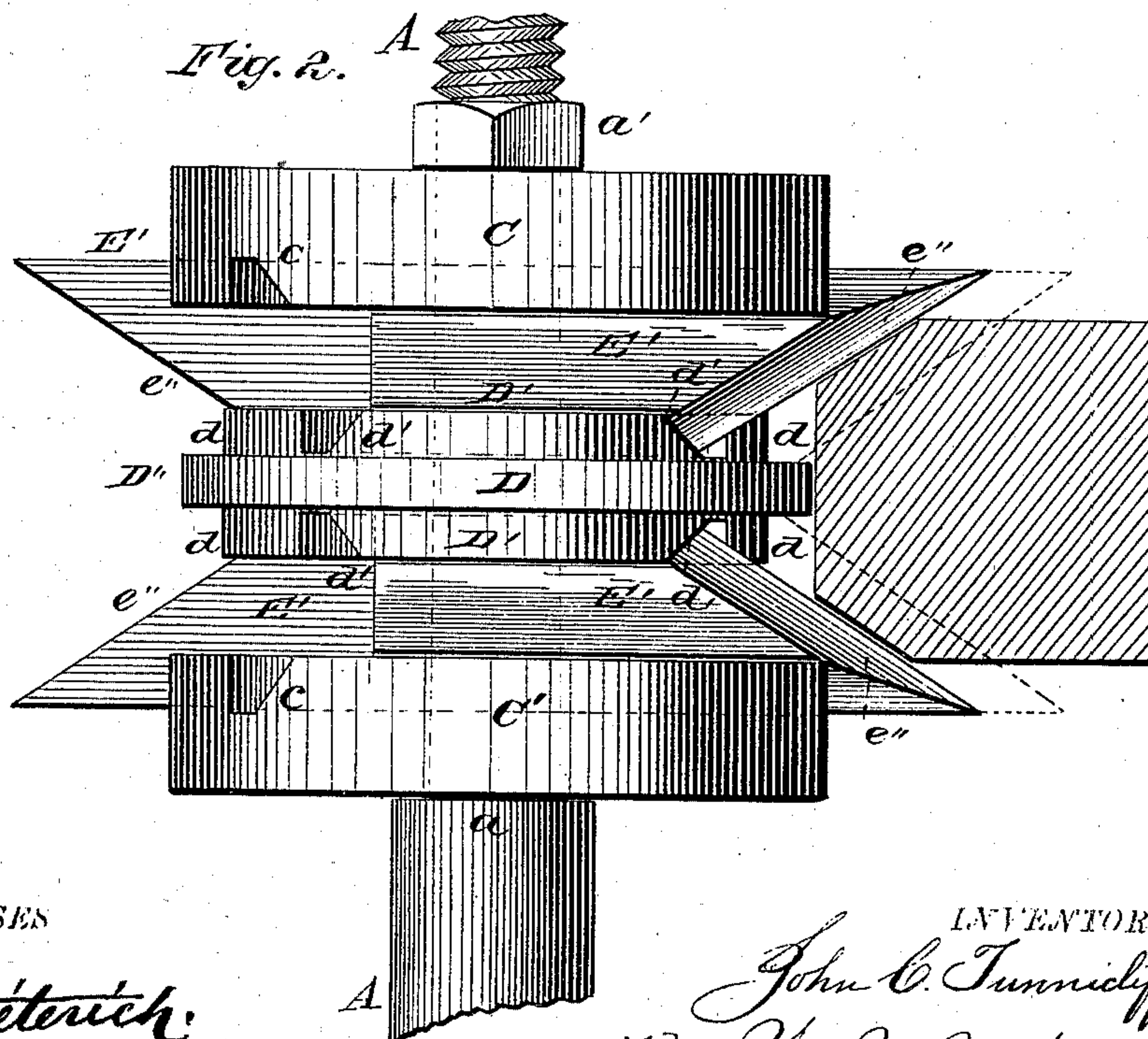
