, and act to draw the wedge-shaped slide of the ferrule into locking engagement with the recess in the pickax. I provide the locking bolt with a square axial opening e^2, adapted to receive the wrench G, for the purpose of rotating the bolt and locking or unlocking the ferrule and head. The head of the locking bolt is preferably flattened at one side, as at e^3, so that the bolt may be turned to have its flattened portion coincide with the upper portion of the slide, when the same is placed in the recess of the pickax or hammer head.

In Fig. 8 I have shown a modified form of my locking bolt, which consists in providing it with a smooth, cylindrical portion H, adapted to fit an opening in the ferrule, and provided at one end with a circular nut h, which may be held in position by any convenient method, and a cam-shaped head h', at the other end, adapted to impinge against the shoulder, b^2, in the pickax or hammer head. The locking bolt is provided with the usual square opening e^2, shown in Fig. 7, so that on turning the same, the cam portion, h^2, will impinge against the shoulder of the pickax or hammer head, and act to securely lock the ferrule and head together.

While I have described my invention more or less minutely as to details, I do not desire to be limited thereto unduly, any more than is pointed out in the claims. On the contrary, I contemplate changes in form, construction and arrangement, and the use of equivalents as occasion may warrant or necessity demand.

I claim—

1. In mining tools, the combination of a main portion forming the ax or hammer head, and a ferrule adapted to receive a handle, one

portion provided with a wedge-shaped dovetailed recess and the other with a wedge-shaped dovetailed slide adapted to fit the same, and mechanism to securely hold both portions together, substantially as described.

2. In mining tools, the combination of a main portion forming the ax or hammer head, and a ferrule adapted to receive a handle, one portion provided with a wedge-shaped dovetailed recess and the other with a wedge shaped dovetailed slide adapted to fit the same, and a locking bolt to securely hold both portions together, substantially as described.

3. In mining tools, the combination of a main portion forming the ax or hammer head, and a ferrule adapted to receive a handle, one portion being provided with a wedge-shaped dovetailed recess and the other with a slide adapted to fit the same, and a locking bolt having a threaded portion, adapted to fit a threaded opening in the ferrule, and provided with a flanged head adapted to impinge against a shoulder on the ax and securely lock the ferrule and ax together, substantially as described.

MARTIN HARDSOCG.

Witnesses:
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