(No Model.) 2 Sheets—Sheet 1.

J. D. STIRCKLER.

CUTTER HEAD.

No. 296,481. Patented Apr. 8, 1884.

Fig. 1.

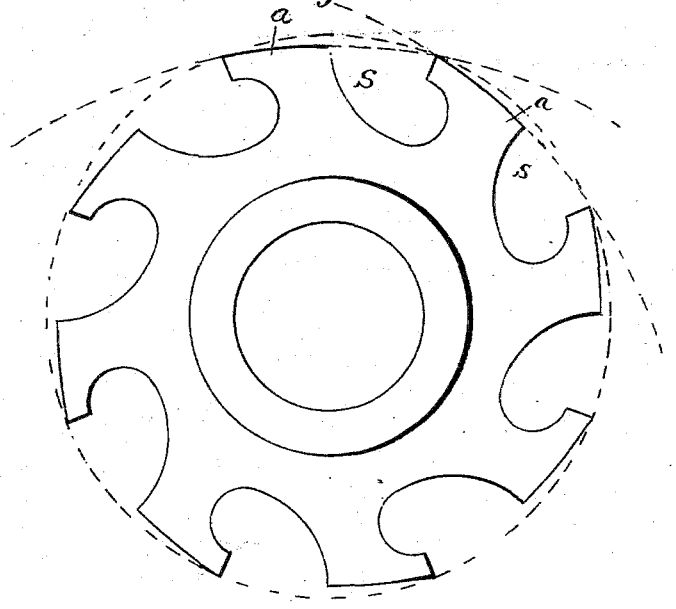
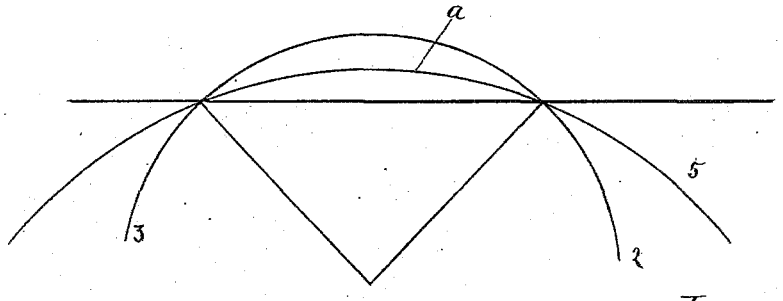


Fig. 2.



Witnesses.
C. F. Brown
A. L. White

Inventor.
John D. Stirckler.

(No Model.) 2 Sheets—Sheet 2.

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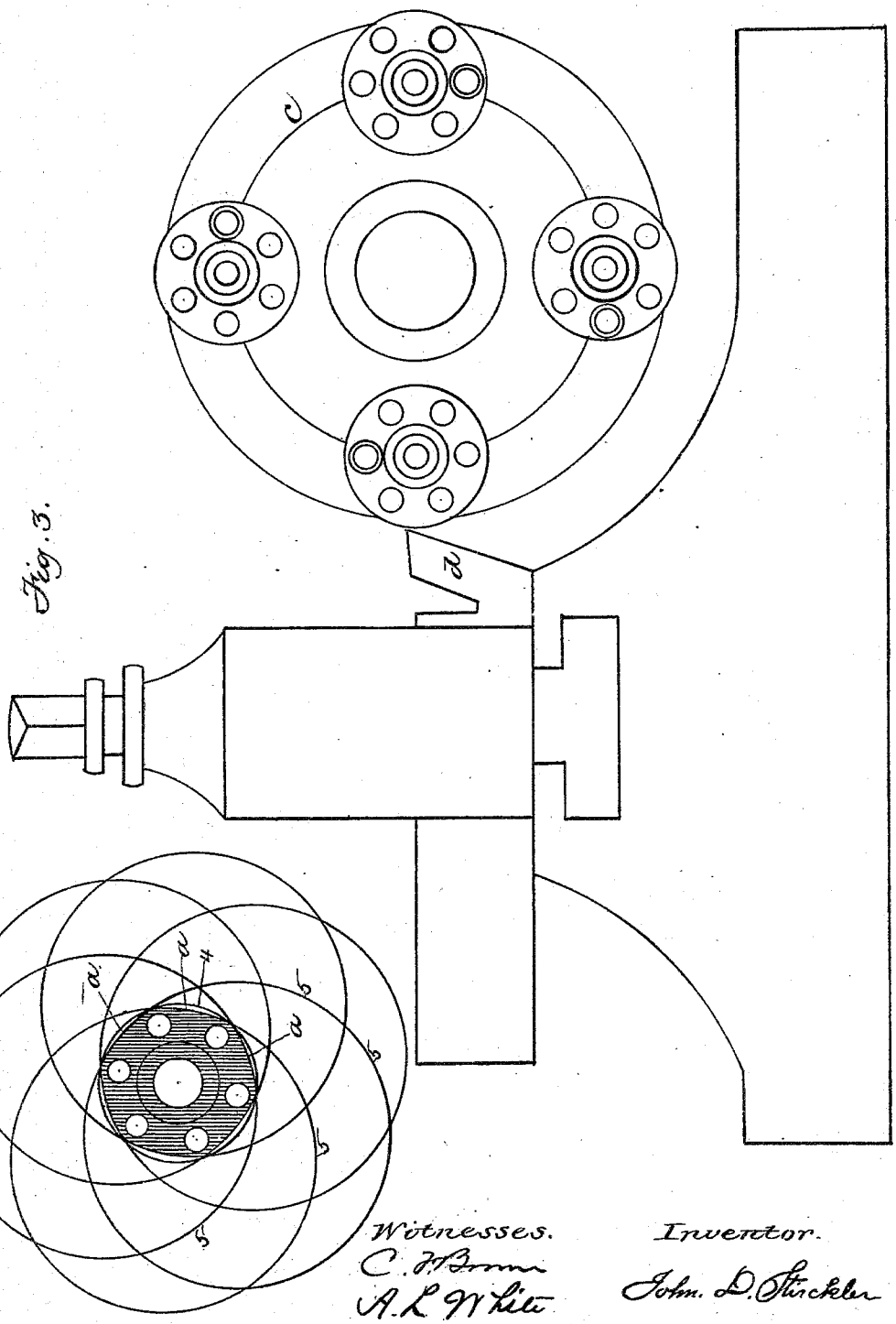

