

(No Model.)

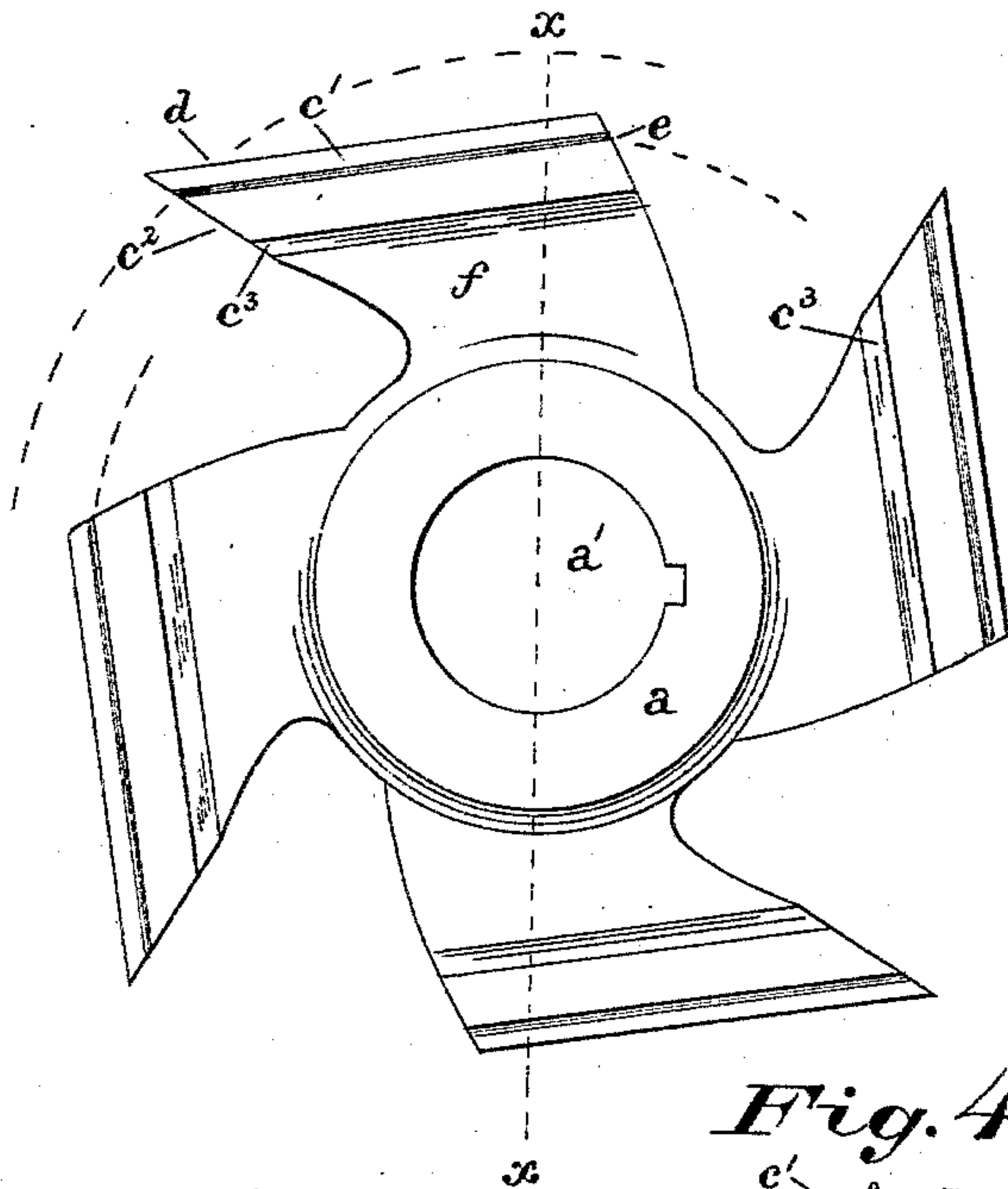
J. B. MAHAFFEY.

CUTTER HEAD.

