

(No Model.)

2 Sheets—Sheet 1.

J. T. RHODES.
ROTARY CUTTER HEAD.

No. 480,137.

Patented Aug. 2, 1892.

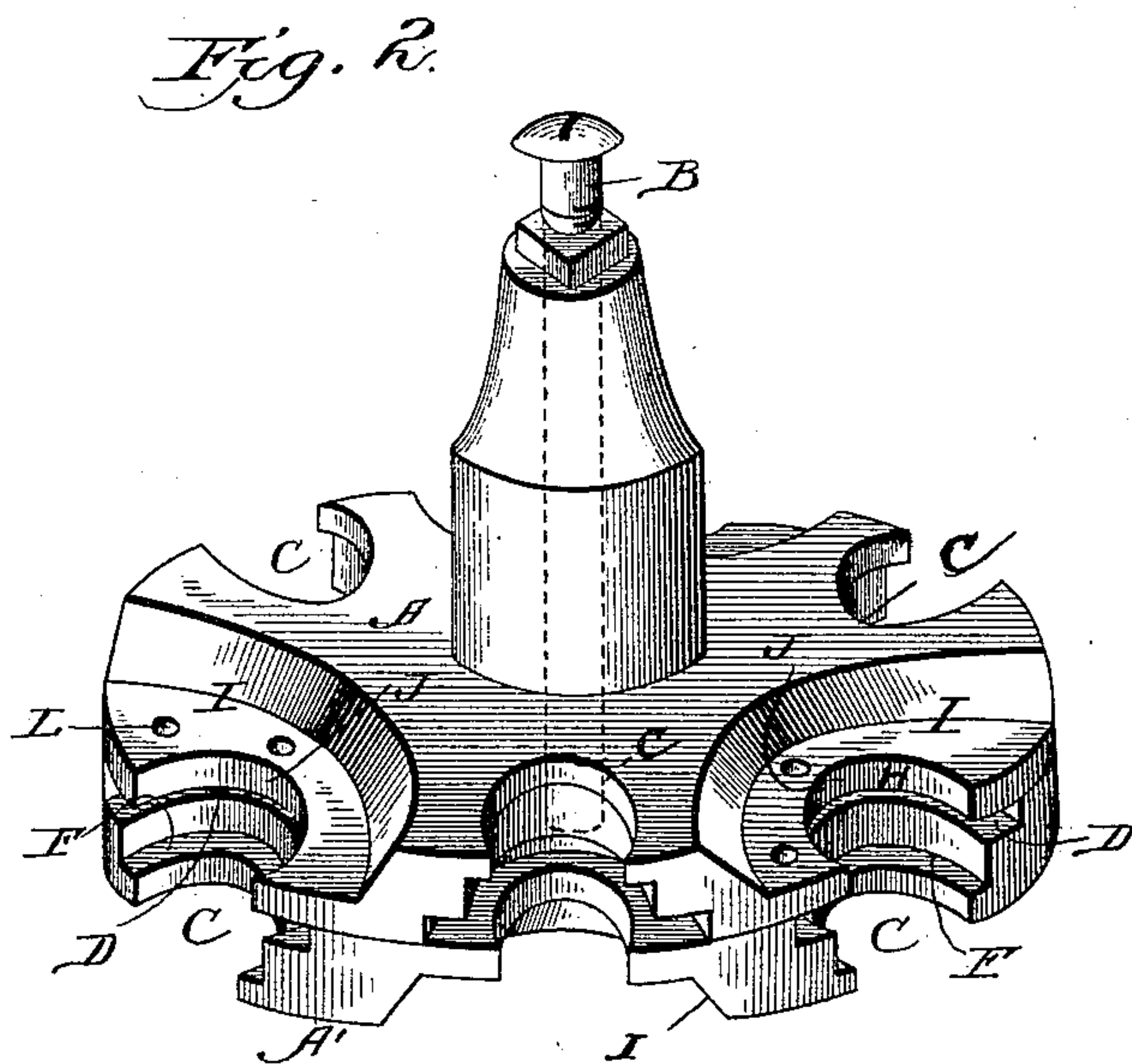
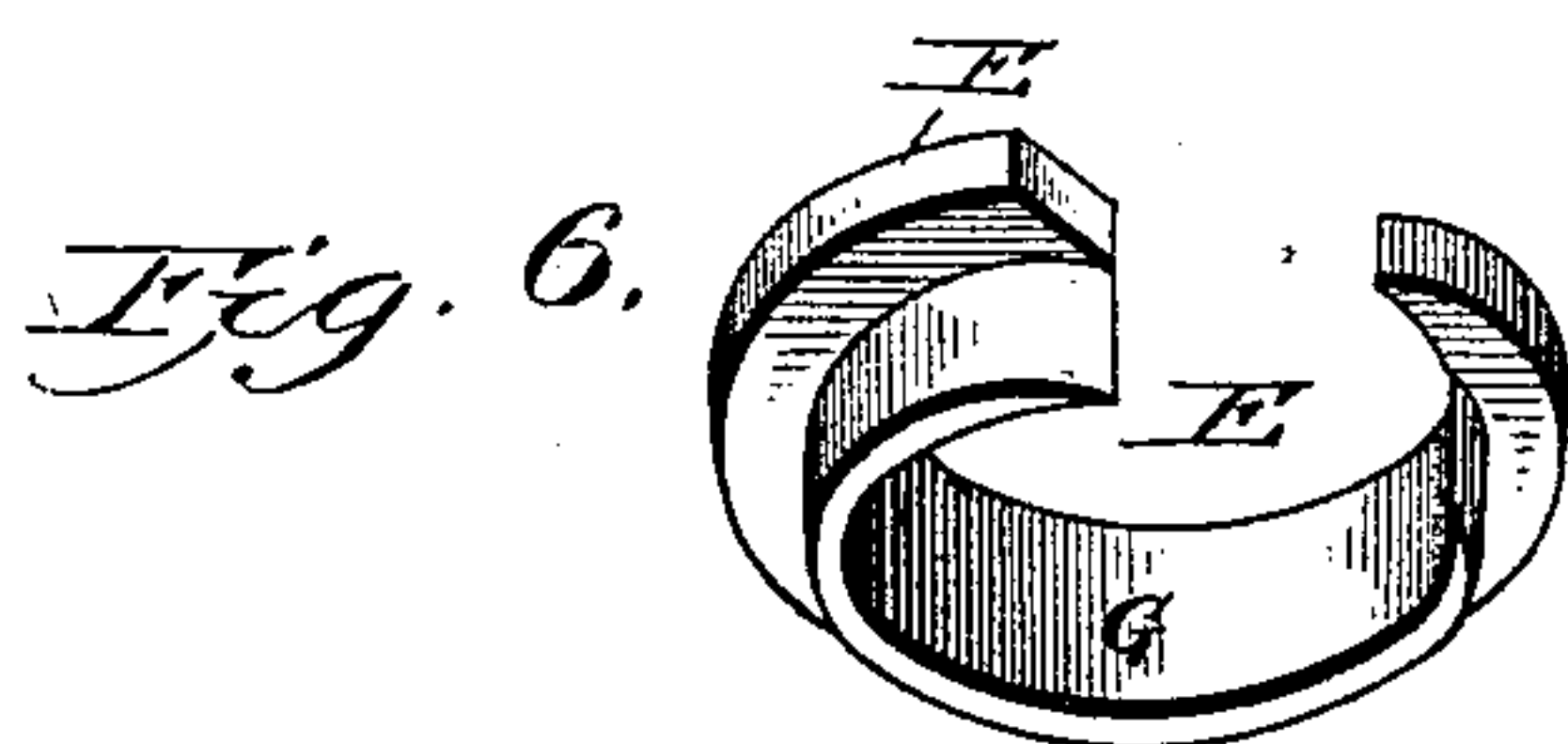
