

(Model.)

E. K. PATTEN.

2 Sheets—Sheet 1.

CUTTER HEAD.

No. 330,260.

Patented Nov. 10, 1885.

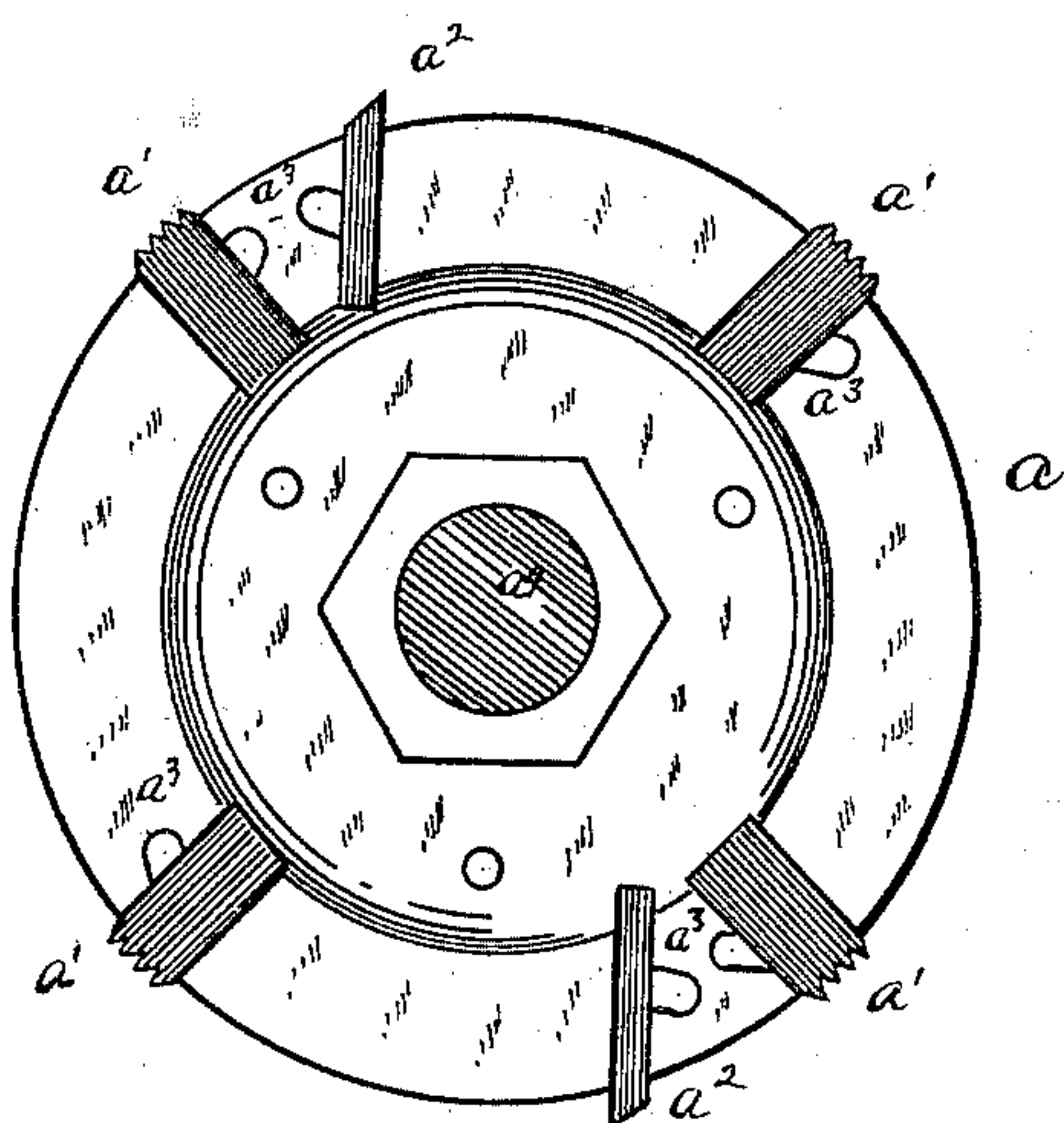


FIG. 1.

