

(No Model.)

W. C. KELLY.

AX.

No. 327,275.

Patented Sept. 29, 1885.

Fig. 1.

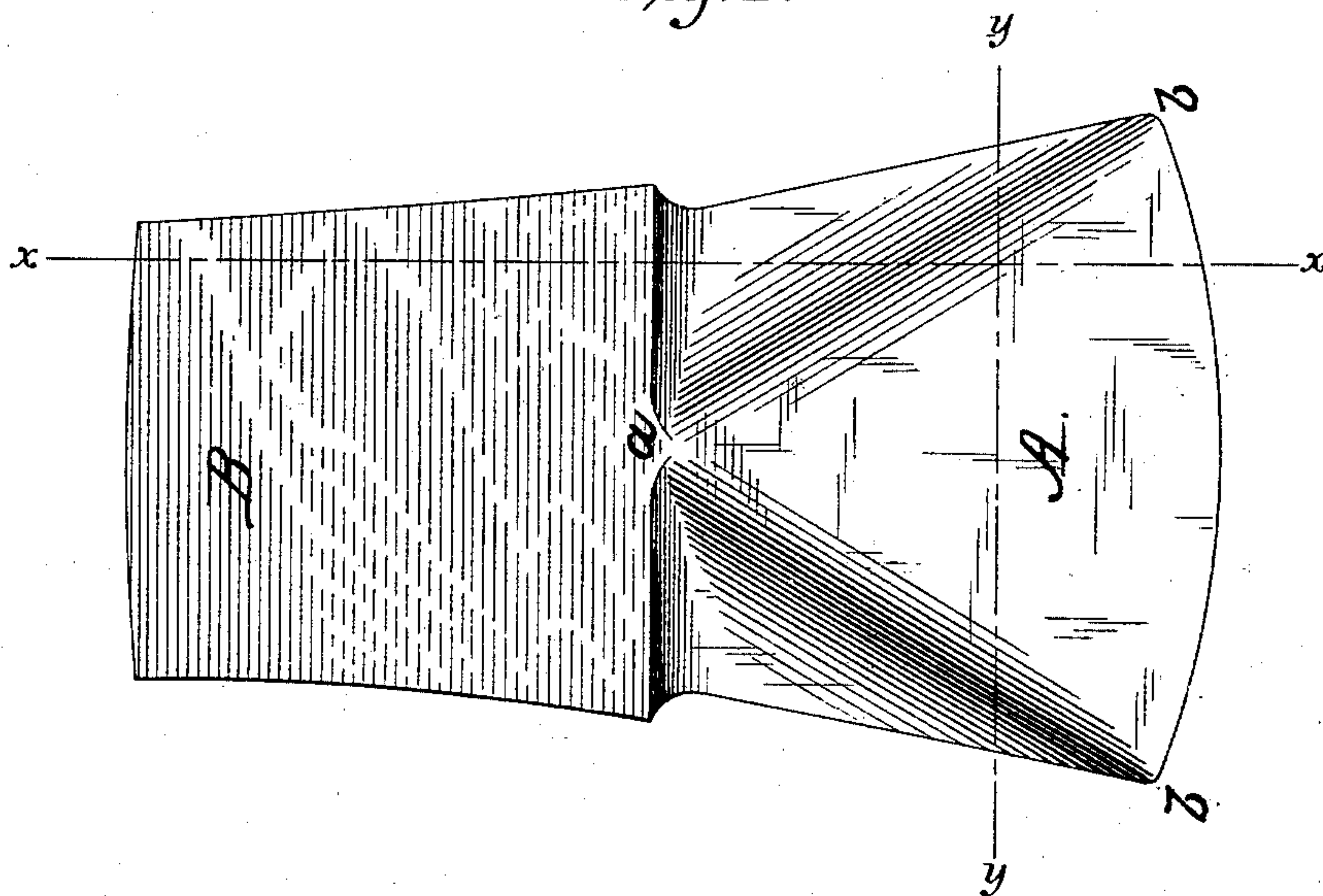


Fig. 2.