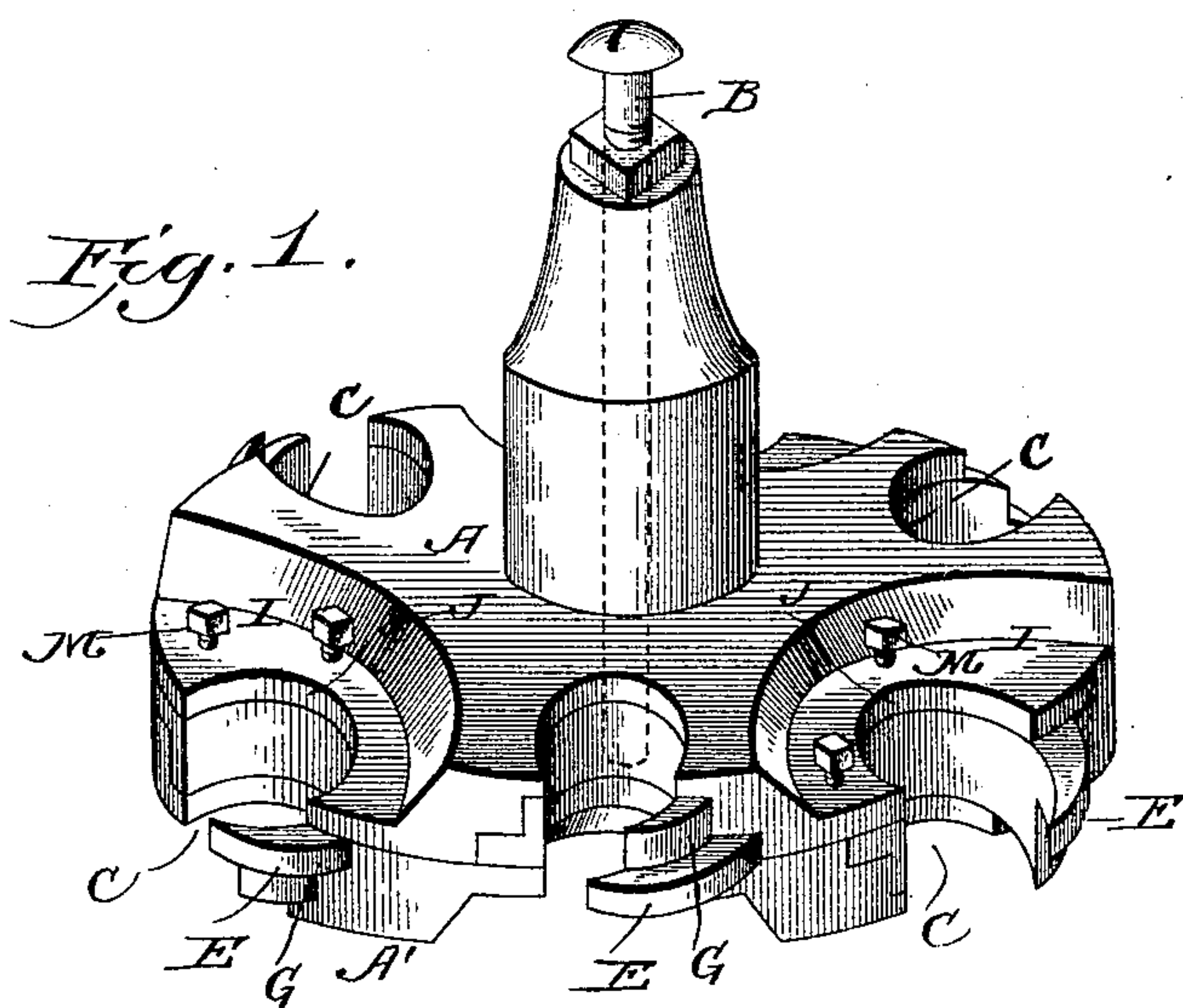
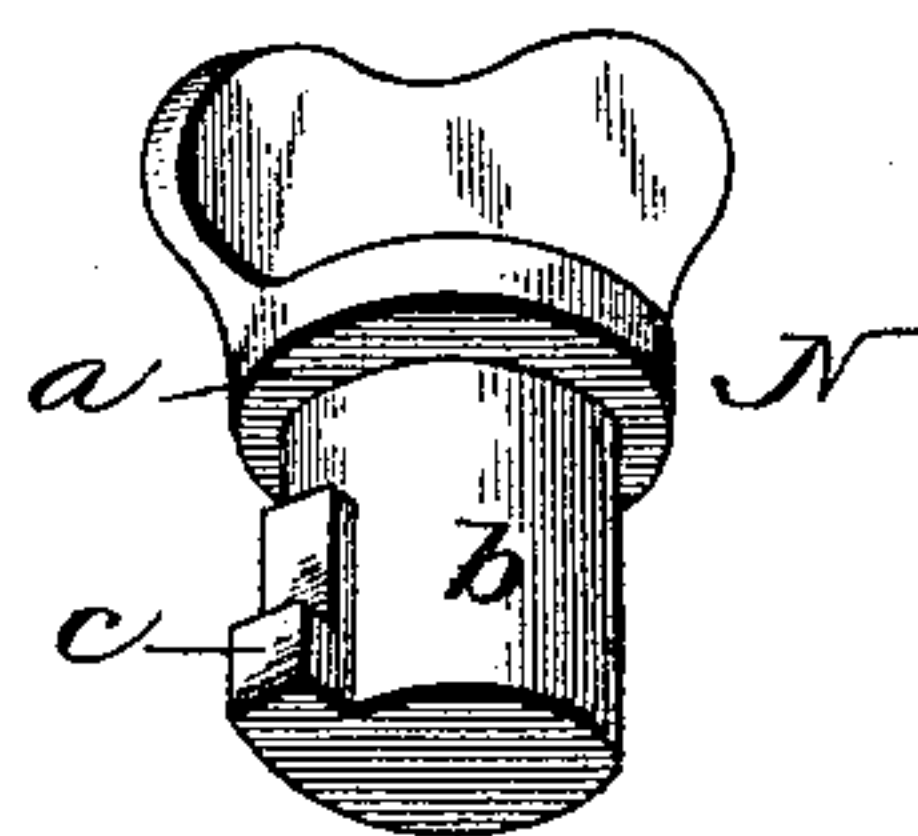


