J. H. Beidler.

Axe.

No. 93,585 Patented Aug. 10, 1869.

Fig. 1.

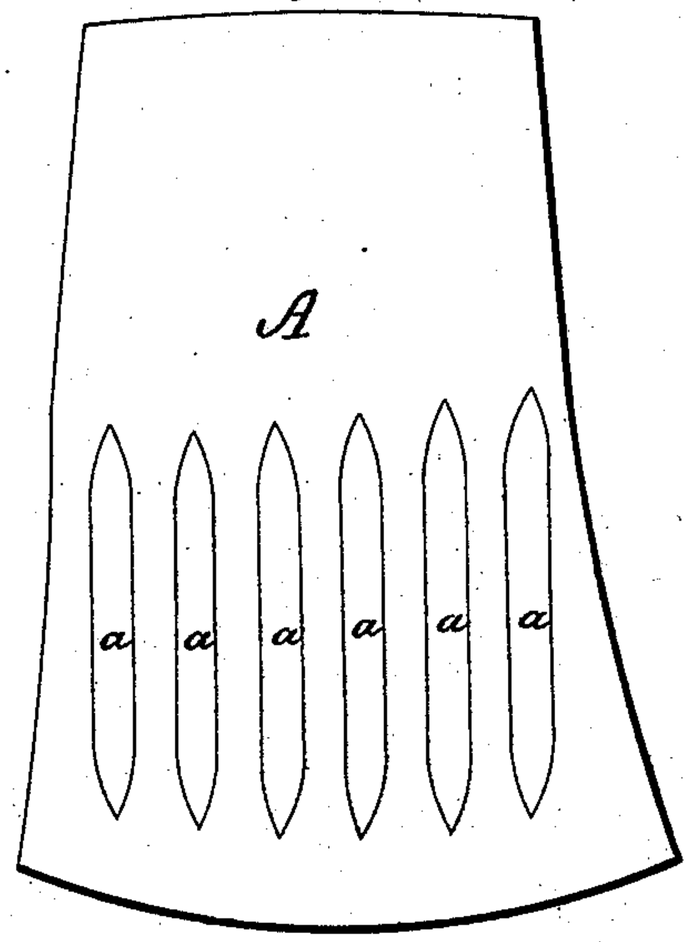
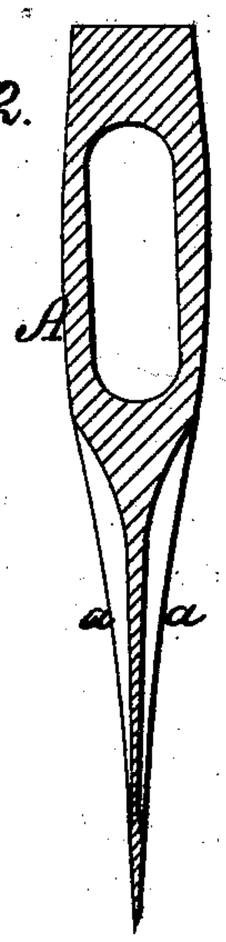


Fig. 2.



Witnesses.
Leopold Cuers
Jrn Stoop

Inventor.
Jacob H. Beidler
per Alexander Wilson
Atty.

United States Patent Office.

JACOB H. BEIDLER, OF ADRIAN, MICHIGAN.

Letters Patent No. 93,585, *dated August* 10, 1869.

IMPROVEMENT IN AXE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JACOB H. BEIDLER, of Adrian, in the county of Lenawee, and in the State of Michigan, have invented certain new and useful Improvements in Axes; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing one or both sides of an axe with a series of grooves, or their equivalents, for the purpose of removing friction and atmospheric pressure.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side view; and

Figure 2, a cross-section.

A represents an axe, made in any of the known and usual ways, and of any material and size desired.

The sides of the axe are provided with a series of perpendicular or other-shaped grooves or flutes, *a a*, or their equivalents, commencing a suitable distance above the edge of axe, and extending any desired length upward.

The axe herein described may be made by rolling the blank in the desired shape, and the grooves or corrugations therein made when the blank is thus rolled; or, the grooves may be cut into the axe, after it is formed, by any suitable device or machinery.

The axe may also be cast of steel, with the grooves, or equivalent devices, cast all at one time.

A machine may be formed with steel fingers, for cutting or milling the grooves in the body of the axe, after the same has been formed by any of the known processes; or, the spaces may be ground out by small grindstones or emery-wheels.

I do not wish to be understood as confining myself to any mode or process for making the axe, as many different methods may be applied to accomplish the result desired.

The advantages of such grooves or flutes on an axe are obvious.

It will be seen that a portion of the outer surface of the axe is removed; consequently, when the axe enters the wood, there is less friction, that is, there is less surface where friction can be produced, and hence, it is evident that the same amount of power will drive an axe, thus fluted, further into the wood than one constructed in the usual manner.

Further, when an axe is driven into the wood, it is sometimes very difficult to remove the same, on account of the suction, or atmospheric pressure. This is partially obviated by these flutes or grooves, as the air is admitted through the same downward, and thus a great portion of the suction is removed.

I do not confine myself to any particular shape, size, or angle of the grooves or flutes; nor do I claim any specific number of such flutes, as that must, in a great measure, be regulated by the size and thickness of the axe.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The axe herein described, having a series of grooves on one or both surfaces, substantially as and for the purposes specified.

In testimony that I claim the foregoing, I have hereunto set my hand, this 1st day of March, 1869.

JACOB H. BEIDLER.

Witnesses:

LEOPOLD EVERT,

A. N. MARR.