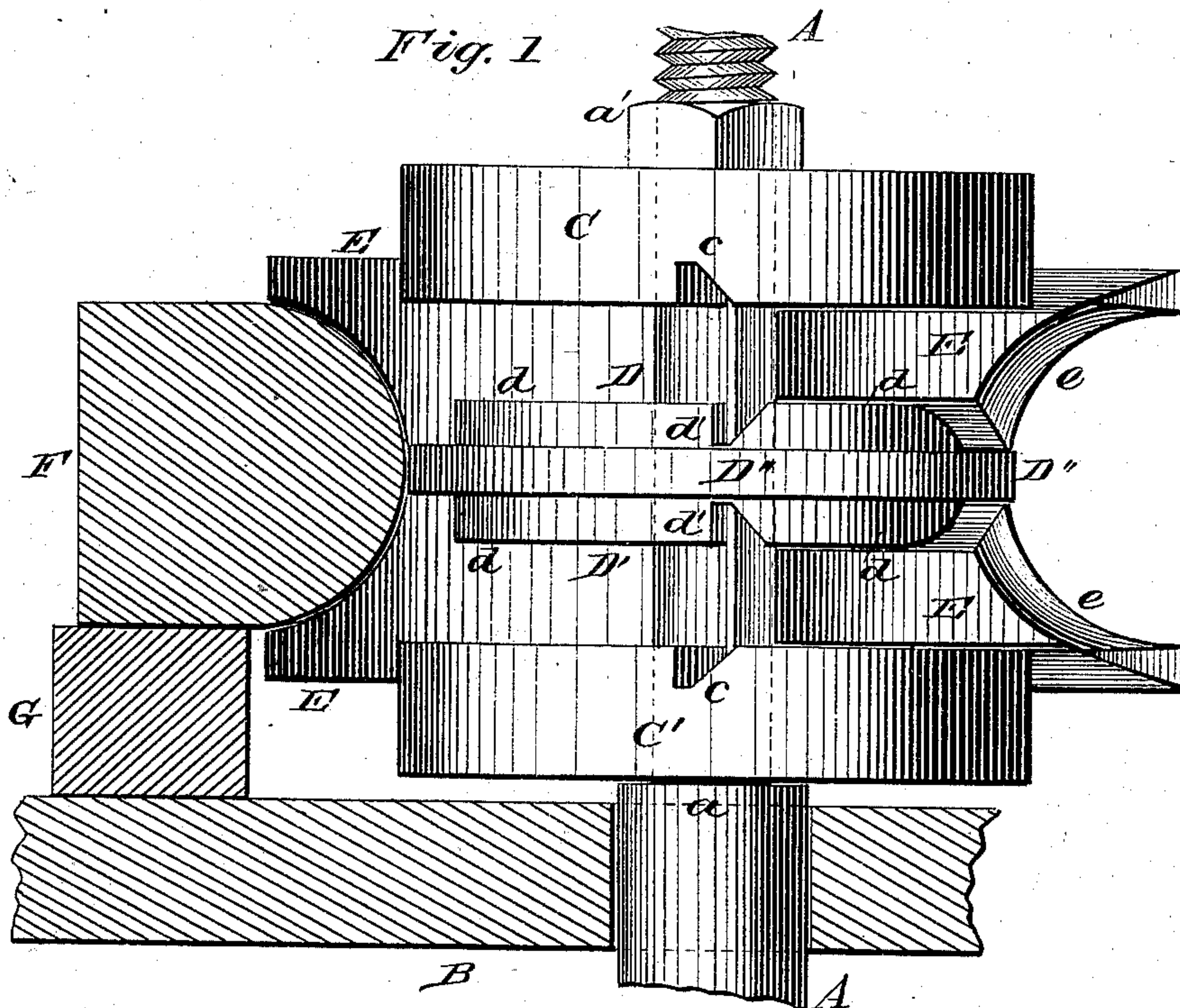