Fig. 7.



WITNESSES

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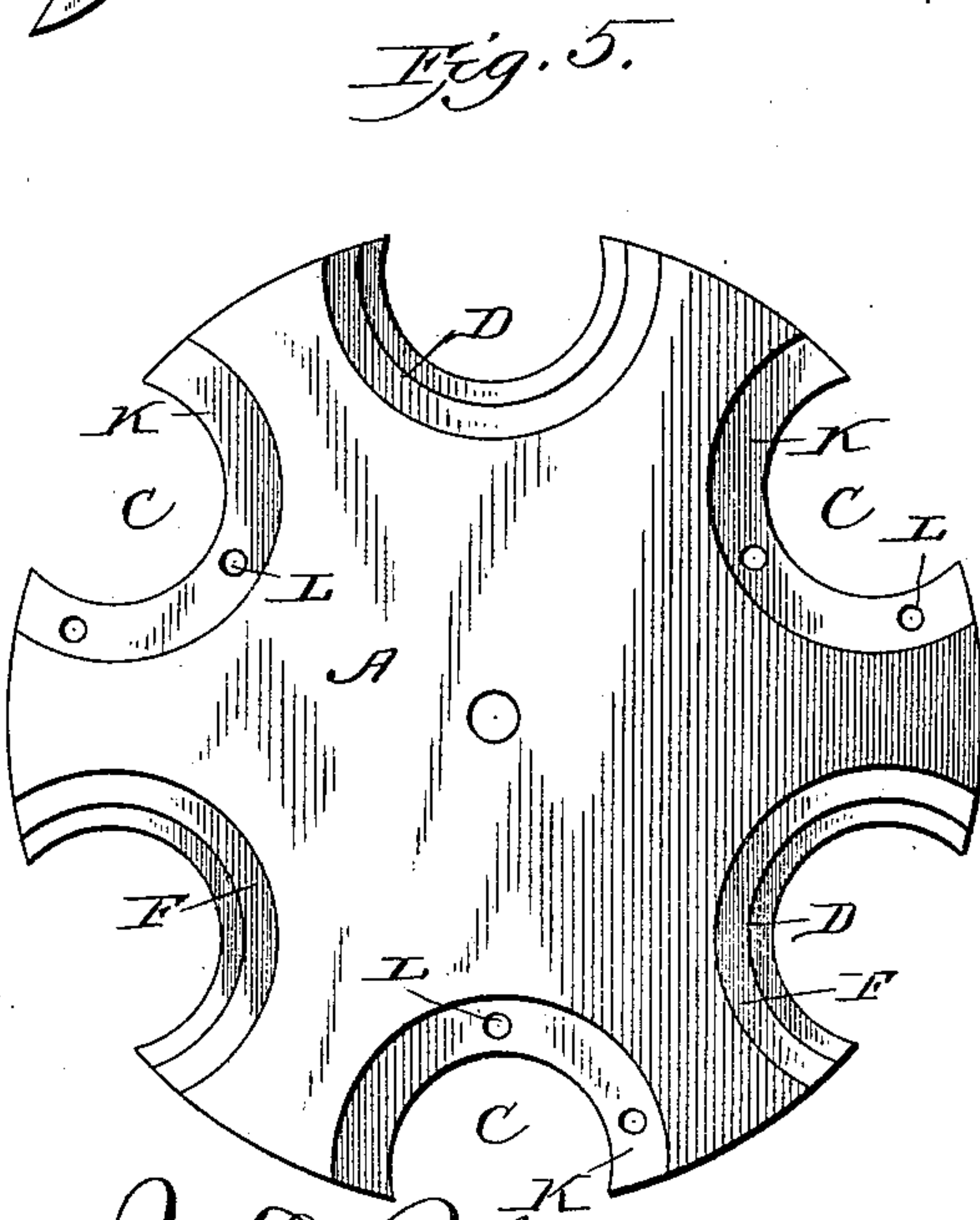
