

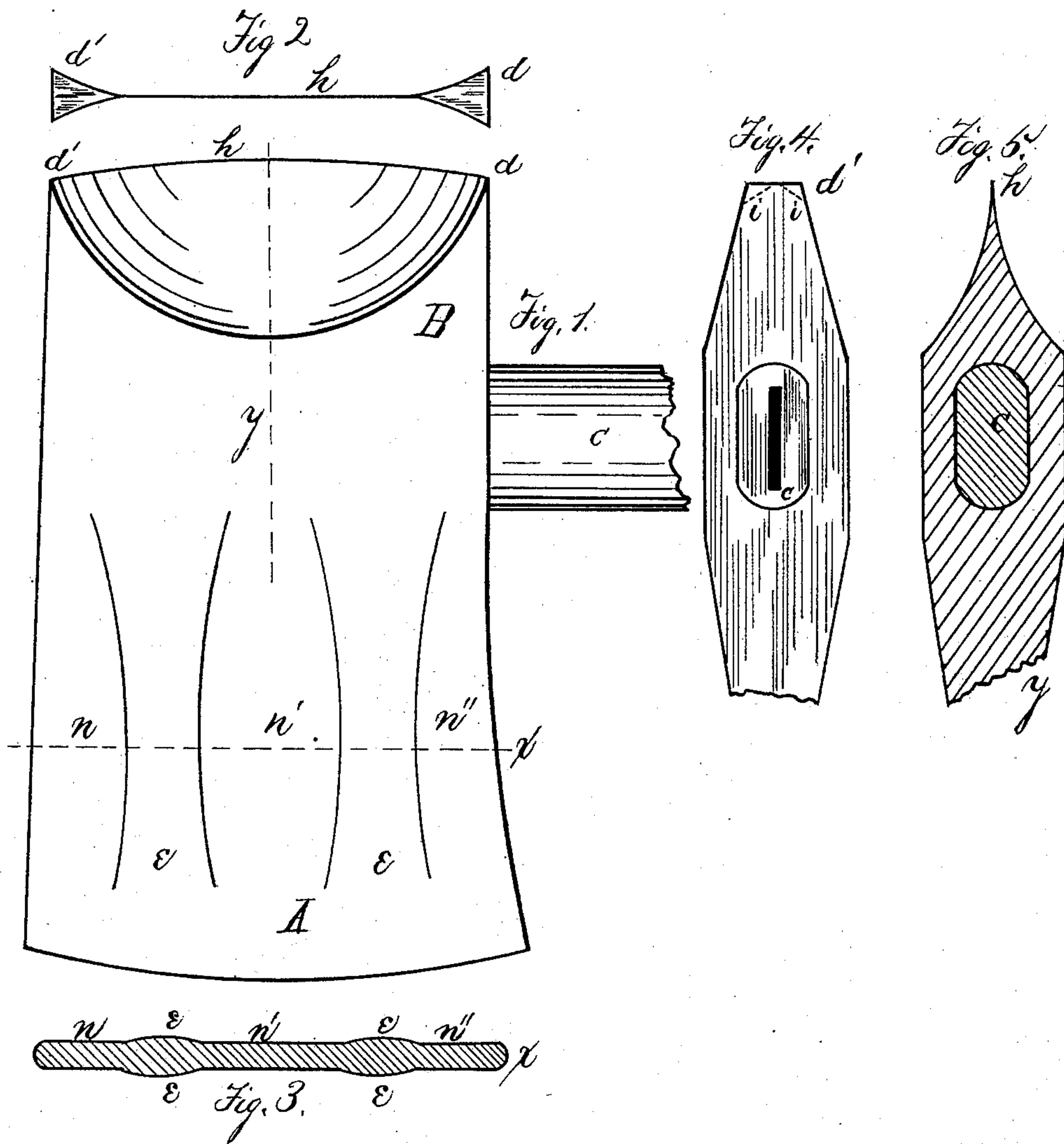
(No Model.)

W. HARVEY.

AX.

No. 327,164.

Patented Sept. 29, 1885.



Witnesses:  
E. S. Fogg  
W. A. Newcomb

Inventor:  
William Harvey  
By *Wm. H. Crook*  
His Atty in fact

# UNITED STATES PATENT OFFICE.

WILLIAM HARVEY, OF READFIELD, MAINE.

## AX.

SPECIFICATION forming part of Letters Patent No. 327,164, dated September 29, 1885.

Application filed March 21, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HARVEY, of Readfield, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Axes, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side view of an ax made according to my invention. Fig. 2 shows in outline the shape of the poll. Fig. 3 is a sectional view through the ax at *x*. Fig. 4 is an outline of the front of the poll, and Fig. 5 is a sectional view at *y*.

Like letters of reference indicate like parts.

The objects of my invention are, first, to produce an ax having a poll or limbing bit to be used in places that would be likely to injure the cutting-bit proper; also, to so improve the cutting-bit, by constructing thereon what I term "chip-ridges," that it will combine the cutting qualities of a thin ax, and the chipping qualities of a thick one, and will not grow thick in grinding. To accomplish these results, I have upon the cutting-bit proper, A, two or more ridges, *e e*, upon each side of the ax. These are readily produced in the process of manufacture by forging, grinding, or milling, and when finished the ridges (Fig. 3) will be segments of a circle with no sharp corners, the chip-ridges gradually sloping to the bit proper, *n n' n''*. The poll is forged and ground thin in the center and brought to a cutting-edge the greater part of its length, as indicated in Figs. 2 and 5. The corners of the poll, *d* and *d'*, are left square, but they should be made thin, as indicated, (Fig. 4,) and not left the full thickness of the ax, as ordinarily done. The object of having the poll thin is that it may be ground, if desired, as indicated by the dotted lines *i i*, Fig. 4. This would add somewhat to the cutting qualities of the poll-bit, and still leave it of such strength that it would not be likely to receive serious injury.

The operation of the cutting-bit with the ridges thereon is this: In striking the ax into wood you do not have the resistance which is offered by a thick bit, but the ax penetrates

deeper in the wood, from the fact that the blade having thereon the chip-ridges may be made thinner than it otherwise could be, and these ridges *e e* operate as wedges when the ax is worked by the handle, and throw the chip. The working of the poll or limbing bit can be readily understood, and its advantages appreciated. It often occurs that wood-choppers wish to cut roots, dead limbs, and knots, and to strike in doubtful places, likely to dull a thin blade, but having this thick, strong bit the cutting-bit is saved, and if the ax strikes the ground, or even a stone, it would most likely receive the blow on the corner *d'*, where it would do no injury.

I am aware that axes have been made and patented having a series of "grooves" or "flutes" on one or both sides for the purpose of reducing friction, and, as it is claimed, admitting air to obviate atmospheric pressure, and I wish to distinguish my invention from all such.

I do not claim anything like the "grooving" or "fluting" of the ax, but wish to confine my specification and claims to the particular construction herein described—viz., the formation on the sides of the cutting-bit of two or more chip-ridges, extending from near the cutting edge to a point near the eye, and to a poll or limbing bit sharp in the center and thick or blunted at the ends.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. An ax having a cutting-bit and a poll or limbing bit, the latter sharp in the center and thick or blunt at the ends.

2. An ax having two or more chip-ridges upon each side of the cutting-bit, and a poll or limbing bit sharp in the center and thick or blunt at the ends.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM HARVEY.

Witnesses:

WINFIELD S. CHOATE,  
J. A. FAIRBANKS.