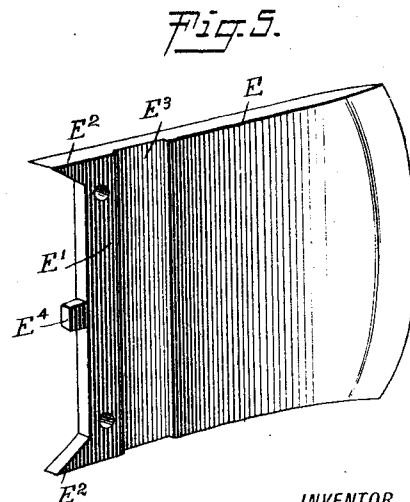
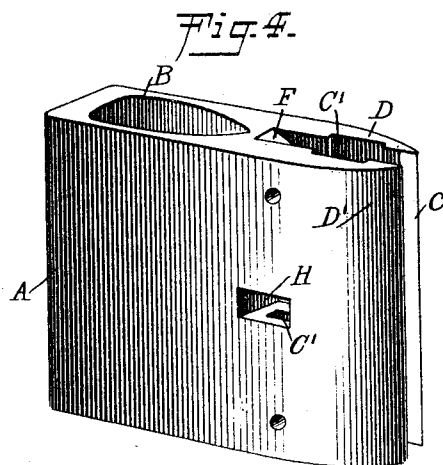
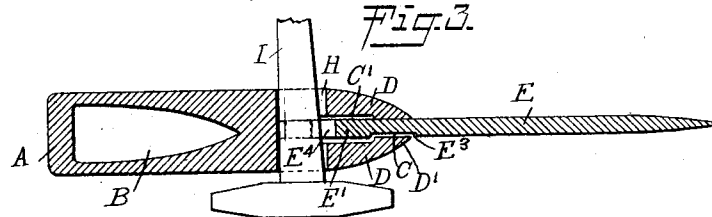
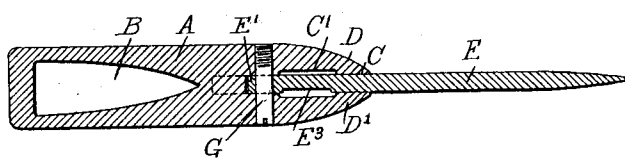
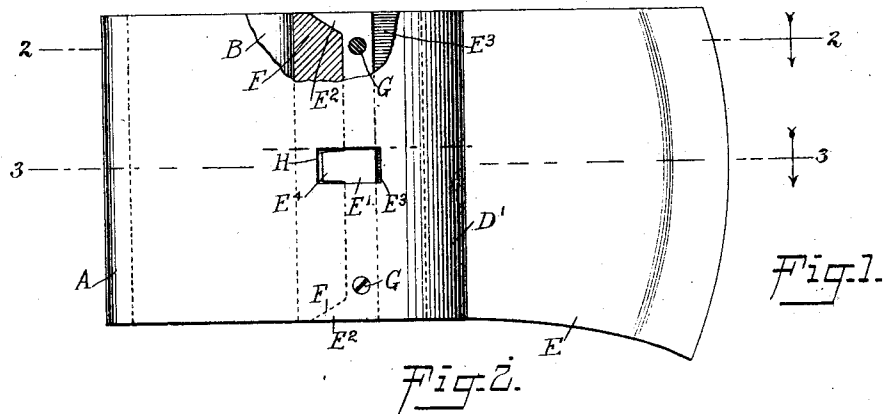


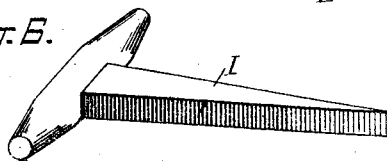
1,057,966.

Patented Apr. 1, 1913.



WITNESSES
 William P. Goebel
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Fig. 6.



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UNITED STATES PATENT OFFICE.

ALOIS F. KOPRIVA, OF STONY BROOK, NEW YORK.

AX.

1,457,966

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed June 18, 1912. Serial No. 764,391.

To all whom it may concern:

Be it known that I, Alois F. Kopriva, a citizen of the United States, and a resident of Stony Brook, in the county of Suffolk and State of New York, have invented a new and improved Ax, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved ax having an ax head and a removable bit to permit of replacing a worn out or broken bit with a new one, and to securely hold the removable bit in position in the ax head. For the purpose mentioned the ax head is provided with a socket in the handle and with a groove for the reception of the back of the bit, the groove being provided with beveled seats and the back of the bit being provided with beveled lugs adapted to engage the said seat to center the bit on the ax head and to hold the bit against sectional movement in an up and down direction.

