

(No Model.)

A. McDOWELL.

ROTARY CUTTER FOR SOLE OR HEEL TRIMMING.

No. 584,826.

Patented June 22, 1897.

Fig. 1.

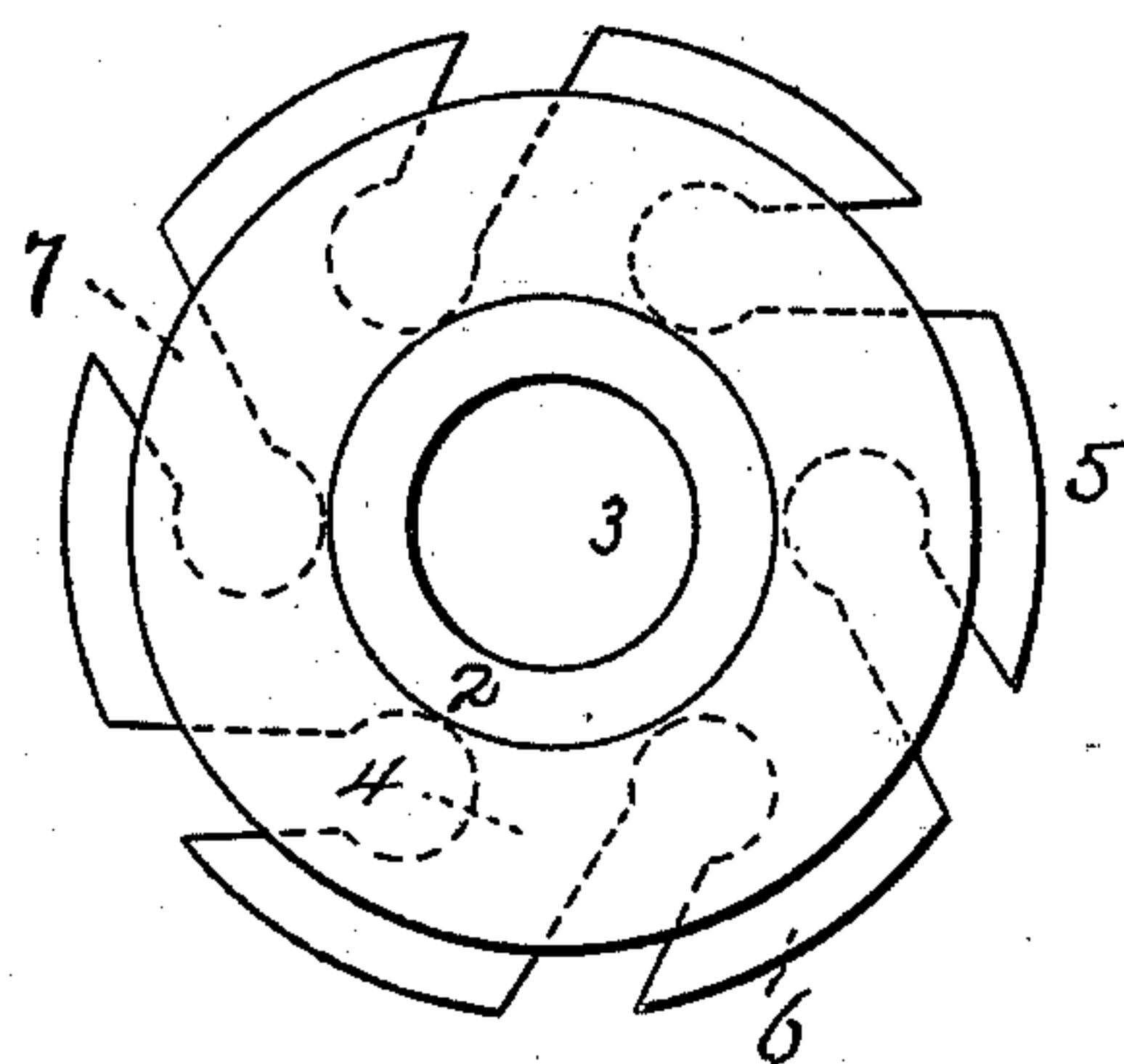


Fig. 2.