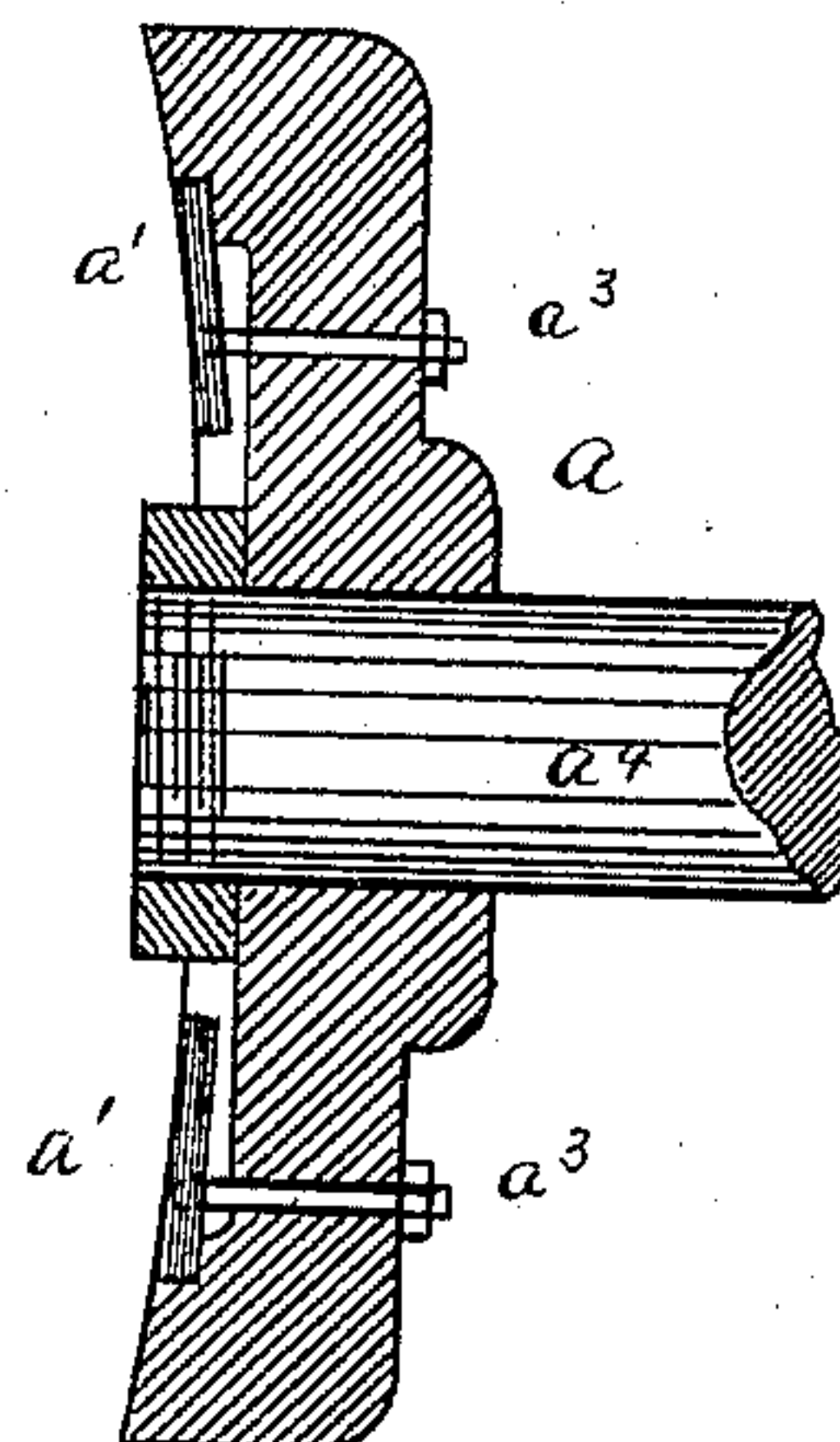


FIG. 2.



FIG. 4.

