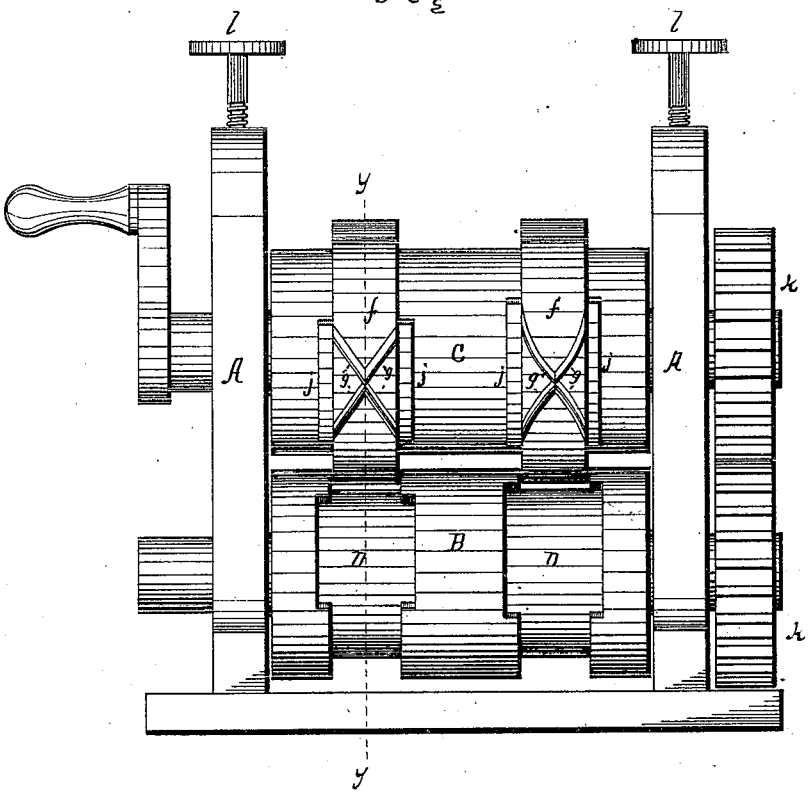
J. HARPER 2 Sheets—Sheet 1.

Machine for Forming Cultivator-Points.

No. 200,287. Patented Feb. 12, 1878.

Fig 1.



Witnesses

A. S. H. Johnston

Wesley Johnston

Inventor

James Harper

By A C Johnston

Attorney

2 Sheets—Sheet 2.

J. HARPER.

Machine for Forming Cultivator-Points.

No. 200,287. Patented Feb. 12, 1878.

