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C. W. NELEMS

FOLDING HATCHET

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Fig. 1.

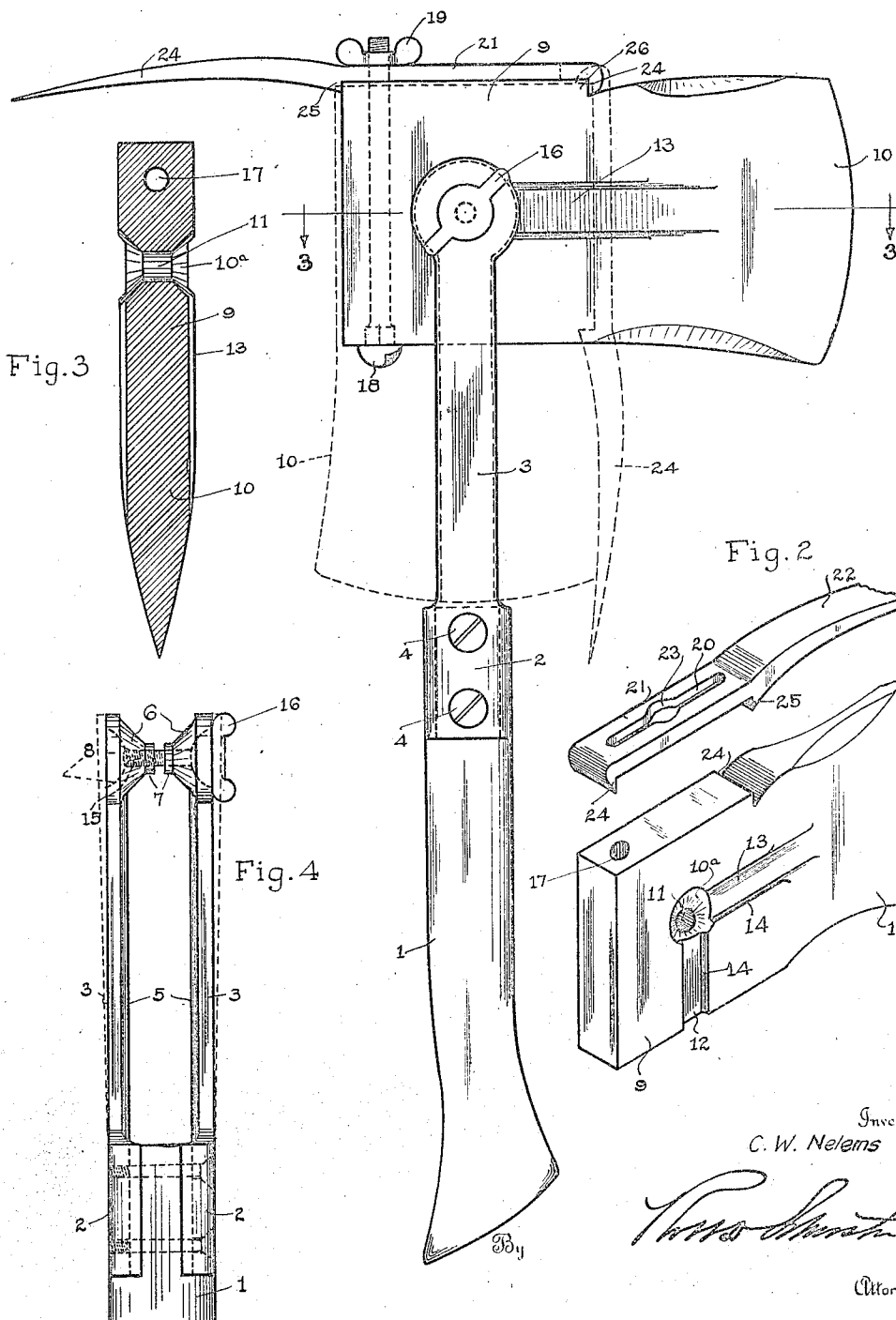


Fig. 2

Fig. 4

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FOLDING HATCHET.

Application filed May 1, 1922. Serial No. 557,711.