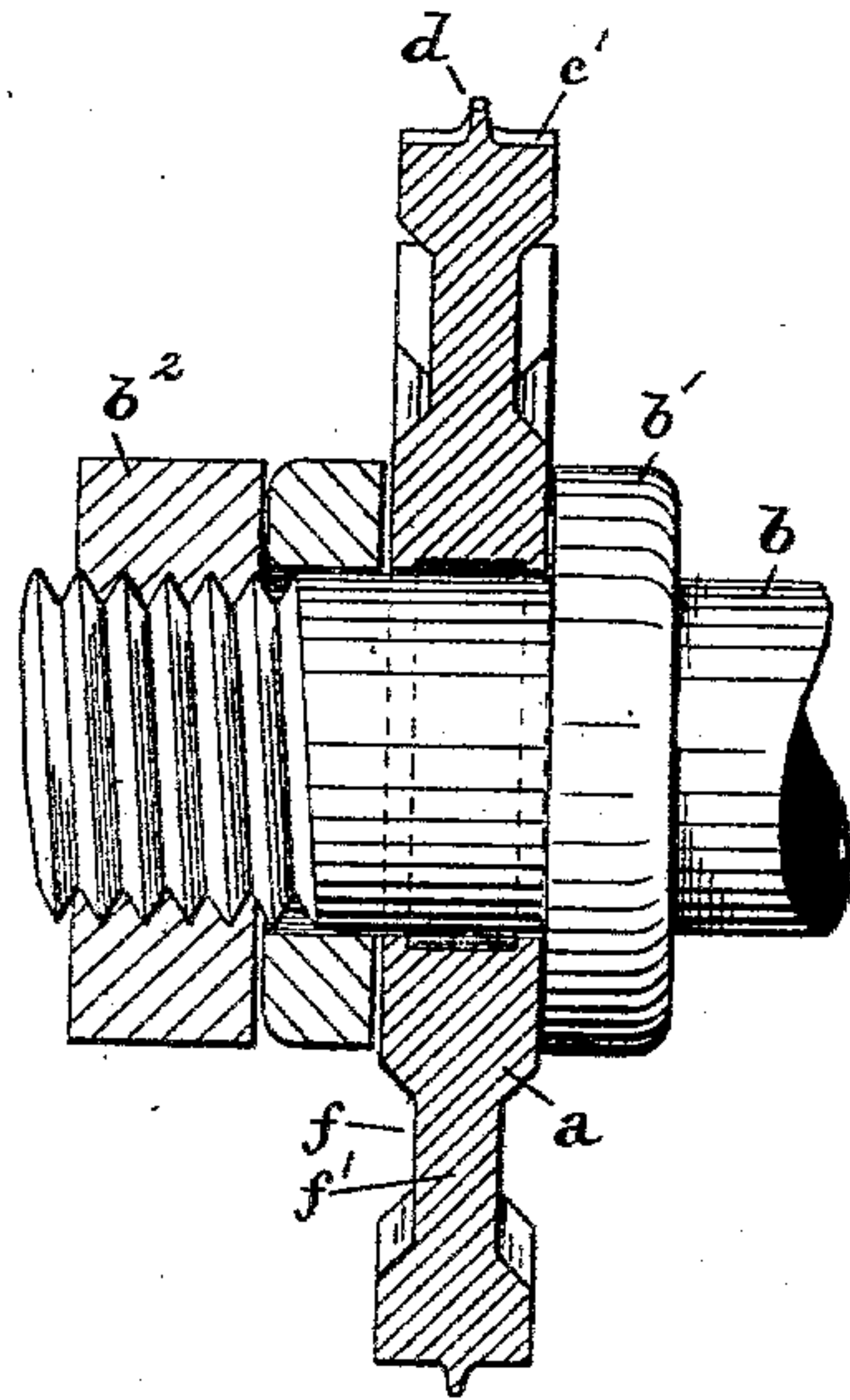
No. 321,378.

Patented June 30, 1885.