Fig. 3.

Fig. 4.

UNITED STATES PATENT OFFICE.

JOHN D. STIRCKLER, OF WORCESTER, ASSIGNOR TO OSCAR L. NOBLE, OF BOSTON, MASSACHUSETTS.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 296,481, dated April 8, 1884.

Application filed January 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. STIRCKLER, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Rotary Cutters, of which the following is a specification.

My invention consists in a cutter formed from a blank having a number of faces, and having radii of different lengths, but having each face formed on the arc of a circle having greater radius than the longer radius of the blank, so that each face will drop gradually from its longer to its shorter radius, and the cutting-edges will not be lowered rapidly by wear and grinding.

The invention also consists in the improved method of forming the faces on the blank from which the cutter is made, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side view of a completed cutter constructed in accordance with my invention. Fig. 2 represents a diagram, showing the relative outlines of the blank before and after the formation of one of the faces thereon. Fig. 3 represents an elevation of the means employed to form the faces on the blank. Fig. 4 represents a side view of a blank, showing the arcs on which its faces are formed extending into complete circles, to more clearly illustrate my improvement.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention I take a circular blank, (a portion of the periphery of which is indicated by the lines 2 3 in Fig. 2,) and form upon its perimeter a series of faces, *a*, each of which is the arc of a circle having a greater radius than that of the blank, as clearly shown in Fig. 4. In said figure the circle 4 indicates the original periphery of the blank, and the circles 5 are continuations of the arcs on which the faces *a* are formed. The blank is thus formed with radii of different lengths, the longer radii being the distance from the center of the blank to the angles formed by the intersection of the different faces, and the shorter radii being the distance from the center of the blank to points midway between said angles. The center of the circle on which each face is formed is on a line which is a prolongation of the shorter radius of said face. The blank is then slotted, as shown at *s s*, Fig. 1, one side of each slot intersecting the perimeter of the blank at one of the longer radii thereof, and forming the cutting-edge of a tooth, while the other side intersects the perimeter of the blank at one of its shorter radii, and forms the back of the preceding tooth. It will be seen that the faces of the blank are caused by their described form to drop gradually from the cutting-edges to the backs of the teeth, so that when the front faces of the teeth are worn away by use and grinding the cutting-edges are not rapidly lowered to the radii of the backs of the teeth, but are caused to approach said radii very slowly and gradually, so that the cutting-edges retain their clearance until they are worn so as to almost meet the backs of the teeth. The faces *a* are perfectly formed by securing a series of blanks to a rotating face-plate, *c*, and fixing a lathe-tool, *d*, in the proper relation to said plate, so that it will act successively on the blanks as the face-plate rotates. When one face has been formed in this manner on each blank, the blanks are adjusted so that the next face will be formed in the same way, and so on. This constitutes a simple, inexpensive, and effectual method of forming the faces.

It is obvious that the faces may be formed either before or after the slots *s* are formed.

This cutter is intended, chiefly, for trimming the edges of boot and shoe soles, its faces being molded transversely to the form to be imparted to the sole-edge.

I claim—

A rotary cutter composed of a slotted body and teeth, having faces *a a* formed as arcs of circles, the radii of such arcs being longer than the radii of the body, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of January, 1884.

JOHN D. STIRCKLER.

Witnesses:
C. F. BROWN,
A. L. WHITE.