A preferred embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the ax, parts being broken out; Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1; Fig. 3 is a similar view of the same on the line 3—3 of Fig. 1; Fig. 4 is a perspective view of the ax head; Fig. 5 is a similar view of the bit; and Fig. 6 is a perspective view of the wedge-shaped tool for dislodging in the ax head whenever it is desired to replace a worn out or a broken bit.

The ax head A is provided with the usual eye or socket B for the reception of the handle and of the ax handle, and the head A is provided with a vertically extending groove C forming jaws D, D' between which passes the back E' of the bit E removably held in position on the head A, as hereinafter more fully explained. The groove C is provided with an inner widened portion C' as plainly indicated in Figs. 2, 3 and 4, and the back E' of the bit E is somewhat thicker than the outer narrow portion of the groove C' to prevent the bit from being moved outwardly, and to allow of sliding the bit up or down for engagement with or disengagement of the bit from the ax head. The back E' of the bit E is provided at the top and bottom with integral beveled lugs E² adapted to be seated on beveled seats F

formed in the head A at the back of the groove C so that the bit E is centered in the head A and is held against up or down movement thereon. One face of the bit E adjacent the back E' is provided with a vertical groove E³ adapted to register with the jaw D' at the time the bit E is pulled outward a sufficient distance for the beveled lugs E² to clear the seats F (see Fig. 3) to allow of moving the bit E up or down out of engagement with the head A.

It is understood that in order to place the bit E in position on the head A the bit is moved either from the top downward or bottom upward, with the groove E³ in register with one of the jaws D or D' and with the back E' in the widened portion C' of the groove C, as indicated in Fig. 1. When the top and bottom of the bit E are flush with the top and bottom of the head A, then the bit E is moved inward as far as to engage the lugs E² with the seats F (see Fig. 1), to center the bit on the head A and to hold it against up or down movement. Transverse pins or screws G are now passed through the registering openings in the jaws D, D' and the back E' to securely fasten the bit E in position on the head A.

The back E' is provided with an integral lug E⁴ approximately midway between the beveled lugs E² (see Figs. 1 and 3), and the head A is provided with a transverse opening H into which extends the lug E⁴ at the time the bit E is in position on the head A, but sufficient space is left between the terminal of the lug E⁴ and the back of the opening H to permit the insertion of a wedge-shaped tool I for forcing the bit E outwardly a sufficient distance so that the lugs E² clear the seats F (see Fig. 3).

It is understood that prior to inserting the tool I for loosening the bit E, the pins or screws G are removed to permit the outward movement of the bit E by the action of the tool I, and the groove E³ registers with the jaw D'.

From the foregoing it will be seen that by the arrangement described the bit can be readily placed in position on the ax head A and securely fastened thereon, and by the use of the lugs E² in engaging the seats F the bit is readily secured and held against up or down movement in addition to the pins G which fasten the bit E firmly in place on the ax head A.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. An ax, comprising a head having an eye to receive a handle and provided with a groove whose inner portion is of greater width than the outer portion, and with beveled seats at the back of the groove, a bit having its back of greater thickness than the width of the outer narrower portion of the groove of the head and provided at top and bottom with beveled lugs to fit upon the seats of the head, and fastening devices passing through the bit and head.
2. An ax, comprising a head having an eye to receive a handle and provided with a groove whose inner portion is of greater width than the outer portion, and with seats at the back of the groove, a bit having its back of greater thickness than the width of the narrower portion of the groove of the head, and provided with rearwardly extending lugs on the back to fit the seats of the head and with a groove on one face, the groove being of a width greater than the

length of the narrower portion of the groove of the head, and means for securing the bit in the head.

3. An ax, comprising a head having a socket for the handle, a groove provided at the ends of the rear wall with beveled seats, and a transverse opening, a bit having a back adapted to engage the said groove and provided with beveled lugs adapted to be seated on the said seats to center the bit and to hold it against endwise movement, a lug at the back of the bit intermediate the said beveled lugs and projecting into the transverse opening in the head, and fastening means extending transversely through the head and bit.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALOIS F. KOPRIVA.

Witnesses:

GEO. HELLEN,
BENJ. F. POWELL.