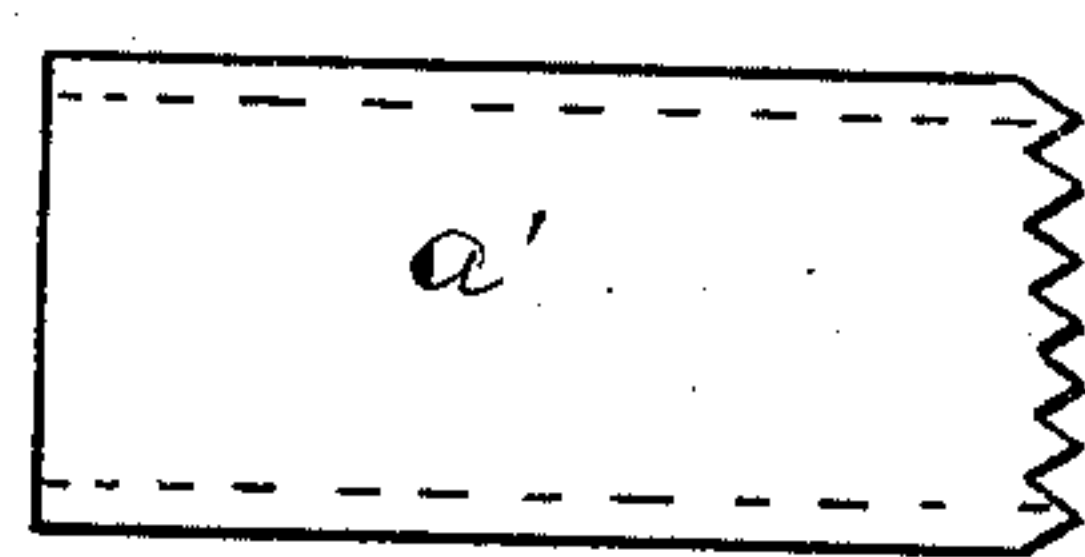


FIG. 3.

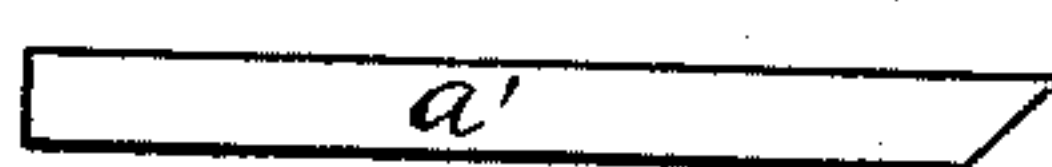


FIG. 5.

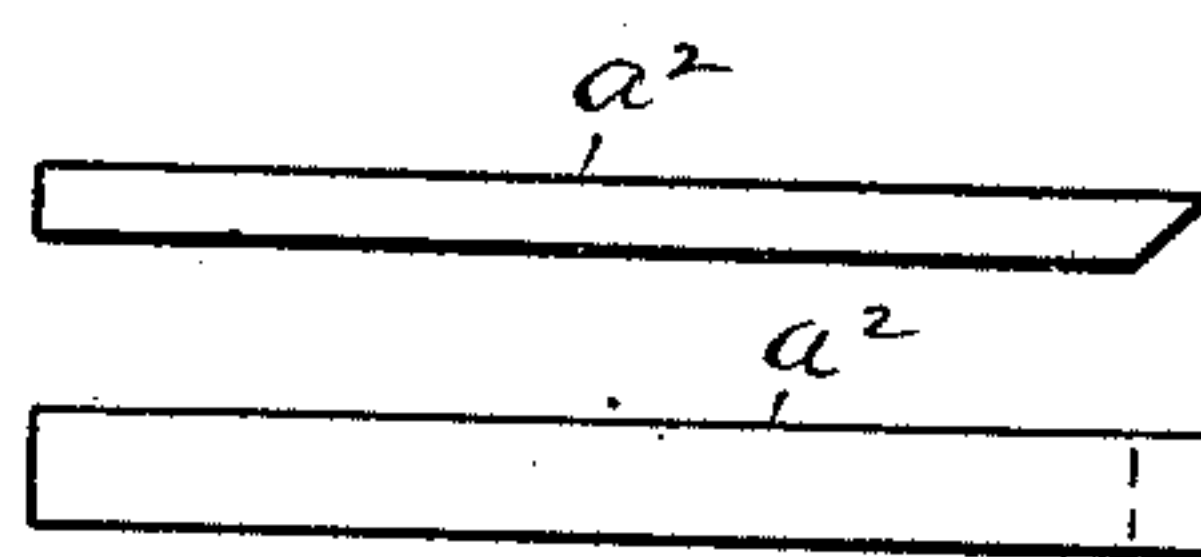


FIG. 6.