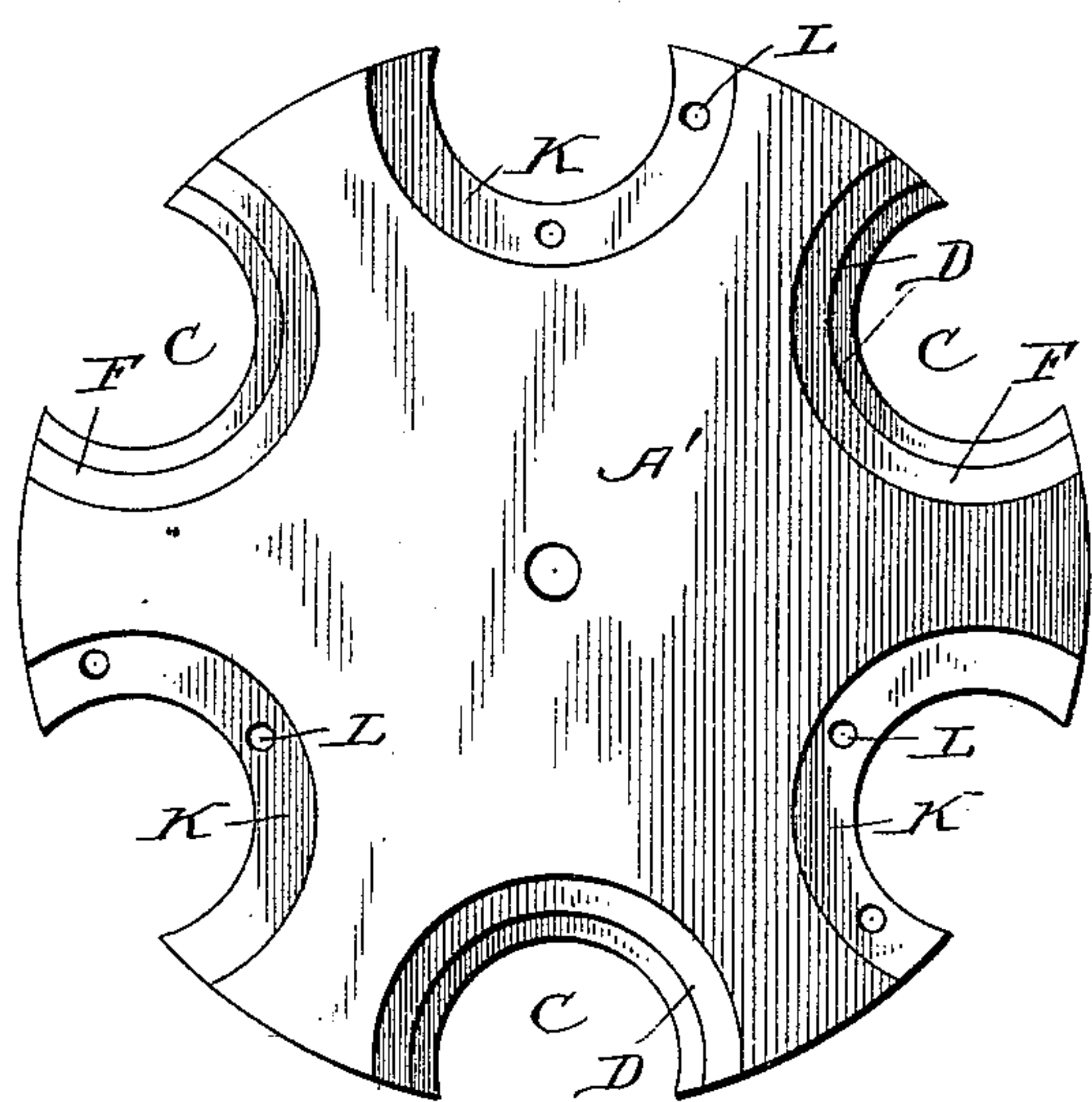
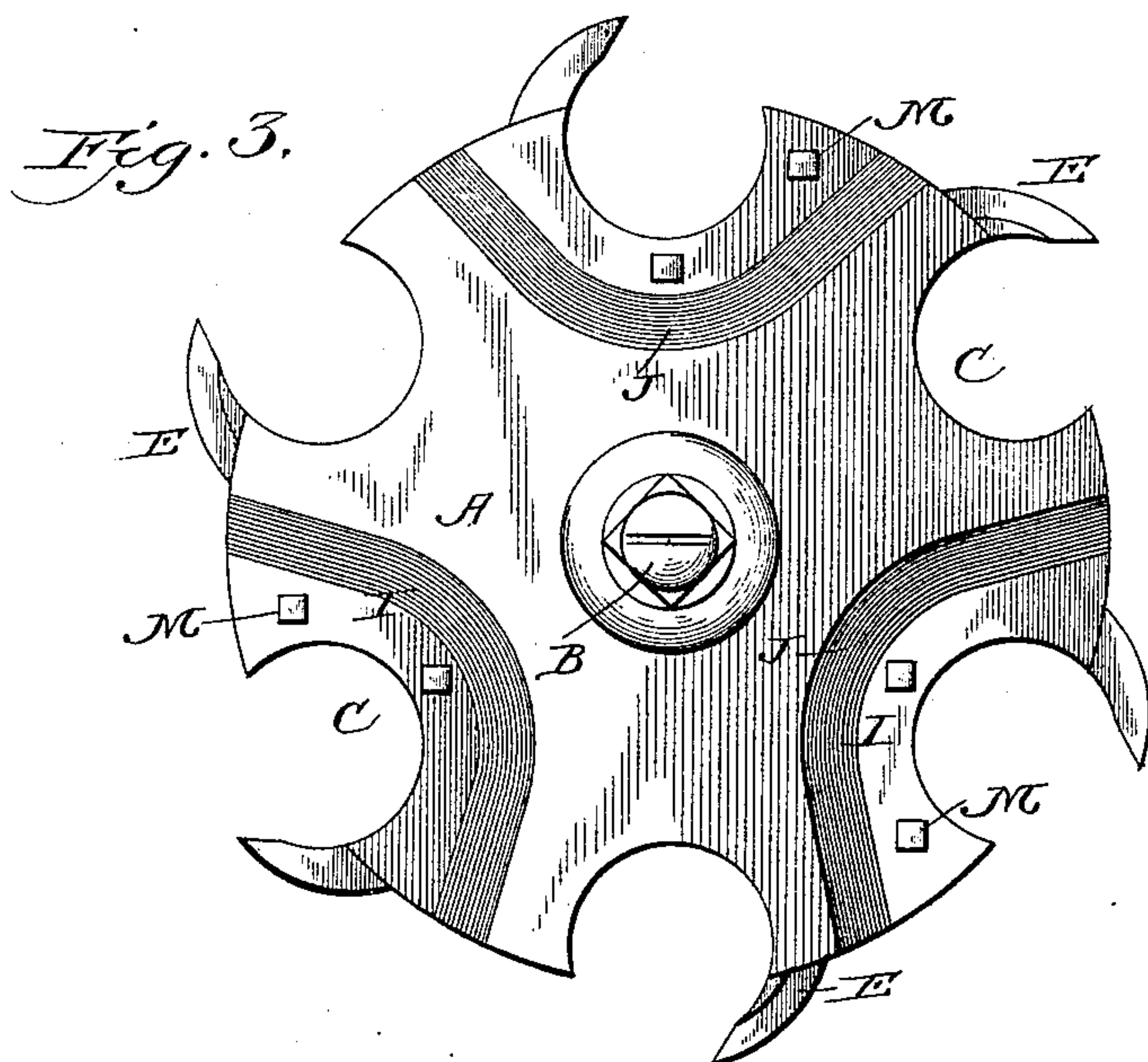
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WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH T. RHODES, OF SHELL, ALABAMA.