J. C. TUNNICLIFF.

CUTTER HEAD FOR WOOD WORKING MACHINES.

No. 254,732.

Patented Mar. 7, 1882.



WITNESSES

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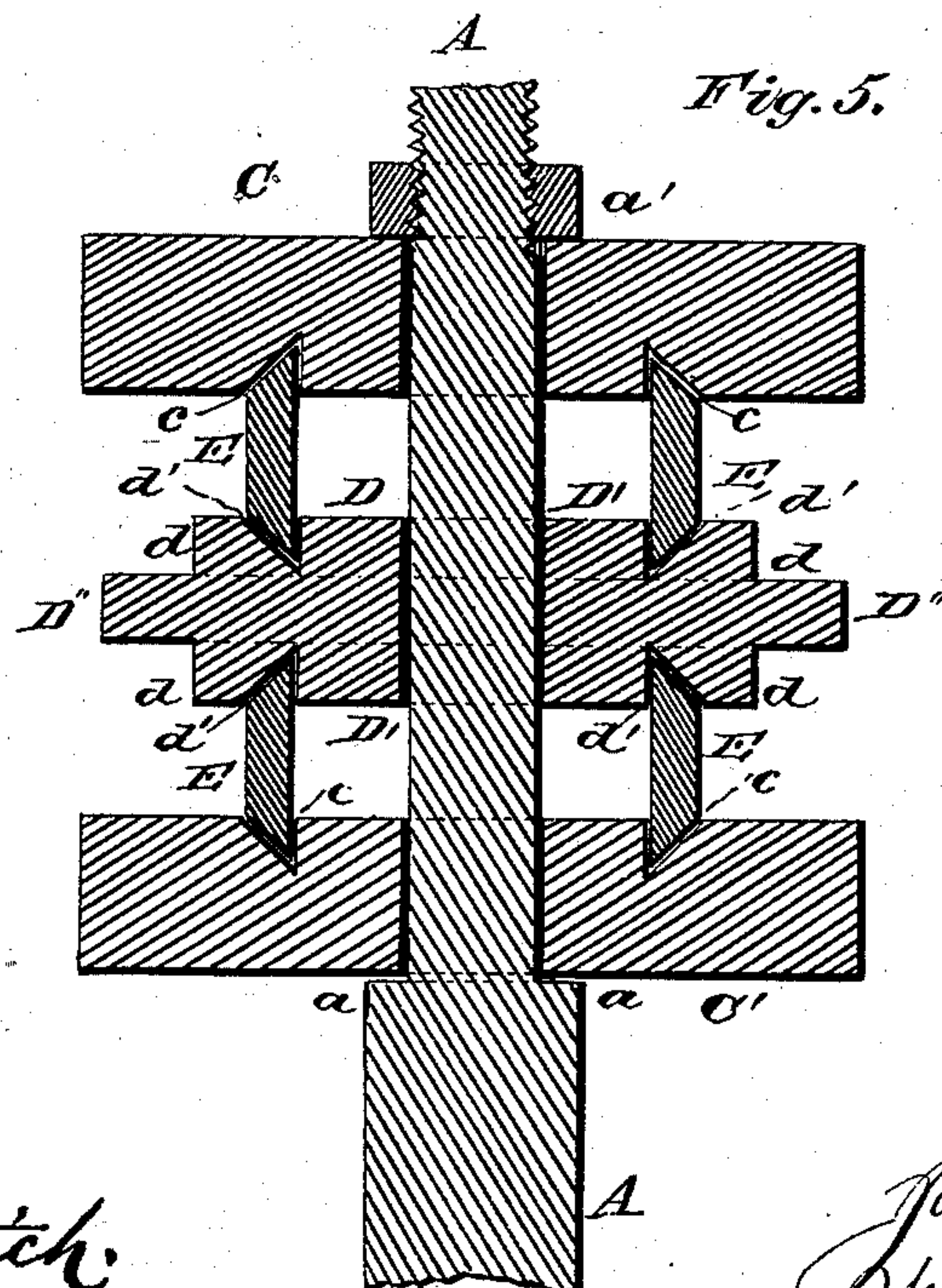
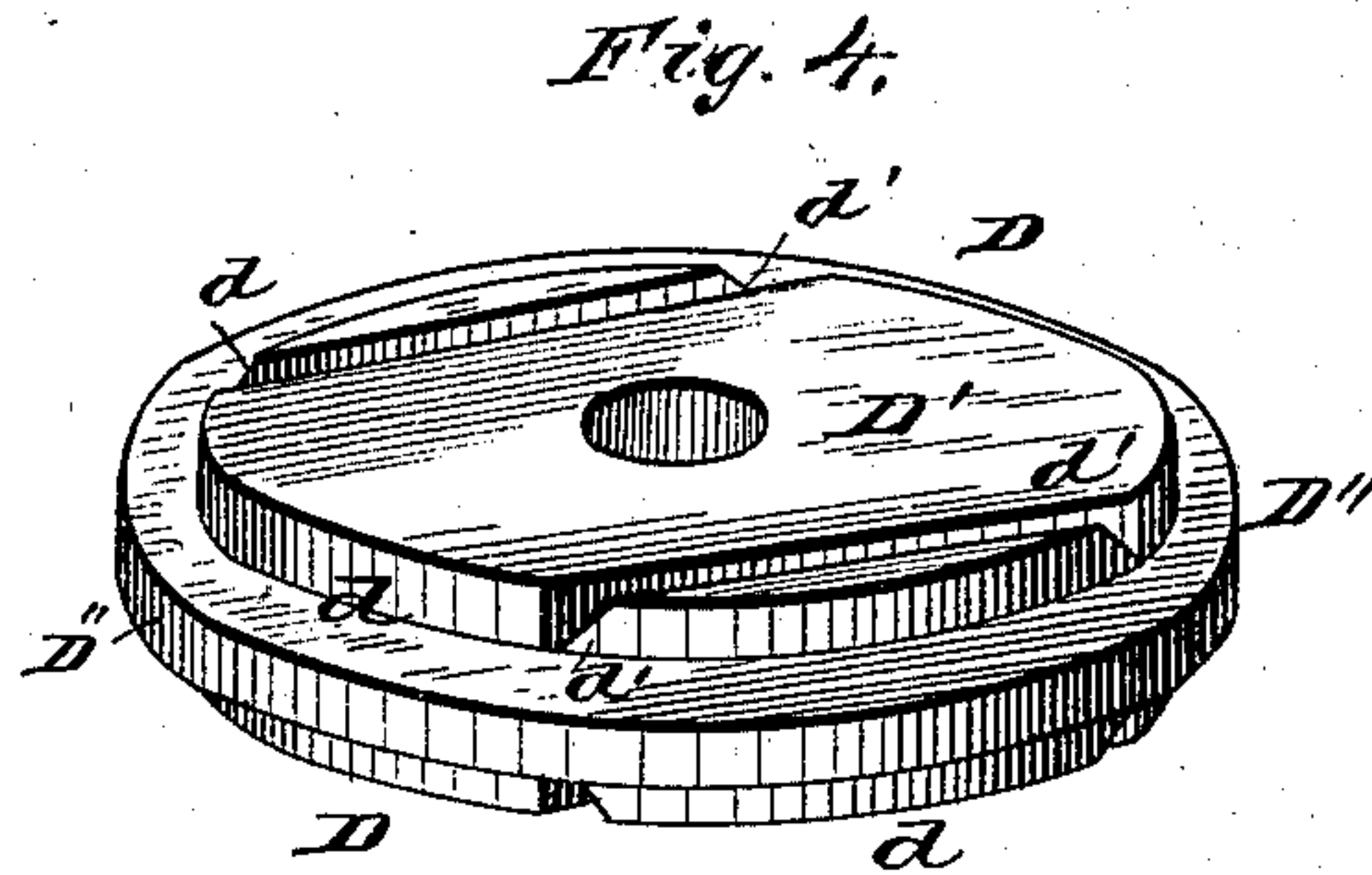