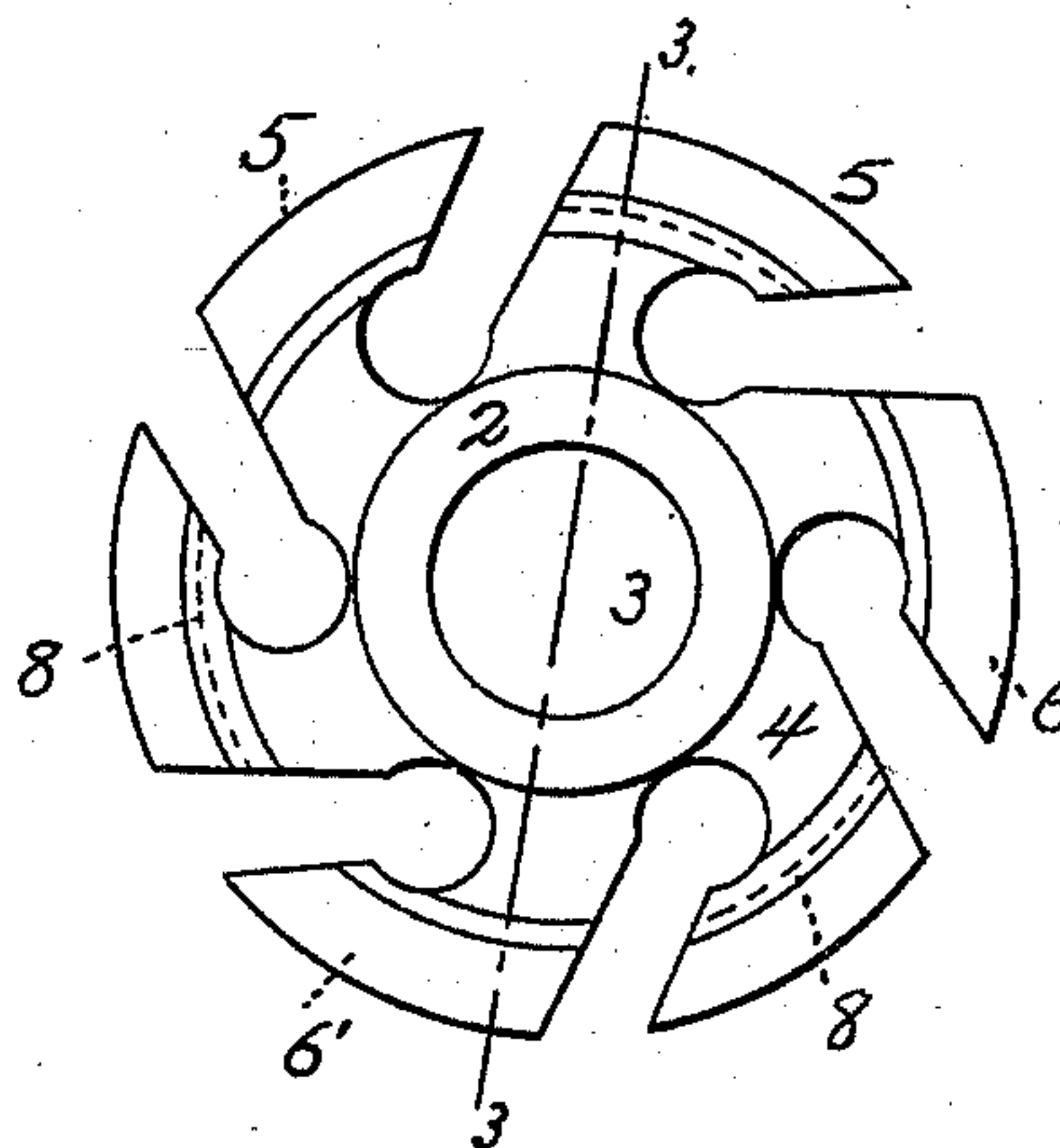


Fig. 3.