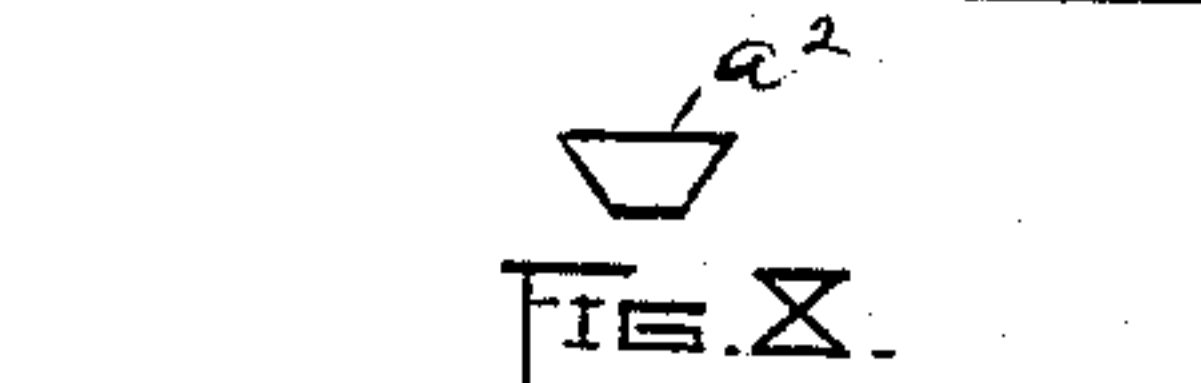


FIG. 7.



FIG. 8.

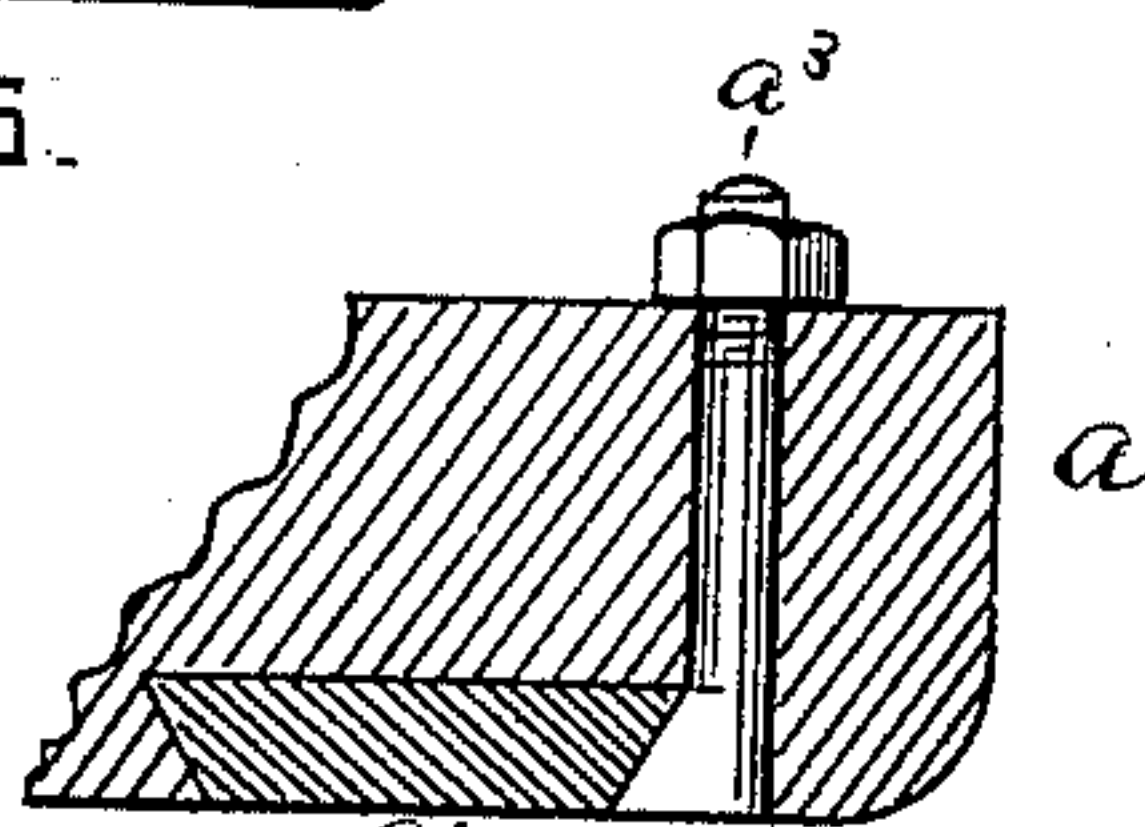


FIG. 10.