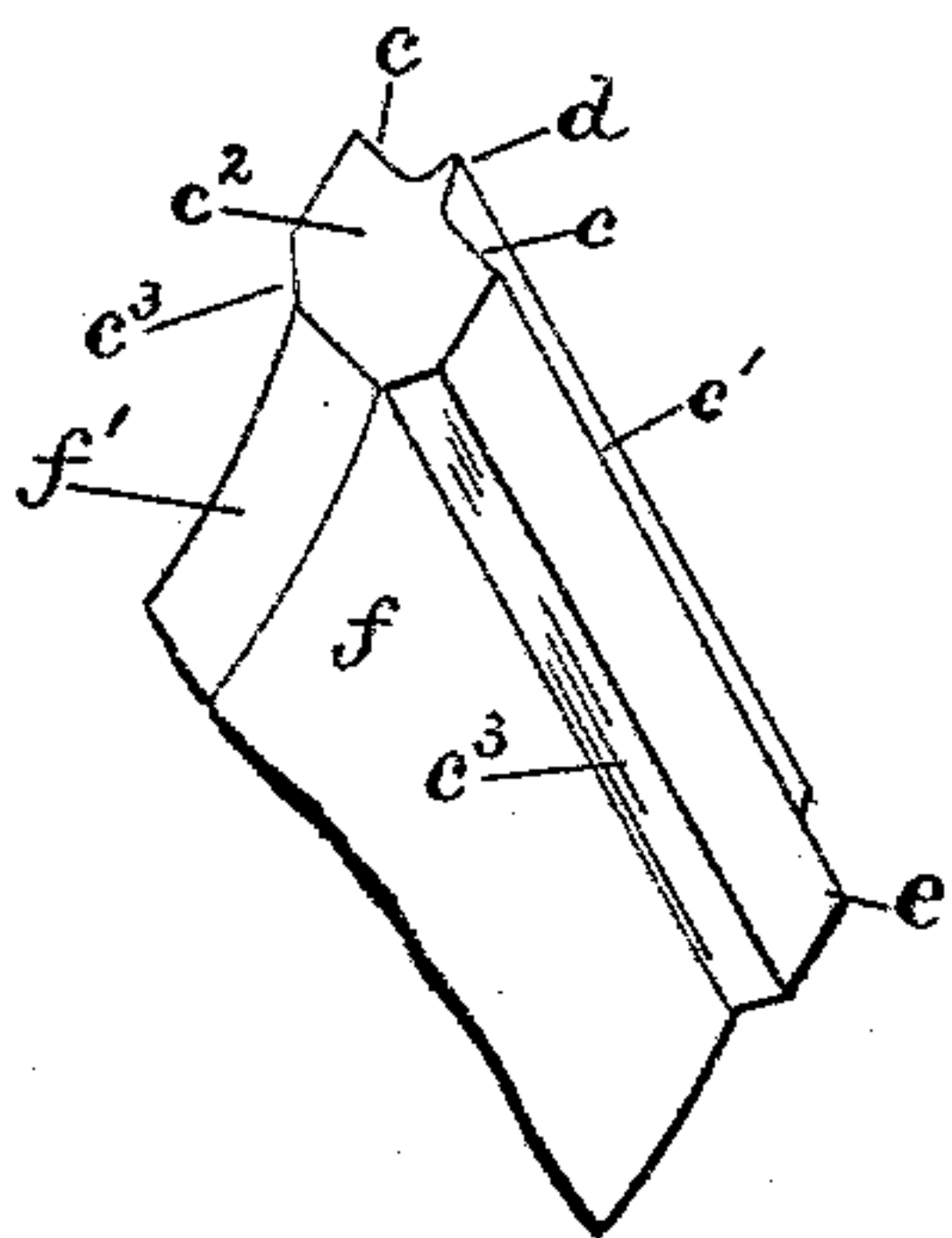
*Fig. 1.*



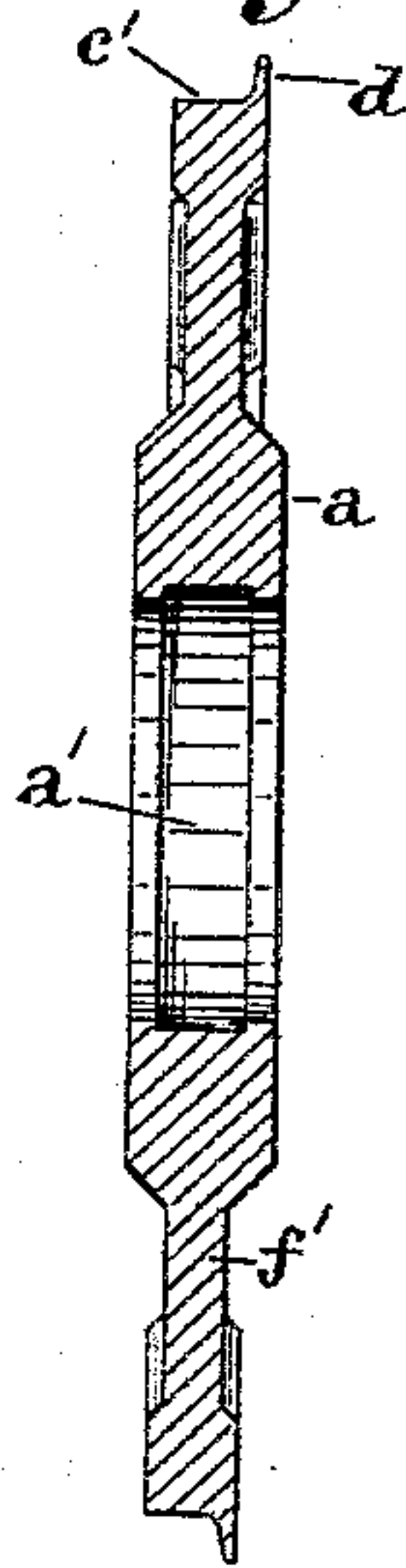
*Fig. 2.*



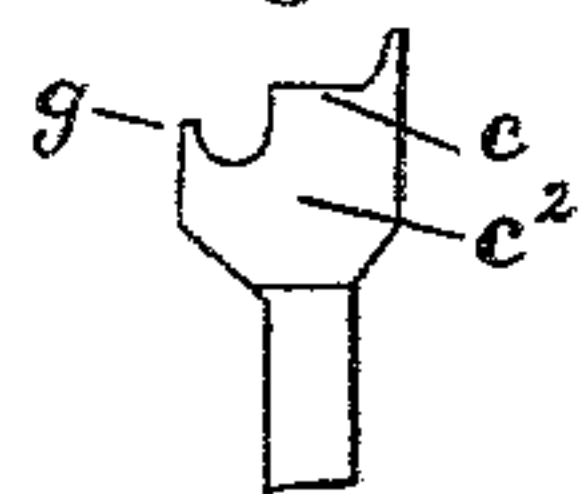
*Fig. 3.*