To all whom it may concern:

Be it known that I, CHARLES WILLIAM NELEMS, a citizen of the United States of America, residing at Birmingham, in the 5 county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Folding Hatchets, of which the following is a specification.

This invention relates to an improvement 10 in folding hatchets and has for its special purpose to provide a combination tool which will be of special service to campers and fishermen who desire a tool adapted for both chopping and digging bait.

15 A further object of my invention is to simplify and perfect the manner of mounting the hatchet blade in its handle so that it can be easily folded into or out of operating position and very positively and securely 20 clamped in either position by a single thumb screw.

A further object is to design the hatchet blade to receive and carry a reversible 25 digging tool which is capable of being reversed to form a partial guard for the cutting edge of the hatchet.

My invention further comprises the novel details of construction and arrangements of parts, which in their preferred embodiment 30 only are illustrated in the accompanying drawings, and are described in detail in the following specification and the claims appended thereto.

It is to be understood however that my 35 invention may be modified in various ways in its detail structure without departing in substance from the invention as claimed.

Referring to the drawings:—

Fig. 1 is a side elevation of the folding 40 hatchet showing the digging blade in operating position in full lines and in its inoperative position in dotted lines.

Fig. 2 is a perspective view showing the hatchet and digger blades about to be 45 assembled with the digger blade in its inoperative position.

Fig. 3 is a cross-sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is an elevation of the side bars

between which the hatchet head, not shown, 50 is pivoted.

Similar reference numerals refer to similar parts throughout the drawings.

In the embodiment of my invention illustrated, I show a hatchet handle 1 formed of 55 wood or other suitable material and having its upper end reduced to receive flush therewith the concavo-convex bases 2 of the side arms 3, which arms are secured by screws or rivets 4 to the reduced portion and form 60 flush continuations of the handle proper which terminates at a level with the upper ends of the bases 2 of the side arms. The arms are provided on their opposed inner 65 faces with longitudinal central shoulders 5 having reversely sloping side edges. The arms at their upper ends are provided with inwardly disposed conical bosses or shoulders 6 terminating in cylindrical tips or 70 shoulders 7. A concave recess 8 is formed in the outer face of each arm opposite its respective boss 6.

The hatchet blade comprises a solid portion 9 and a blade portion 10 formed integral, the head having in the center of its 75 opposite sides conical seats 10^a corresponding in shape to the conical bosses 6 on the arms and provided with a bolt hole 11 of such diameter as to receive the shoulders 7 on the bosses. The head is also provided 80 on each side with similar grooves 12 and 13 radiating at right angles from said seat 10^a, each having sloping side walls with the same pitch as the sides of the shoulders 5, and each groove being adapted to receive with 85 a snug fit one of the arms 3 with the shoulders 5 engaging the groove sides before the shoulders engage the bottom of the grooves, thereby securing a tight, non-rattling taper fit. The grooves 13 lie parallel with a horizontal central plane through the hatchet 90 blade and the grooves 12 are disposed at right angles thereto. One of the bosses 6 is provided with a threaded bolt hole 15 and I provide a thumb screw 16 having its head 95 shaped to conform to the curvature of a socket 8 having its shank threaded and adapted to pass through the members 7 and

through the hatchet head 9 and to be screwed into the threaded opening 15, thus clamping the hatchet head between the arms with the shoulders 5 of the latter engaged in the opposite pair of grooves 12 or 13. When engaged in the grooves 13 the hatchet blade is in its inoperative position, shown in dotted lines, Fig. 1, where it will be seen that the arms are of such length as to permit the blade to swing down between the arms with its cutting edge just clearing the upper end of the handle 1.