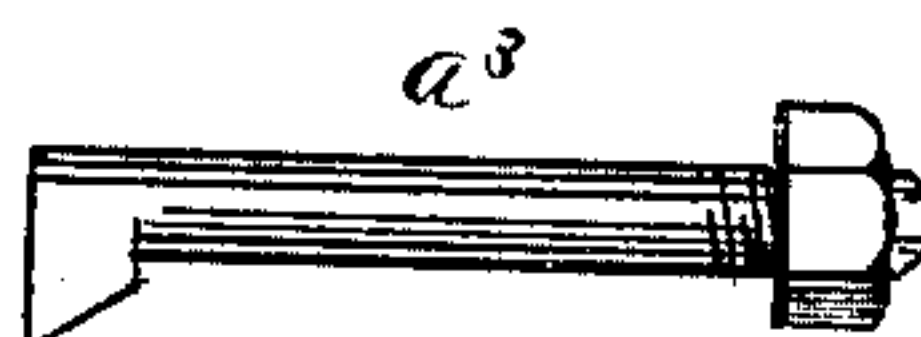


FIG. 9.

WITNESSES:

Reinhold Bartow,
Edwin H. Wiley

Edward K. Patten INVENTOR.

BY *Reinhold Bartow*
ATTORNEYS.

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Fig. 11.