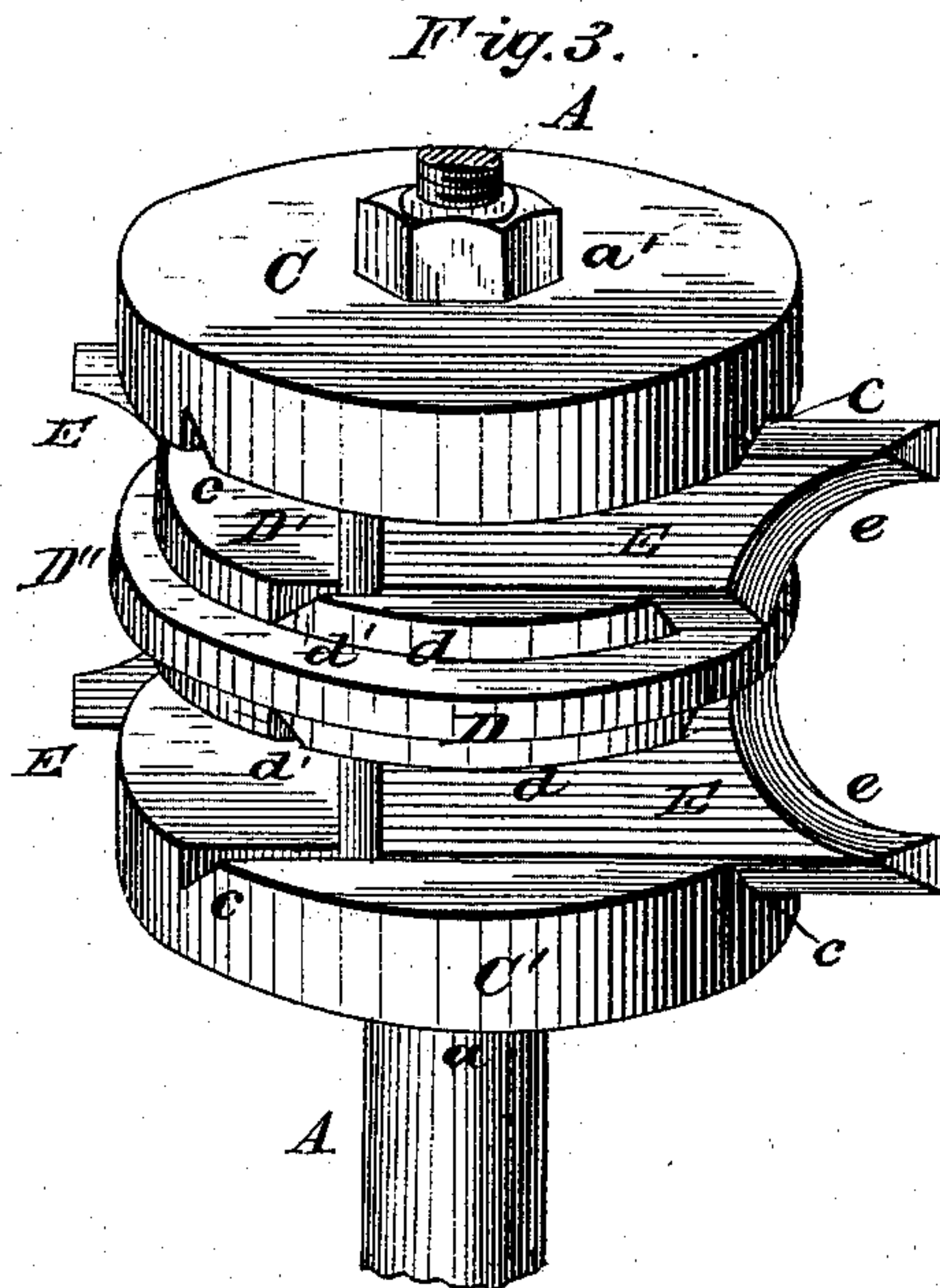
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JOHN C. TUNNICLIFF, OF GALESBURG, ILLINOIS.