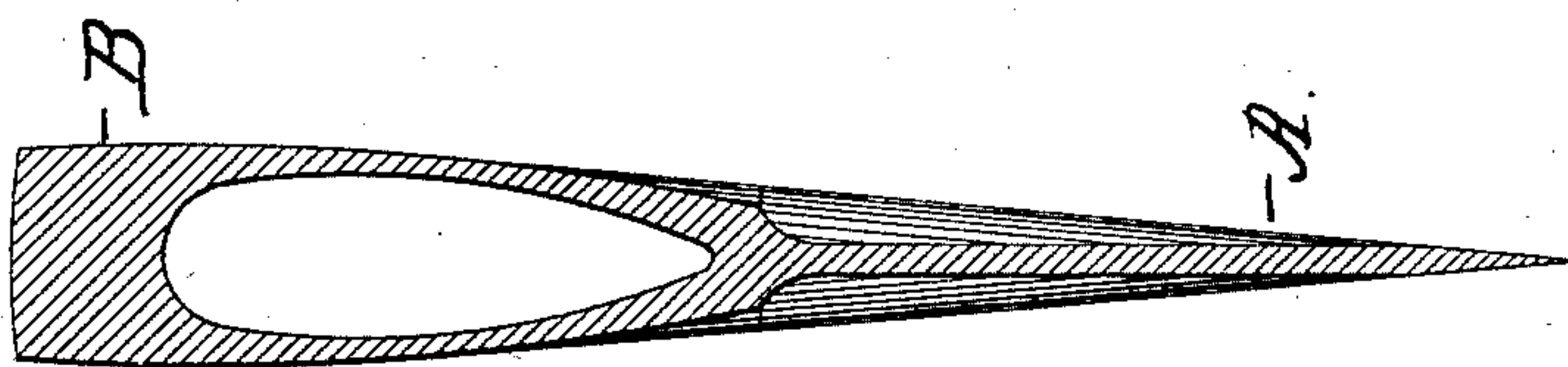


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM C. KELLY, OF LOUISVILLE, KENTUCKY.

AX.

SPECIFICATION forming part of Letters Patent No. 327,275, dated September 29, 1885.

Application filed April 3, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. KELLY, a citizen of the United States, residing at Louisville, Kentucky, have invented new and useful Improvements in Axes, of which the following is a specification.

My invention has reference to certain new and useful improvements in axes.

The ordinary form of ax is one in which the general configuration is that of a wedge with the thickest portion slightly in advance of the socket in which the handle is inserted and diminishing quite abruptly in thickness as the cutting-edge is approached. Great inconvenience is experienced in using this ax on account of the comparatively large amount of force necessary to force it into the wood, and also from the tendency to become wedged when deeply embedded in wood, handles being frequently broken in withdrawing the blade when it has been driven to any considerable depth in hard wood; also, in sharpening the edge after it has become dulled, more and more metal has to be ground away at each successive sharpening.

The object of my invention is to overcome the defects alluded to in the axes of present manufacture, and to so form the cutting-blade that it shall be of practically a uniform thickness for so much of its extent as would be usually available for grinding and sharpening, and embodying also the features hereinafter fully described of presenting a gradually-decreasing extent of surface of the chip or wood being cut, so that with the same amount of force employed it can be driven deeper into the wood than an ax as at present made, and the deeper it is driven in the less will be the power required to loosen it from the bite; and with these ends in view my invention consists in forming the ax with the blade of practically a uniform thickness at that point usually consumed by wear and grinding, and beveled or tapered from a central point in the line of juncture between the blade and head toward the back and front edges of the blade, the line of said taper radiating from its starting-point outwardly on both sides and meeting the edges at the point of juncture with the cutting-edge of the blade, as will be fully understood by

reference to the drawings accompanying this specification.

In order that those skilled in the art to which my invention appertains may know how to make my improved ax, I will now proceed to describe its construction, in connection with the accompanying drawings, in which—

Figure 1 represents a side elevation of an ax-blade made in accordance with my invention. Fig. 2 represents a horizontal section taken at line *x x* of Fig. 1, and Fig. 3 is a vertical section taken at the line *y y* of Fig. 1.

In the drawings the blade portion of the ax is represented by A, and the butt or head by the letter B.

The blank may be made in any suitable manner and similar to the ax-blanks at present made, except in cross-section the blade is made somewhat thinner and of practically a uniform thickness in so much thereof as is liable to be consumed by ordinary wear in use and grinding or sharpening. The blade is then ground or otherwise suitably thinned toward the front and back edges, and from a central point, where the blade portion and head or butt meet outwardly toward the edges of the ax, so as to form bevels. These bevels begin at the point named and taper toward the points where the heel and the toe of the blade respectively meet the back and front edges, as is clearly indicated by the letters *a b*.

From this construction or form of blade it will be seen that as the metal is ground away to sharpen the same the heel and toe, instead of (as in axes at present) increasing in thickness, are practically the same, owing to the uniform thickness of back and front edges of the blade, resulting from bevels referred to; and it will also be observed that as the blade portion naturally and of necessity thickens up in its approach to the butt or head the bevels before referred to, traveling or starting from the lines *a b*, approach correspondingly nearer to the center of the blade; hence the deeper the ax enters the wood the less is the surface at its thickest point, which will be in contact with the wood, so that, as will be readily seen, a very limited rocking motion becomes necessary to loosen the ax and remove the same.

In addition to the qualities of usefulness re-

sulting from the formation described a generally keen and desirable appearance is given to the instrument, by which it may be readily distinguished from the ordinary or wedge-shaped ax of the market.

I have shown the lines *ab*, at which the bevels begin, as converging and meeting as the most preferable; but it will be understood that the generic feature of my invention would still be preserved if the converging lines *ab* should be separated at the top to a greater or less extent, and hence I do not wish to confine myself to so forming the bevels that they shall actually meet at their top extremities.

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

1. As a new article of manufacture, an ax having the blade of a practically uniform

thickness for so much of its extent as would be ordinarily consumed by wear and grinding and tapered from a point at or near its center toward the edges, the lines of taper diverging from said point toward the heel and toe of the cutting-edge, substantially as and for the purposes hereinbefore set forth.

2. An ax having the back and front edges of its blade portion of practically uniform thickness from the points of juncture with the cutting-edge to the shank or butt, substantially as and for the purpose set forth.

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

WILLIAM C. KELLY.

Witnesses:

HENRY L. KRIEGER,

MATT. S. SMITH.