ROTARY CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 480,137, dated August 2, 1892.

Application filed January 9, 1892. Serial No. 417,536. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. RHODES, a citizen of the United States, residing at Shell, in the county of Butler and State of Alabama, have invented certain new and useful Improvements in Rotary Cutter-Heads; 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.

My invention has relation to improvements in rotary cutter-heads of that class designed to be mounted upon a rotary spindle or arbor; and it has for its general object to provide such a head of a strong, durable, and efficient construction and to so arrange and fix the bits in said head that a free clearance will be afforded to the cutting-points of the bits.

A further object of the invention is to provide a means for adjusting and adjustably fixing the bits in the head, so that the same may be raised or lowered and adjusted with respect to the periphery of the head when desired.

Other objects and advantages will be fully understood from the following description and claims, when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view of my improved rotary cutter-head complete. Fig. 2 is a similar view of the head with the bits removed. Fig. 3 is a plan view of the head. Fig. 4 is a plan view of the lower section of head removed. Fig. 5 is an inverted plan view of the upper section of head removed. Fig. 6 is a detail perspective view of one of the bits removed, and Fig. 7 is a perspective view of the adjusting-key.

In the said drawings, similar letters designate corresponding parts throughout the several views, referring to which—

A A' respectively indicate the upper and lower sections of my improved cutter-head, which are connected together by a central screw B or in any other preferred manner.

Formed at suitable intervals apart in the periphery of the respective sections A A' are circular recesses C, which are preferably of the proportional size illustrated and are stepped or shouldered from the inner side to the outer side of the sections to afford the seat D for the circular bit E, the seat F for

the lateral collar-flange G of the bit, and the clearance-aperture H, the edge of which is preferably flush with the inside of the collar-flange G of the bit, whereby it will be readily perceived that a free clearance from the point of the bit to the outside of the section carrying the same is afforded, and the efficiency of the cutter-head thereby increased.