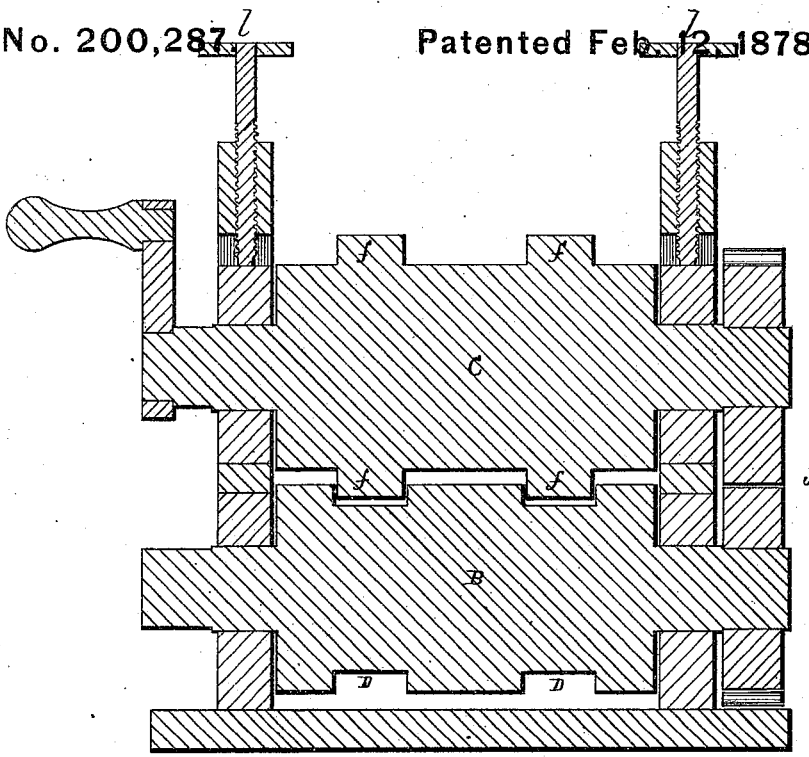


Fig 3

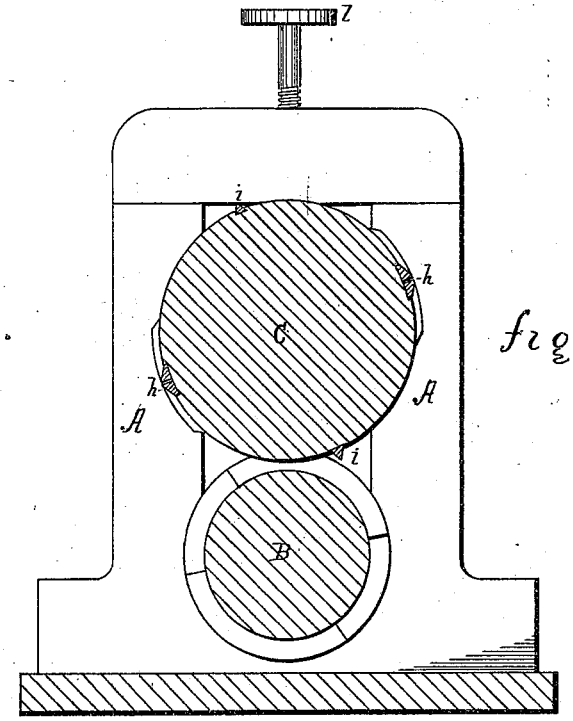


Fig 2

Witnesses
A. S. H. Johnston
Wesley Johnston

Inventor
James Harper
By A. C. Johnston
Attorney

UNITED STATES PATENT OFFICE.

JAMES HARPER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO RALPH J. RICHARDSON, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR FORMING CULTIVATOR-POINTS.

Specification forming part of Letters Patent No. **200,287**, dated February 12, 1878; application filed December 26, 1877.

To all whom it may concern:

Be it known that I, JAMES HARPER, of Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Machines for Making Cultivator-Points and similar articles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the present process for manufacturing points for mold-boards for shovel-plows and cultivator-teeth, and various other articles connected with the manufacture of agricultural implements, it is necessary to forge or grind the entering or cutting edge of the share or cultivator-tooth and analogous articles to a bevel or chisel edge, which requires much time and labor.

The object of my invention is to dispense with this loss of time and labor in the construction of the before-mentioned articles by forming them through the medium of a pair of rolls, one of which is provided with a tongue or tongues furnished with cutters, said tongue or tongues or cutters operating within a groove or grooves in the lower or other roll.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a side elevation. Fig. 2 is a transverse section at line *y* of Fig. 1. Fig. 3 is a vertical longitudinal section.

In the drawings, A represents the housings; B C, the rolls, the roll B furnished with grooves D, and the roll C furnished with tongues *f*, in which are secured cutters *g*, having a beveled edge, as indicated at *h*, as shown in Fig. 2. The tongues are also furnished with cutters *i*, for separating the articles from the bar from which they are formed.

The cutters *g* are placed in recesses in the tongues *f*, and held in position by clamps bolted to the sides of the tongue *f*, as indicated at *j*. The rolls are geared through the medium of the wheels *k*, and are adjusted with relation to each other by the adjusting-screws *l*. The adjusting-screws *l* and the bearings for the rolls in the housings A are of ordinary construction.

The bar from which the article is formed is fed into the grooves D, and is separated through the medium of the cutters hereinbefore described.

The cutting edge or point of the share, cultivator-tooth, or other article, is formed by the bevel of the cutters *g*. The cutters in all cases correspond to the contour of the article formed.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention, and desire to secure by Letters Patent of the United States, is—

A pair of rolls, one of which is furnished with a tongue or tongues, *f*, in which are secured cutters *g*, having bevel-edges *h*, operating within the grooves of the other roll, whereby a bevel-edge is formed on the cultivator-points or analogous articles, substantially as herein described.

JAMES HARPER.

Witnesses:
A. C. JOHNSTON,
WESLEY JOHNSTON.