C. L. YOUNG.

Axes.

No. 199,342. Patented Jan. 15, 1878.

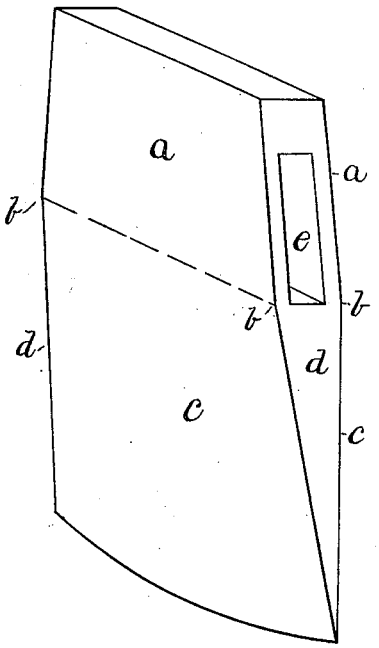


Fig. 1.

Fig. 2

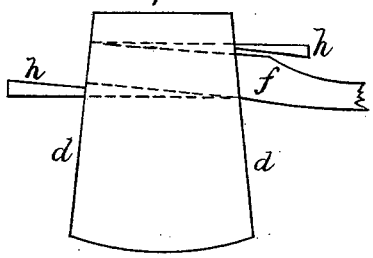
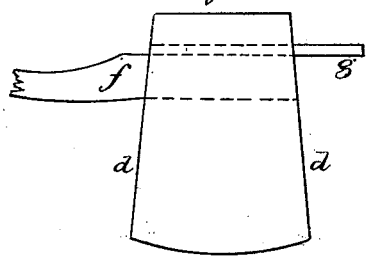


Fig. 3.



Witness

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UNITED STATES PATENT OFFICE.

CHARLES L. YOUNG, OF NEWPORT, MAINE.

IMPROVEMENT IN AXES.

Specification forming part of Letters Patent No. **199,342**, dated January 15, 1878; application filed February 15, 1875.

To all whom it may concern:

Be it known that I, CHARLES L. YOUNG, of Newport, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Axes; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows a perspective of my invention; Figs. 2 and 3, side views of same.

Same letters show like parts.

My invention consists of certain improvements in axes, whereby their strength and durability are increased, and their cutting qualities improved. They are at the same time rendered more readily adjustable upon their handles.

These improvements consist of certain variations in the form of the ax and its eye, and will be readily understood by reference to the drawings.

The sides of my improved ax are formed by two planes, one of which, *a*, commences at the poll and extends to a point, *b*, near the lower part of the eye. Between these points the sides of the ax are parallel, or nearly so. The second plane, *c*, begins at the lower part of plane *a*, and extends to the edge, the sides of the ax converging and forming the blade in the shape of a perfect wedge.

The surfaces *c c* may be slightly concave; but I consider the straight form more durable. The advantages of this peculiar shape are found in the increased thickness of metal at the corners of the blade, where the wear is most severe, and in the corresponding thickness of the center of the blade by which the cutting is done, which, being supported by the sides, is still sufficiently strong for service.

More metal is left at the lower part of the eye, enabling the ax to be resteeled without burning out the iron, while at the same time the metal is so distributed that no projections are left at the sides of the eye or sides of the blade to break the force of the blow.

Another feature of my invention consists in making the edges *d d* of the ax diverge equally from the poll to the edge, enabling the ax to be reversed when the edges wear unequally.

In the common form of ax the eye is oval in its cross-section, having its apex toward the edge of the ax, and its sides diverge from the handle, making the opening larger on the opposite side of the head. This form possesses many disadvantages, requiring great care in fitting the handle, as its shape must be accurately adapted to obtain the desired "hang" of the poll, the shape of the eye making subsequent adjustment impracticable. Moreover, the oval shape of the eye brings the thinnest and weakest part of the handle next to the blade, where it is most exposed to wear.

To overcome these objections is the object of my third improvement, which consists in making the eye *e* with square corners and parallel sides. This enables the handle *f* to be easily fitted, and to be shifted from one side of the head to the other when it is desired to turn the ax. It also permits the balance of the ax to be raised, and the handle to be inserted nearer to or farther from the pole, by the simple insertion of a flat strip, *g*, at the front or back of the handle; or the ax may be hung at different angles with the handle, by slanting said handle in the eye and securing it by wedges *h h*. The lower or under side of the handle is, moreover, rendered more durable, since, instead of being thinned and rounded, it presents a square, and consequently larger, surface at a part most exposed to wear.

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

1. An ax having its sides parallel, or nearly so, from the pole to a point, *b*, at or near the lower part of the eye, and converging from

said point to the cutting-edge, its surfaces being planes, or nearly so, substantially as set forth, for the purposes herein described.

2. An ax the side edges of which diverge equally from the pole to the cutting-edge, as shown, for the purposes herein described.

3. An ax provided with an eye having square corners and parallel sides, substantially as shown, for the purposes herein described.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of February, 1875.

CHARLES L. YOUNG.

Witnesses:
WM. FRANKLIN SEAVEY,
W. E. BROWN.