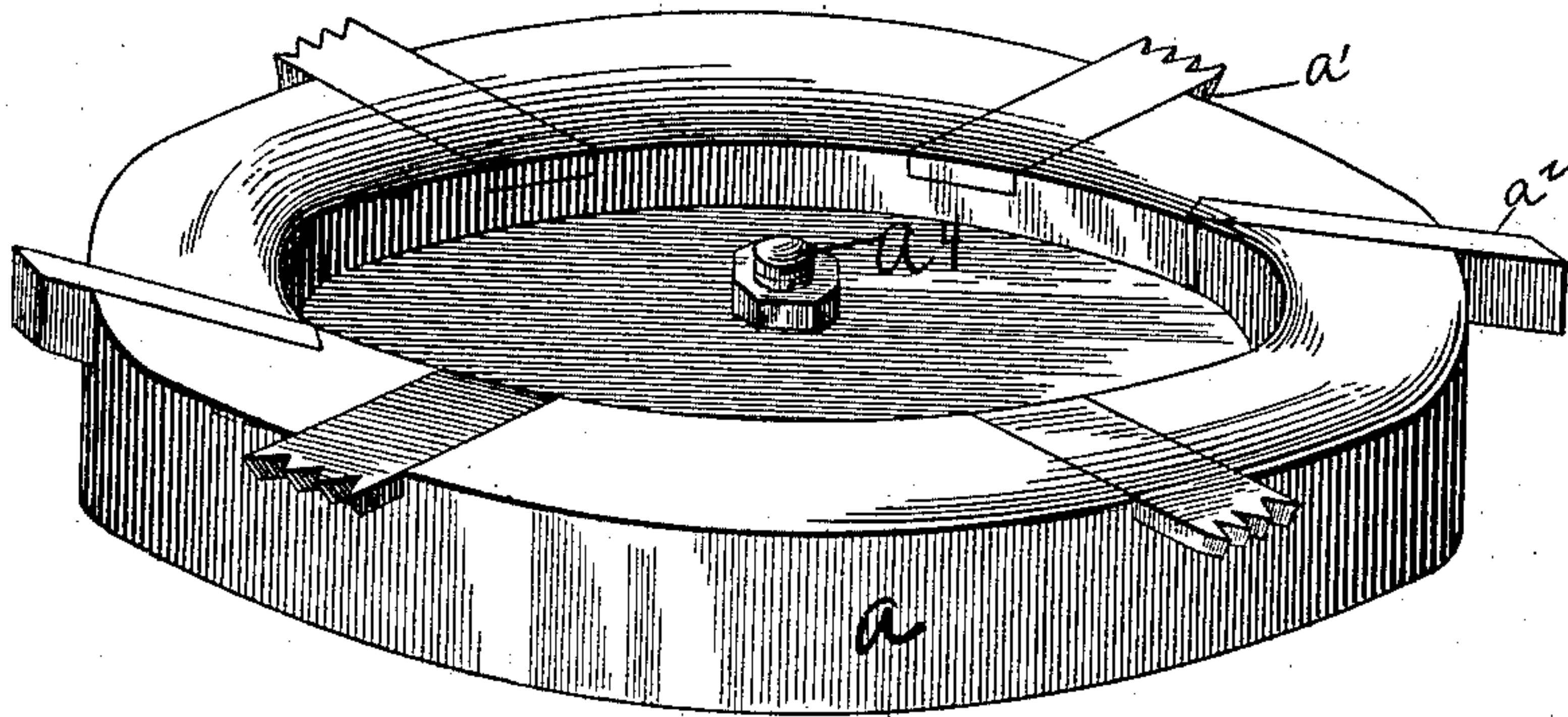


Fig. 12.