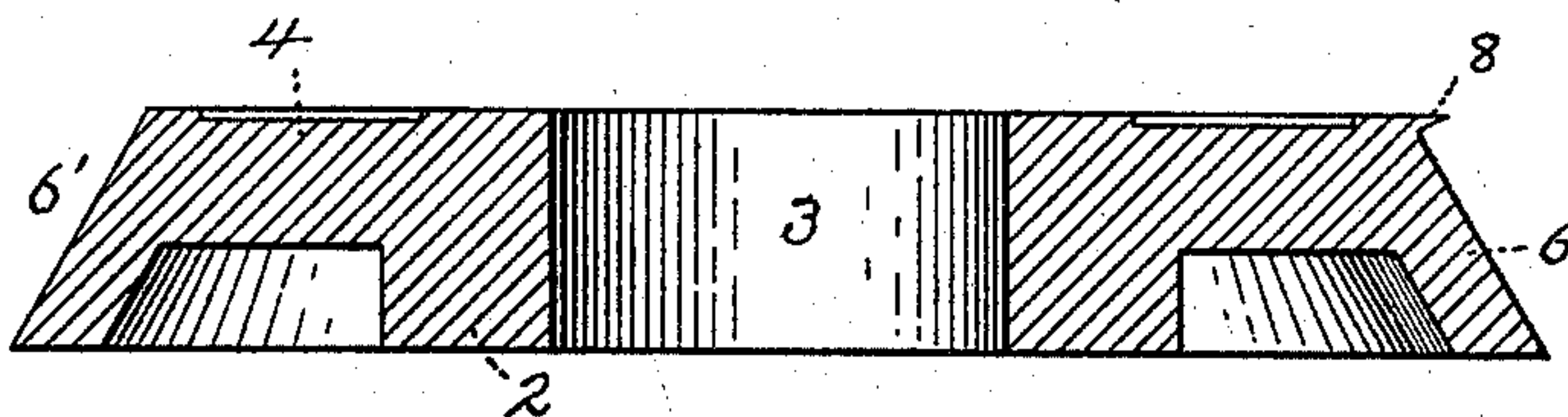


Fig. 4.