I provide a hole 17 through the rear end of the hatchet head 9 and I form it with a square seat at its lower end. I insert a bolt 18 therethrough, the upper threaded end of which is engaged by a thumb screw 19, and its lower end has a squared shoulder engaging in the square seat at the lower end of the bolt hole. The upper threaded end of the bolt is passed through an elongated slot 20 formed in the shank 21 of a digger blade 22, this slot having an enlarged central portion 23. The slot 20 is of such shape as to permit the thumb screw 19, when disposed in alignment therewith, to pass through the slot provided the bolt stands in the enlarged central portion 23. When, however, the bolt is moved to either reduced end of the slot the digger shank cannot be disengaged from the bolt without the complete removal of the wing nut 19. The shank is provided at one end with a shoulder 24 and near the base of the blade with a corresponding shoulder 25, these shoulders being adapted to engage one end of the tip edge of the head 9 and the shoulder 26 in the head at the commencement of the top edge of the blade portion 10. The body portion of the digger is struck on a curve, as shown, and it can be reversed so that the blade projects in the opposite direction from the hatchet blade 10 or projects so as to overhang and guard the upper edge of the hatchet blade 10, as shown in dotted lines, Fig. 1.

The arms 3 are normally set to diverge slightly as indicated by the dotted lines, Fig. 4, the advantage of this being that as the thumb screw 16 is tightened the arms first bind against the groove sides 14 at the lower end of the grooves in alignment therewith, and as the thumb screw is further tightened the bosses 6 are drawn down into and engage the sockets securely. This gives a joint which is very secure and free from any tendency to rattle. The taper engagement between the shoulders 5 and the groove sides 14 makes it possible to swing the hatchet blade from one to the other position with only a few turns to loosen the thumb screw as the arms will spread and permit the blade to turn. The digger blade may be reversed if desired but it is normally held

on the hatchet head and can be reversed by loosening its wing nut 19 sufficiently for the shank shoulders 24, 25 to disengage the shoulders on the hatchet head 9. The square shoulder on the bolt 18 holds it against turning.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a folding hatchet, a handle having spaced blade supporting arms, a hatchet blade pivotally mounted between said arms, a clamp screw passing through a hole in the blade and engaging both arms to clamp the blade in position between them, and grooves radiating lengthwise and transversely of the blade from said hole and adapted to receive said arms.

2. A folding hatchet, in accordance with claim 1, in which the grooves have sloping side walls and the handle arms have bevelled shoulders adapted to engage the side walls of the grooves before coming into contact with the bottom of the grooves.

3. A folding hatchet comprising a handle having spaced blade supporting arms, a hatchet blade disposed between the arms, said blade having opposite tapering sockets merging into a transverse hole through the blade, said arms having tapered bosses adapted to interfit in said sockets, and a clamp screw inserted through the bosses and through the hole in the blade to clamp it in position, said blade having longitudinal and transverse grooves radiating from its sockets and shaped to receive the arms.

4. A folding hatchet, in accordance with claim 3, in which the arm bosses have concave seats in their outer faces, and in which only one boss has threads to engage the threads on the clamp screw.

5. A folding hatchet comprising a handle having spaced blade receiving arms divergent towards their free ends, a hatchet blade adapted to be mounted between said arm and having a pivot hole and radiating grooves therefrom adapted each to receive an arm, and a clamp screw engaging the arms and passing through the pivot hole of the blade and adapted to draw the free ends of said arms under tension into substantial parallelism against the blade, said arms and groove having wedging co-acting faces.

6. A folding hatchet comprising a handle having spaced blade supporting arms, a hatchet blade pivotally mounted between the arms, means to clamp the blade in position in different adjusted positions between said arms, spaced oppositely facing shoulders on the upper edge of the blade, a bit adapted to occupy an adze like relation to the head in one position and to overhang the cutting end of the blade in the other position, said bit having shoulders adapted to

interlock with the shoulders on the blade, and means to clamp said guard in position on the blade.

7. A folding hatchet, in accordance with claim 6, in which the clamp means for mounting the bit comprises a bolt passing vertically through the back end of the blade, there being a longitudinal slot in the bit through which said bolt projects, shoulders

on the bolt and hatchet to prevent the former's rotation, and a thumb screw on the bolt, said slot being shaped for the passage therethrough of the thumb screw when in alignment therewith. 10

In testimony whereof I affix my signature. 15
CHARLES W. NELEMS.

Witness:

NOMIE WELSH.