J. BEHEL.

Manufacture of Cultivator-Teeth.

No. 139,535. Patented June 3, 1873.

Fig. 1

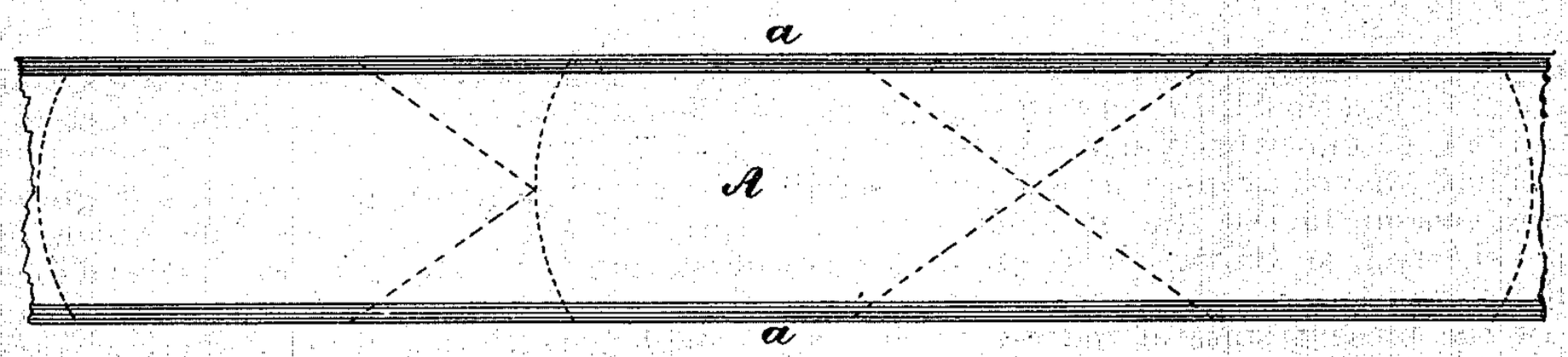

Fig. 2

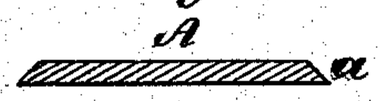

Fig. 3

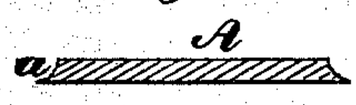

Fig. 4

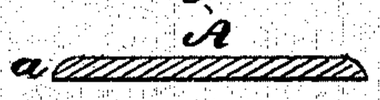

Fig. 5

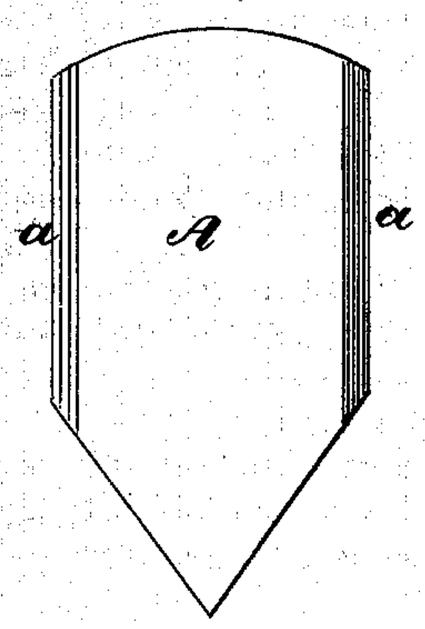

Fig. 6

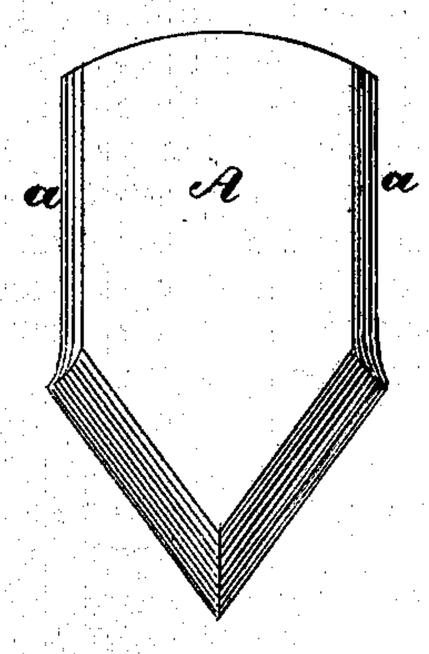

Fig. 7

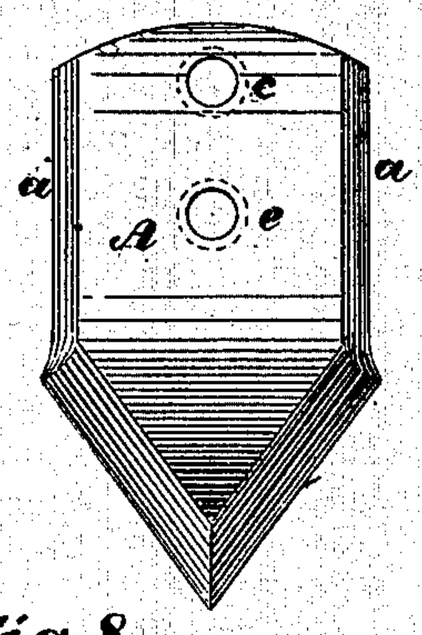

Fig. 8

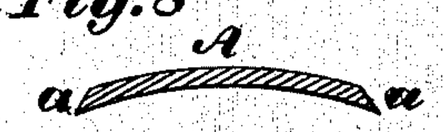

Fig. 9

Witnesses:-

Joe. A. Peyton.
Eli. Davidson

Jacob Behel
by his Atty
Wm. D. Baldwin.

UNITED STATES PATENT OFFICE.

JACOB BEHEL, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN THE MANUFACTURE OF CULTIVATOR-TEETH.

Specification forming part of Letters Patent No. **139,535**, dated June 3, 1873; application filed November 13, 1872.

To all whom it may concern:

Be it known that I, JACOB BEHEL, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in the Art of Manufacturing Shovel, Steel, or Cultivator Teeth, of which the following is a specification:

In the present state of the art, so far as known to me, cultivator-teeth are prepared in two ways: Either by cutting the teeth from a rectangular plate, or from plates of what is known as "high-center" steel—that is, a bar having a longitudinal central strengthening-rib on one side. The most common way of preparing the teeth from the blanks thus formed is to swage the edges on the back of the shovel in such manner as to form a sharp-cutting edge from point to top. These edges, however, being thinner than the body of the plate, cool first in tempering, and are consequently liable to crack, break, or spring out of shape, and in finishing them on the emery-wheel the temper is apt to be drawn from the edges, thus rendering them unfit for use. When German steel is used and swaged so as to draw the plates laterally its fibers tend to separate, causing cracks and flaws, which are serious detriments. Attempts have been made to remedy these defects by swaging the points only of the teeth, leaving the parallel sides square, but the want of the side cutting-edge is a serious defect.