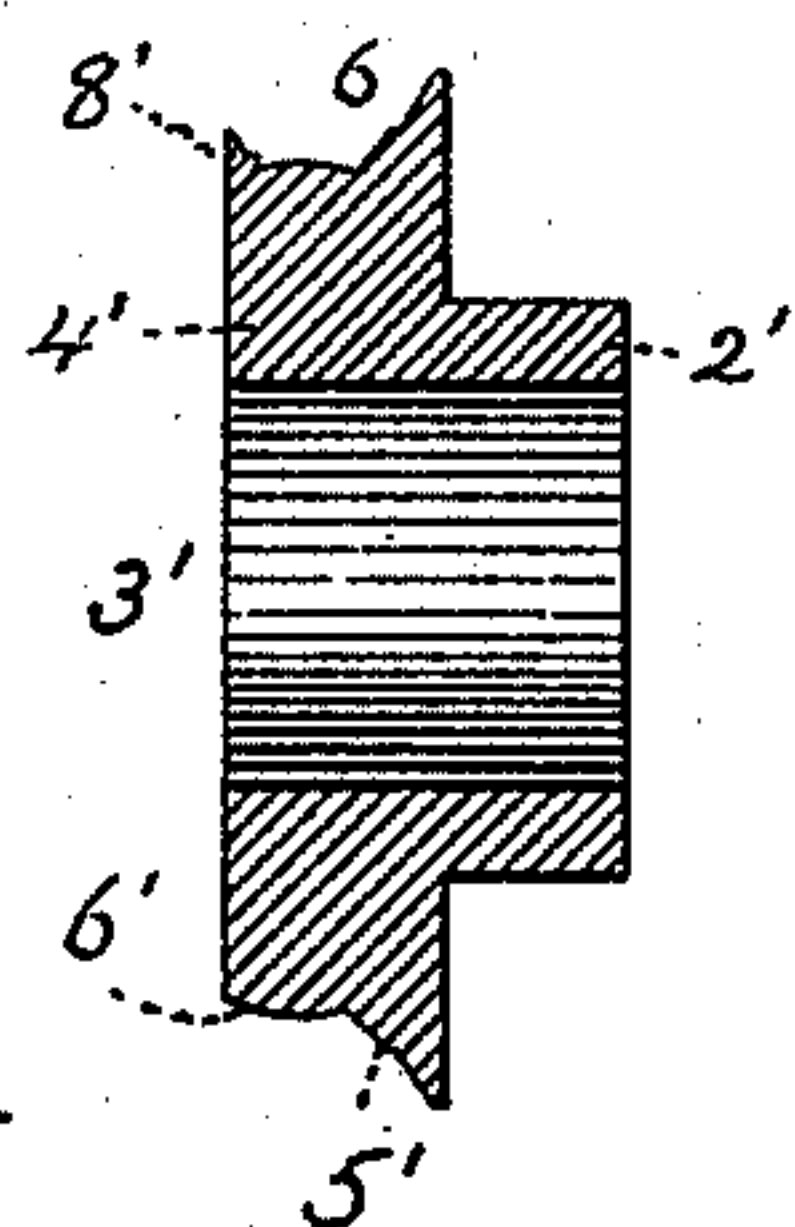
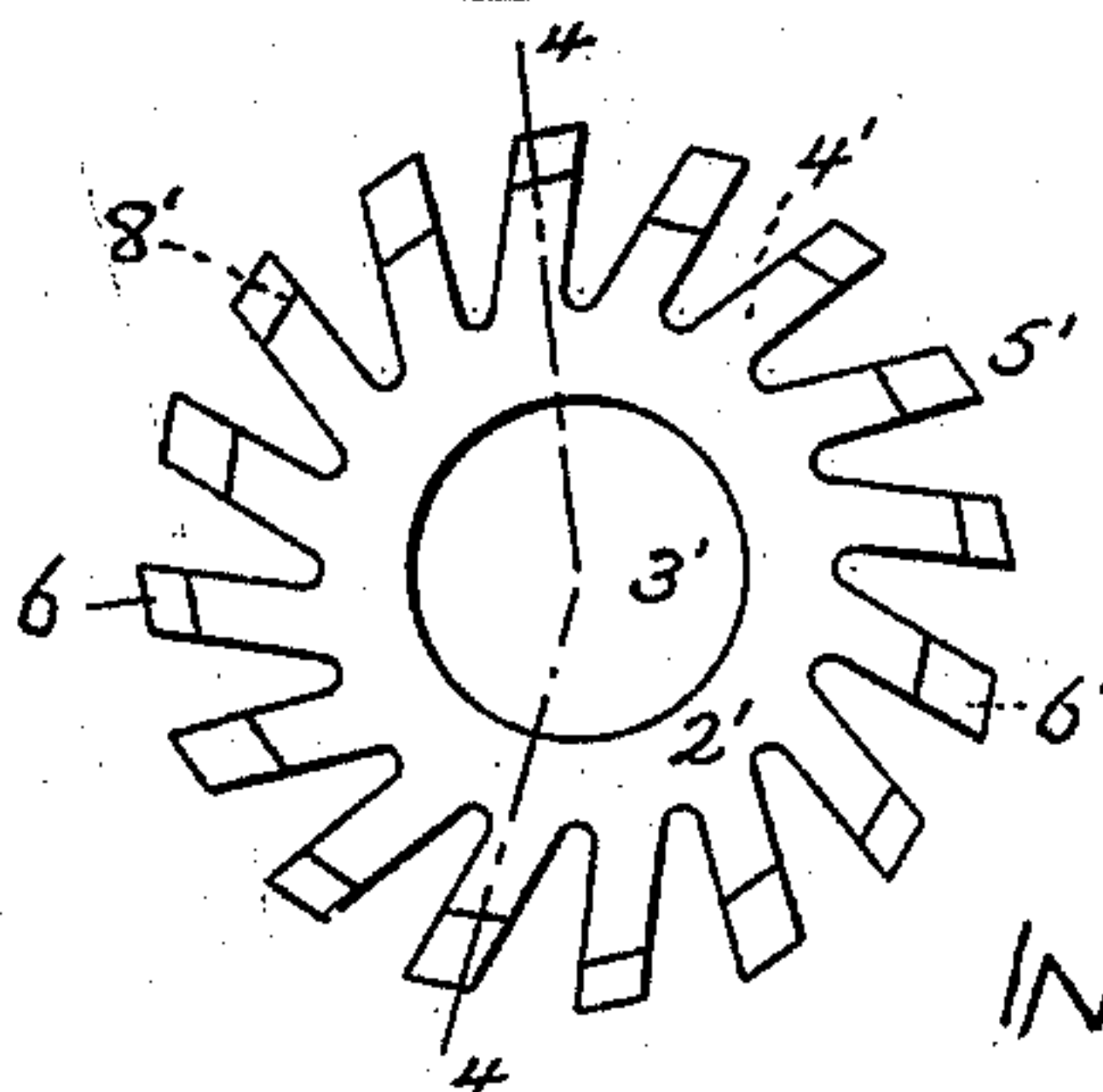


Fig. 5.



WITNESSES.

*A. D. Brown*  
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# UNITED STATES PATENT OFFICE.

ALEXANDER McDOWELL, OF LYNN, MASSACHUSETTS.

## ROTARY CUTTER FOR SOLE OR HEEL TRIMMING.

SPECIFICATION forming part of Letters Patent No. 584,826, dated June 22, 1897.