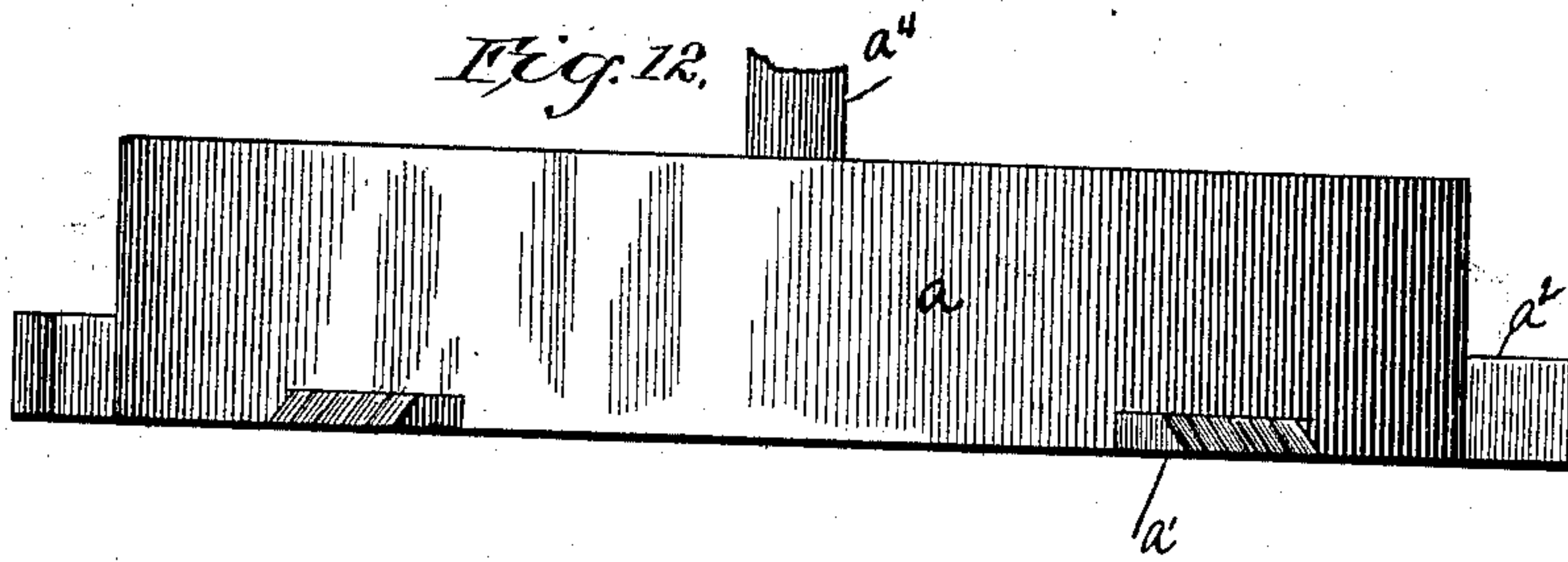
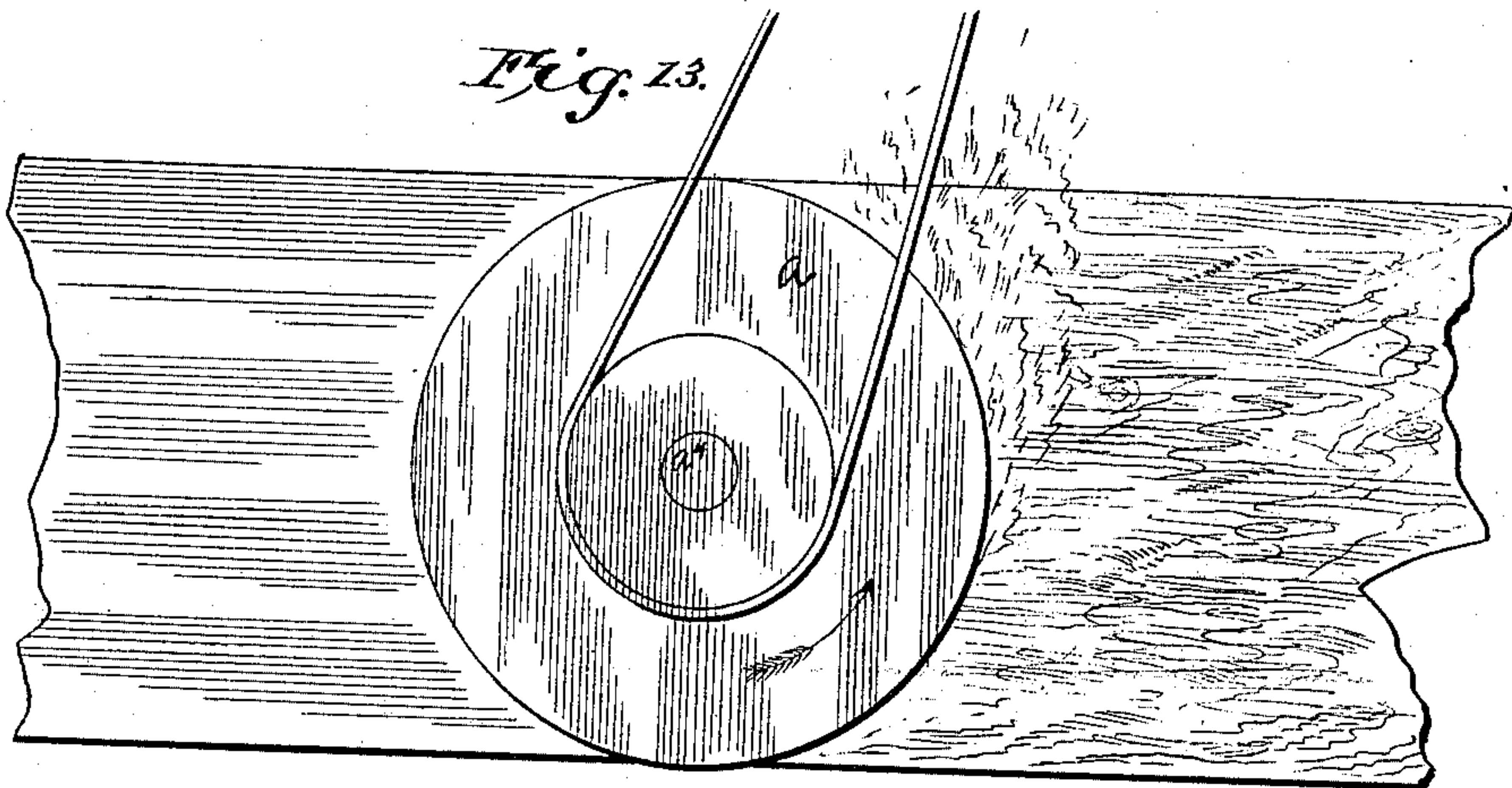