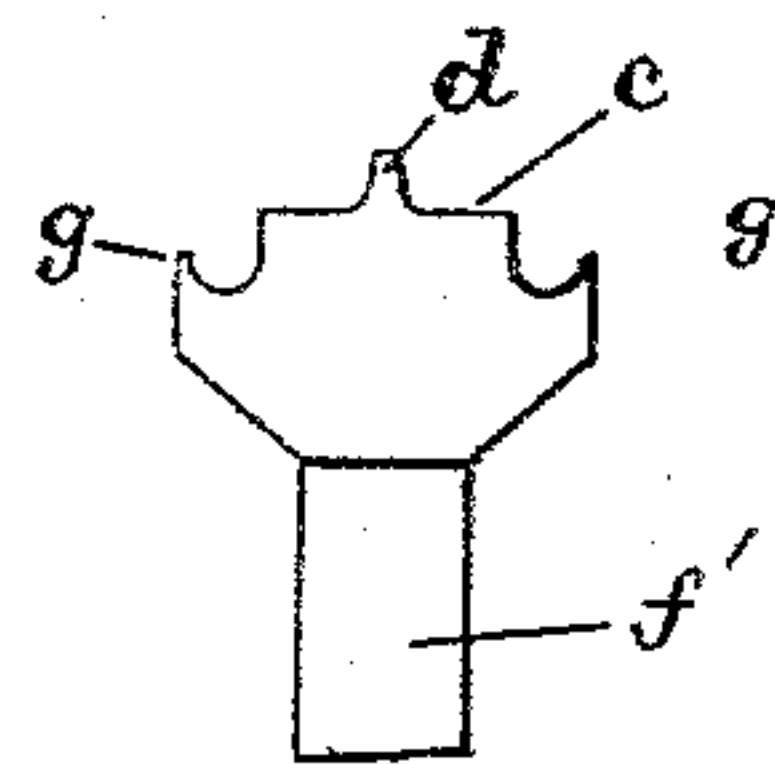
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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TO HENRY A. GABLE, OF SAME PLACE.

## CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 321,378, dated June 30, 1885.

Application filed February 24, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. MAHAFFEY, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Cutter-Heads for Matching Machines, of which the following is a specification.

My invention relates to an improvement in that class of cutters which are employed for tonguing and dividing boards in planing and matching machines.

The object of my invention is to provide a head in which the tonguing-cutters and dividing blades or flanges, of peculiar shape, are solid or integral with the head, and of such construction as will admit of the cutters and blades being sharpened without changing the adjustment of the head.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a side view of the improved cutter-head. Fig. 2 is a diametrical section of the same on the line  $x x$ , Fig. 1, the head being mounted on a mandrel. Fig. 3 is a perspective view of one cutter for two tongues, and a divider-flange showing it as though broken from the head. Fig. 4 is a diametrical section of the head, showing cutters for one tongue only and a divider flange. Figs. 5 and 6 are face views of tongue-cutters and dividing-flanges for cutting, respectively, one and two tongues at once, each cutter being provided with beaders.

The letter  $a$  designates the hub or central part of the cutter-head, and  $a'$  the eye through which the mandrel or shaft  $b$  passes. The head is made fast to the shaft, as shown in Fig. 2, by setting against a shoulder,  $b'$ , and held by a nut,  $b^2$ , or in any other well-known manner.

The cutter for the formation of the tongues, where one tongue only is to be cut from the stock, as in Fig. 4, consists of an edge,  $c$ , formed by the outer or peripheral face  $c'$  and the sharpening-face  $c^2$ . The said cutting-edge  $c$  is parallel with the axis of rotation of the head, and a dividing-flange,  $d$ , projects at a right-angle from the peripheral face  $c'$ , and extends along said face. The peripheral face and the dividing-flange extend in a line with

the plane of rotation from the sharpening-face  $c^2$  to the heel  $e$ , and from end to end are straight. The cutting-edge  $c$  must set beyond the circle described by the heel  $e$  when the head rotates. From this description, and by reference to the drawings, it will be understood that the line of the peripheral face  $c'$  and dividing-flange, considered from the cutting-edge  $c$  to the heel  $e$ , has a tangent position with respect to the axis of rotation. A solid cutter-head having cutters with such peripheral faces and dividing-flanges can be readily dressed by machine-tools.

The sides of the cutter are recessed, as at  $f$ , by a bevel depression,  $c^3$ , parallel with the peripheral face  $c'$ , the recessed part comprising a thin web,  $f'$ , between the cutter and the hub  $a$ . By this construction the breadth or thickness of the sharpening-face  $c^2$  is maintained uniform from the said face to the heel  $e$ .

Where two tongues are to be cut from the stock, the cutter must have a peripheral face on each side of the dividing-flange  $d$ , as in Fig. 2, and consequently two cutting-edges,  $c$ .

In a planing and matching machine for producing boards for flooring and ceiling, these cutter-heads are designed to work in pairs—that is, two heads will be mounted on a machine to rotate in the same vertical plane, but one head will be higher than the other, one to work on the upper side of the board and one on the lower side—whereby a board passing through the machine will have a groove cut on the upper surface by the edges  $c$  of one cutter-head, and a groove cut on the lower surface, exactly in line with the upper groove, by the other cutter-head, leaving the tongue between the two grooves, and at the same time the board will be divided along the tongue by the flanges  $d$ .

To produce boards for ceiling and wainscoting, which is often beaded, the cutters should have on one or both sides a beader,  $g$ . (See Figs. 5 and 6.)

To sharpen these cutters, a file is applied to the face  $c^2$ , and thereby both the tongue-cutters and dividing-flange may be sharpened at once. Whenever the necessity arises, from wear, the face of the thin web  $f'$  may be cut

away to leave the sharpening-face more prominent.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

5 A rotatable cutter-head provided with an eye for attachment to a mandrel or shaft, and having a tongue-cutter with a straight peripheral face,  $c'$ , and a dividing-flange,  $d$ , extend-

ing along the face, and a depression,  $c^3$ , parallel with the peripheral face, as set forth.

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

JAMES B. MAHAFFEY.

Witnesses:

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JNO. T. MADDOX.