Application filed October 14, 1896. Serial No. 608,875. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER McDOWELL, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Rotary Cutters for Heel or Sole Trimming; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of apparatus termed "cutters" for service in the manufacture of boots and shoes, particularly that type known as "rotary trimming-cutters" and designed for heel and sole trimming.

My improvements relate to the construction of the cutter, more especially the shape of the individual knives, of which several compose the cutter.

The drawings represent, in Figure 1, a side elevation of a rotary cutter embodying my invention, looking at the front guard. Fig. 2 is the rear or back in side elevation. Fig. 3 is an enlarged vertical central section on line 3 3 in Fig. 2. Fig. 4 is a similar section of a cutter for sole-trimming under my invention on line 4 4 in Fig. 5, and Fig. 5 is a side elevation from the front of the cutter.

The primary object in my invention is to produce an efficient cutter and trimmer, but one which will not burn, as frequently happens. In general this class of cutter has been shaped after the manner of that shown in Figs. 1 and 2—that is, a central annulus 2, bored at 3 to allow it to be mounted upon a revoluble mandrel or shaft, is provided with a plurality of radial or tangential arms 4, terminating in a blade or knife 5, of a width and shape adapted for either sole or heel trimming. The active surface or face of the cutter is at 6, said face being obliquely positioned with respect to axis of rotation, in the present instance as adapted for trimming heels or soles. In the construction of this class of rotary cutters both front and back guards or shields may be employed. However, in the present instance I have shown

the cutter equipped with only a front guard 7. Hitherto to my knowledge cutters of this type have been provided with a small lip 8, termed the "rand-cutting" lip, and each blade was furnished with such an element; but since this class of cutter is rotated at a high rate of speed the number of said lips and their frequency of rotation caused a burning or defacement of the leather which came in contact with them. Furthermore, to my knowledge rotary cutters of this class and in general shape constructed as before premised have been made without any rand or cutting lip 8 on the face of the blades, but were provided with a plate furnished with two or more cutting-lips, which projected above that portion of the knives next to the front guard. This plate was interposed between the knives and the front guard. As a consequence a space existed between a certain number of the teeth or blades and the front guard-plate and was a serious objection. To overcome these disadvantages, I make the knives all of the same general dimensions, so that when the front guard is in position each and every knife of the cutter shall be contiguous to the shield or guard. Furthermore, only a certain number of the blades are equipped with a cutting-lip 8. Thus by reference to Fig. 3 the cutting-face of the knives where the lip is omitted extend in farther than the cutting-face of the knives equipped with the rand-lip 8—that is, in those knives where the face of the knife is a plain surface, as at 6', said face extends to and is contiguous with the front guard or shield, while such blades as are equipped with the lip do not extend to the front shield, but have the lip 8 interposed. This construction to my knowledge has never before been attempted, and by experiment I find that not only will this cutter remove the material faster, but no danger occurs of burning the leather which is in contact with the lips 8. I do not desire to be confined to any particular cross-section in the shape of the knives, since they may be changed to conform to different styles and classes of work.

What I consider as my invention is a rotary cutter having a plurality of cutting-knives or blades in which some of said knives are equipped with cutting-lips and where the cut-



ting edges of such knives that are not so equipped extend to a plane coincident with the back surface of said cutting-lips. Thus every knife is contiguous to the front guard  
5 or shield when such is used, and no spaces exist except such as are designed for the waste material.

In Figs. 4 and 5 I have illustrated a rotary cutter especially formed for such trimming.  
10 In this cutter the same peculiar construction prevails as in the heel-cutter—that is, only a part of the blades are equipped with the lip 8' and the blades without the lip extend to a plane coincident with the back surface of the  
15 cutting-lip.

What I claim is—

1. A rotary cutter comprising a plurality of cutting-blades, and a cutting-lip formed integrally upon a number of said blades less  
20 than the whole number comprising the cutter.

2. A rotary cutter consisting of a plurality of cutting-blades and a cutting-lip upon cer-

tain of said knives, the knives on which the cutting-lip is omitted extending to a plane coincident with the back surface of the cut- 25 ting-lip.

3. In a rotary cutter a central hub or annulus and arms projecting therefrom, combined with a plurality of blades which surmount said arms, one or more blades to have 30 cutting-lips, such blades to be less than the whole number of blades, the back surface of said lips to be coincident with the inner extremity of the blades on which said lips are omitted, and a front shield contiguous to said 35 lips and to the blades without lips, substantially as stated.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER McDOWELL.

Witnesses:

VALENTINE McDOWELL,  
H. E. LODGE.