Fig. 13.



WITNESSES

Jos. A. Ryan
Jm. I. King

INVENTOR

E. K. Patten
by Chas. C. Barber
for Risky Quinn & Perry

UNITED STATES PATENT OFFICE.

EDWARD K. PATTEN, OF UTICA, NEW YORK.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 330,260, dated November 10, 1885.

Application filed July 17, 1885. Serial No. 171,912. (Model.)

To all whom it may concern:

Be it known that I, EDWARD K. PATTEN, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Planer-Heads; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 the letters of reference marked thereon, which form part of this specification.

My invention relates to a rotating planer-head for planing or jointing lumber and other articles formed from wood; and it consists in a rotating head recessed, carrying cutters and clearers, arranged and combined as hereinafter pointed out.

I am aware that rotating heads carrying cutters and clearers have been used for forming tenons and shoulders connected therewith, and for cutting and forming rabbets and grooves and wooden flights of conveyers used in mills, having some features in common with my improved planer-head; but, so far as I am aware, no planer-head similar in construction to the one herein shown has ever been used for planing or jointing lumber. I do not broadly claim a rotating head carrying cutters and clearers; but I do claim a rotating head carrying cutters and clearers, constructed substantially as herein shown, for planing and jointing lumber. By the use of my improved planer-head, constructed substantially as herein shown, the surface of lumber can be planed much smoother than by any mechanism heretofore used. I entirely obviate the charring produced by friction by the use of my improved head.

In the accompanying drawings, Figure 1 is a side view of the face of my improved planer-head. Fig. 2 is a section view of the same. Fig. 3 is a view of the cutter. Fig. 4 is an end view of the same. Fig. 5 is a side view of the same. Fig. 6 is an edge view of the clearer. Fig. 7 is a side view of the same. Fig. 8 is an end view of the same. Fig. 9 is a side view of the retaining-bolt. Fig. 10 is a section of the head, showing a cross-section of a cutter held to the head by the retaining-bolt. Fig. 11 is a perspective view of my improved cutter-head. Fig. 12 is a side view of my cutter-

head in operation as seen in planing a board, showing shaft a^4 . Fig. 13 is a top view of the cutter-head.

The cutter-head is shown and described, but not claimed, in my application No. 106,695, filed May 29, 1885.

In the accompanying drawings similar letters of reference refer to corresponding parts throughout the several views.

I have illustrated in the accompanying drawings head a constructed circular, as this form of construction is freest from spring or vibration. Other forms of construction may be used. The face of the head between the cutters and clearers are preferably cut away, or the clearers and cutters are set in the place of the head with their contact-surfaces slightly projecting from the face of the head to allow an air-space between the face of the head and the article to be planed, to prevent charring produced by friction, and for clearing the cutters. In the face of the head are placed one or more cutters, a' , which are held rigidly to the head at substantially right angles from the driving-shaft. The edge of the cutters are beveled, as shown in Fig. 5, and are preferably corrugated, as shown in Fig. 3, the flat surface running in contact with the article to be operated on. The cutters or the cutting-edges thereof project beyond the periphery of the head, and are set and held therein, as before shown, whereby an air-space is formed between the face of the head and the article to be planed. I also provide clearers a^2 , which are set in or attached to the head with the cutting-edge in substantially the same line with the shaft and slightly projecting beyond the periphery of the head, and are designed to move in substantially the same arc of a circle with the cutters for cutting and freeing from the head the material removed from the lumber by the cutters. I provide one or more cutters and one or more clearers, according to the work to which the head is put. The cutters and clearers are adjustable in the head, to which they are preferably held by dovetailed slots and clamp-bolt a^3 . Other means of holding the clearers and cutters in the head may be used. The head is mounted on shaft a^4 to be rotated.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a cutter-head, the combination, with a

rotating planer-head, its periphery extending beyond the plane of the face of the head, of one or more clearers attached to the face of the head at right angles to the shaft and projecting beyond the periphery of the head, and one or more cutters mounted in or attached to the head with their cutting-edges substantially at right angles to the cutting-edges of the clearers, constructed to move simultaneously for cutting and cross-cutting and clearing the material and adapted to plane a width equal to the diameter of the head and cutters, substantially as described.

2. In a cutter-head, the combination, with the rotating planer-head mounted on a shaft and beveled inwardly from its periphery, of one or more cutters and one or more clearers, each having beveled edges, as shown, projecting beyond the head, whereby a space is formed between the face of the head and the surface of the article to be planed, and adapted to plane a width equal to the diameter of the head and cutters, substantially as described.

3. In a cutter-head, the combination of the

head beveled from its periphery toward the center on its face, which is flat and provided with grooves to receive and accommodate the cutters and clearers, the former being placed at an angle to the radius of the cutter-head and the clearers placed in the radial line, substantially as described, whereby the cutter-head may be used as a planer, as set forth and described.

4. A cutter-head provided with cutters and clearers, as described, in combination with the shaft a^4 and means for operating the same, said head being secured to the end of the shaft and said shaft's free end extending with the head only far enough to leave the face of the head clear and free to operate on the plane surface of a board and to plane the board a width equal to the diameter of the cutter-head, substantially as described.

In witness whereof I have affixed my signature in presence of two witnesses.

EDWARD K. PATTEN.

Witnesses:

EDWIN H. RISLEY,
DANIEL MCGUCKEN.