Formed in the peripheries of the sections A A' at intervals corresponding to those between the recesses C in said sections are vertically-flaring recesses I, which are arranged alternately with respect to the recesses C in each section and are designed to rest opposite the recesses C in the other section, so as to increase the clearance from the points of the bits carried thereby.

At the inside of the respective sections A A' the flaring recesses I are reduced in size, as indicated at J, and are of a similar form to the inside of the circular bits, with which they are flush, whereby it will be perceived that a free clearance is afforded from the bit-points through the flaring recesses.

Formed in the inside of the respective sections A A' and arranged alternately with respect to the recesses C are shallow circular recesses K, which are designed to seat the inner sides of the circular bits and allow the same to be taken up in case of wear, and also to allow the bits to be adjusted to increase or diminish the width of the tongue or groove according to the character of bits employed.

Formed in the respective sections A A' adjacent to the reduced portion J of the flaring recesses I are vertically-disposed threaded bores L to receive binding-screws M, which serve in practice to vertically adjust the circular bits E and to fix said bits when they have been adjusted with respect to the periphery of the cutting-head. When the parts of the head are assembled, the recesses C of the upper section will be directly opposite the clearance-recesses of the lower section, and the recesses of the lower section will be opposite the clearance-recesses on the upper section, thus affording a free clearance on both sides of the head.

N indicates the key for setting or adjusting the bits with respect to the periphery of the head. This key N, which is provided with a flanged head *a*, as shown, has a shank *b* of

approximate cam shape in cross-section to conform to the shape of the inner side of the bits, which shank is provided with a shoulder c, as shown, to engage one of the edges of the bit collar-flange when turned in one direction.

Although I prefer to employ an adjusting-key such as illustrated and described, yet I do not desire to be confined to the same, as any key or gage suitable to the purpose might be employed.

In operation the bits are placed in position in the respective sections A A' and the sections are then screwed together. The bits are then adjusted through the medium of the key or gage, after which they are fixed by the binding-screws, when the bit is ready for use.

By the peculiar construction of the head-sections A A' and the arrangement of the recesses C and I, together with the placement of the binding-screws M, it will be readily perceived that a free clearance from the point of each bit is afforded in both vertical directions, whereby the bit will be prevented from choking and its work will be facilitated.

By the provision of the peculiar construction of bit and the recesses or seats in the head for receiving the same the said bits are held secure and firm, and the point is the only portion subjected to strain.

By reason of the placement of the bits in the head, it will be seen that said bits will alternately rest in different horizontal planes, whereby more bits may be employed to a single head and a greater amount of work done than if the bits were all placed in the same plane.

Although I have specifically described the construction and relative arrangement of the

several elements of my improved cutter-head, yet I do not desire to be confined to the same, as such changes or modifications may be made as fairly fall within the scope of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rotary cutter-head, substantially as described, the combination, with the sections A A', having recesses C formed at intervals in the peripheries of said sections, and the flaring recesses I, formed at intervals in the peripheries of the sections and arranged alternately with respect to the recesses C, of the bits E and a suitable means for adjustably fixing said bits with respect to the cutter-head, substantially as and for the purpose specified.

2. In a rotary cutter-head, substantially as described, the combination, with the sections A A', having circular recesses C formed at intervals in the peripheries of said sections and having the seats D, the seats F, and the clearance-apertures H, and the vertically-flaring recesses I, formed at intervals in the peripheries of the sections and arranged alternately with respect to the recesses C and reduced in size at the insides of the sections, of the circular bits E, having lateral collar-flanges G, and the binding-screws M for adjustably fixing said bits, substantially as and for the purpose set forth.

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

JOSEPH T. RHODES.

Witnesses:

CLAUDE J. KENDRICK,
THOMAS WILLIAMS.