S. N. CORTHELL.

Rotary Cutters for Boots and Shoes.

No. 207,395. Patented Aug. 27, 1878.

FIG. 1.

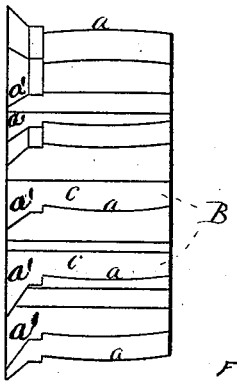


FIG. 2.

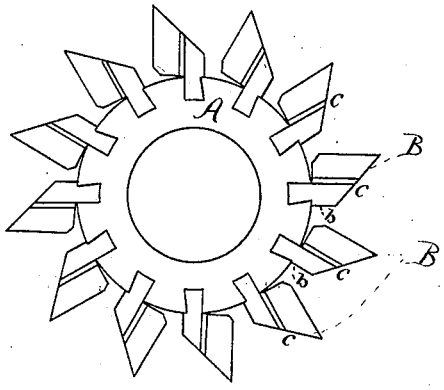


FIG. 5.

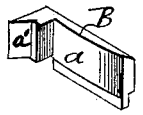


FIG. 3.

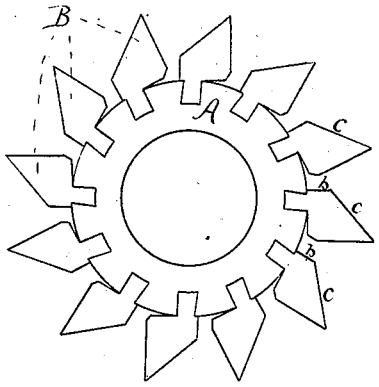
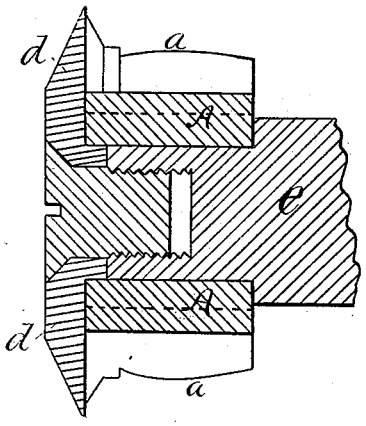


FIG. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

SAMUEL N. CORTHELL, OF QUINCY, MASSACHUSETTS, ASSIGNOR TO DAVID WHITTEMORE, OF SAME PLACE.

IMPROVEMENT IN ROTARY CUTTERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **207,395**, dated August 27, 1878; application filed May 17, 1878.

To all whom it may concern:

Be it known that I, SAMUEL N. CORTHELL, of Quincy, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Rotary Cutters, which invention is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to rotary cutters which cut at unequal depths, and particularly adapted for trimming and forming the sole-edges of boots and shoes; and the invention consists of a rotating cutter-head having a series of insertible cutting-blades, with permanent irregular outlined cutting-edges on the face thereof, outer beveled faces, and straight sides, said blades being inserted and interlocked in the body of the cutter-head, in combination with the rand-guide, all as hereinafter described.

In the accompanying drawings, Figure 1 is a front view of my improved rotary cutter as formed especially for trimming the sole-edge of of a boot or shoe, represented enlarged. Fig. 2 is an end view from the right of Fig. 1. Fig. 3 is an end view from the left of Fig. 1. Fig. 4 is a longitudinal section of a combination including said cutter, a rand-guide, and arbor, and designed for trimming the sole-edges of boots and shoes. Fig. 5 is a perspective view of one of the cutting-blades.

Said rotary cutter, Figs. 1, 2, and 3, is composed of the hub A and a number of inserted blades, B, dovetailed therein, as shown. The inserted cutter-blades B are formed with three principal faces—viz., the figured or outlined front faces, *a a'*, the plane or back face, *b*, and the outer face, *c*, which is oblique to each of the other faces.

The front or outlined faces, *a a'*, of the cutting-blades are of such configuration that when the outer face or bevel, *c*, is formed at the requisite angle to faces *a a'* the resulting outline at the intersection of said faces *a a' c* shall be such as will, when such cutters are operative in a rotary cutter-head, produce the desired outline upon the surface or body which is to be acted upon by such cutting-blades; and by the requisite curvatures or forms of the lines in faces *a a'* any desired outline may be cut in the body upon which the cutter acts. The outline resulting from such cutting will approximate to that of faces *a a'*, according to the variation of the acuteness of the angle of face *c* relatively to faces *a a'*, as the smaller such angle is the nearer will the line formed by the cutter-head correspond to the outline of faces *a a'*, while the greater such angle between said faces the greater will be the disparity between faces *a a'* and the outline produced by the action of the cutters in the body or surface to be molded or outlined. Such irregularly-outlined cutting edge or corner formed by the intersection of faces *a a'* and *c*, lies at all points within the plane of the beveled face *c*, and consequently may be readily and conveniently sharpened by grinding in a direct line along such beveled face; and, the pattern or form being upon the face of the blade and extending to the hub, the reduction of the blade by wear and grinding in the plane of said bevel will not change the form or outline of the cutting-edge.

In blades formed as described, those parts which cut the deepest, and therefore perform the hardest service, are proportionately thicker and stronger.

The rand guide or disk *d* and said rotary cutter are properly attached to the driving-shaft of a trimming-machine by means of an arbor, *e*, as clearly shown in Fig. 4.

The disk *d* runs in the seam between the sole and upper, and serves to guard and protect the latter from injury by the cutter, and also serves as a rand-guide, by which to steady and guide the movement of the boot or shoe relatively to the action of the cutter.

Blades formed as shown turn off a portion of the upper side of the sole, rand, or feather-edge, and at the same time cut a bead near the upper corner of the sole-edge and concave the remaining portion thereof. Such a cutter is employed only on the fore-part edge, and may be formed on the face of the blades, as described, to give the sole-edge any desired form or style of finish.

What I claim as my invention is—

The herein-described rotary cutter, consisting of the rotating cutter-head A, having a series of insertible cutting-blades, B, with irregular outlined cutting-edges *a a'* on the face thereof, outer beveled edges *c*, and straight sides *b*, said blades being inserted and interlocked in the body of the cutter-head, as described, in combination with the rand-guide *d*, the several parts constructed and relatively arranged to operate as specified.

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Witnesses:

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