It is the object of my invention to obviate the objections above mentioned, and also produce a perfect and efficient tooth at small cost; to which ends my improvement consists in a novel method of forming cultivator-teeth by rolling bars of the proper width with beveled edges, cutting the blanks therefrom, swaging the points, and then finishing the tooth by grinding its face, thus forming a cutting-edge on each side of the tooth. The temper of the edges thus formed is not drawn on the emery-wheel, and the teeth being slightly concave transversely on their faces are stronger than flat-faced teeth and polish much better.

In the accompanying drawings, Figure 1 represents a view of a plate from which the blanks are to be cut, as shown in dotted lines. Figs. 2, 3, and 4 represent transverse sections through bars having beveled edges of varying outline, that shown in Fig. 2 being the same as in Fig. 1, and the form I prefer. Fig. 5 shows the blank when first cut. Fig. 6 shows it with its point swaged. Fig. 7 represents a view of the back of the finished tooth; Fig. 8, a section; and Fig. 9 a side view thereof.

To carry out my invention I form the plates or strips A with beveled edges *a*, and cut them into the shape shown in Fig. 5. I then swage the sides into the form shown in Fig. 6, bore the holes *c* to secure the teeth to their stocks, curve them into the form shown in Figs. 7, 8, and 9, temper them, and finish them in the usual way.

The mechanism and manipulation required for attaining these results are well known, and need no description here.

I claim as my invention—

1. The shovel steel, hereinbefore described, made in strips, with a beveled cutting-edge on each side, constituting a new article of manufacture.

2. The improvement in the art of making cultivator-teeth, hereinbefore set forth, by cutting the blanks from a strip formed with beveled edges, and then swaging and tempering the edges and points, and finishing the teeth in the manner described.

In testimony whereof I have hereunto subscribed my name.

JACOB BEHEL.

Witnesses:
HENRY O. BROWN,
A. R. ALBERTSON.