CUTTER-HEAD FOR WOOD-WORKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 254,732, dated March 7, 1882.

Application filed August 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. TUNNICLIFF, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to cutter-heads of that class used with wood-working machines for chamfering, rounding, beveling, and giving various similar forms to the edges and sides of wood-work; and the invention consists in a collar located between the bits or cutters, adapted to act as a gage to regulate the depth of cut of said cutters, and provided with a thicker portion or projection of smaller diameter than the gage portion, which thickened portion contains grooves for the reception of the cutters, which are held therein by grooved head-stocks, all as hereinafter described, and set forth in the claims hereto annexed.

In the accompanying drawings, which illustrate my invention, and in which the same letter is used as a mark of reference for the same part in the different figures, Figure 1 is a side elevation of a cutter-head embodying my invention. Fig. 2 is same elevation as Fig. 1, but different cutters shown in place. Fig. 3 is a perspective. Fig. 4 is a perspective of the gage-collar. Fig. 5 is a sectional elevation.

Letter A represents the shaft on which the working parts of my device are mounted. The shaft A may project upward from the frame B, in which it is journaled, as shown at Fig. 1; or it may be pendent or be placed in a horizontal position, or inclined at any desired angle to a horizontal or vertical position, and may be rotated in any well-known or desired manner. The frame B may be constructed also in any ordinary or desired manner, as also may the devices for throwing the shaft A into and out of gear with the driving mechanism.

C C' represent head-stocks, the lower one, C', resting on a shoulder, *a*, on the shaft A, and the outer one, C, adapted to slide on the

shaft A, which passes through its center, and to be forced toward the stock C' by a nut, *a'*, on the shaft A. The head-stocks C C' have grooves *c* in their confronting faces, which receive each one edge of a cutter in the ordinary manner.

D is a circular gage-collar with a central hole, through which the shaft A passes, and circumferential rabbets *d* in its periphery, by means of which its main portion D' is thickened, so that grooves *d'* may be formed therein to correspond with the grooves *c* in the head-stocks, and so that clearance may be made for the cutters, as hereinafter described. The grooves *d'* are cut same depth as the rabbets *d*.

E E are the cutters used for rounding the edges of wood-work. Each cutter E is formed, as shown in the drawings, with beveled edges adapted to fit the grooves *c d'*, and with an arc-shaped cutting-edge, *e*. One cutter, E, is placed between the head-stock C' and the collar D, and the other between the head-stock C and collar D, where they may be securely held by tightening the nut *a'*. The cutters E may be adjusted lengthwise in the grooves *c d'*, and should be fixed in positions as shown at Fig. 3—that is, with all parts of their cutting-edges projected beyond the part D' of the collar D, so as to give clearance to the cutters—and in such positions that the outer edge, D'', of the collar or disk D will be in line with the adjacent corners of the cutters, whereby wood-work F may be passed along in contact with the cutters, as shown at Fig. 1, which cutters remove its corners and round it down until the disk D comes in contact with the surface of the stuff F, and thereby acts as a gage to stop the further action of the cutters on the stuff F.

In operation blocks G may be placed on the table or frame B to support the piece to be operated on at the proper height; but all patterns, &c., to which the piece F is attached in ordinary rounding-machines, are dispensed with.

Projections on the collar D may be used instead of the thickened portion D'.

It will be seen that the cutters may be sharpened without changing the curve of the cutting-edge, whereas in the ordinary cutter having a semicircular cutting-edge sharpening it has a tendency to enlarge the circle.

For beveling or chamfering wood-work, cutters E' are used with cutting-edges e'' , as shown at Fig. 2. It will readily be seen that the cutters E' may be moved outward and adjusted to cut the corners from narrower stuff, as shown by dotted lines at Fig. 2, and moved inward and adjusted to work wider stuff, and may be adjusted in a similar manner to remove more or less corner from the wood, thus doing the work for which various-sized cutters are required in ordinary machines.

Cutters having differently-formed cutting-edges may be used for various kinds of work; but in all cases the wood to be operated on is simply passed along in contact with the cutters; and the gage-collar D acts as a guide to limit the depth of the cut. The distance between two cutters may be increased by inserting more than one gage-collar D , as desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a cutter-head, in combination with grooved head-stocks, the gage-collar D , having a thicker portion, D' , or projection, with grooves

in said thicker portion, in which grooves the cutters are seated, and may be adjusted lengthwise, and held after adjustment by said head-stocks, with all parts of their cutting-edges projecting beyond said portion D' to give clearance to the cutters, substantially as specified.

2. In a cutter-head, in combination with a shaft, A , grooved head-stocks C C' , and nut a' , a gage-collar, D , having a thickened portion of smaller diameter and grooved for the reception of the cutters, substantially as and for the purpose specified.

3. The gage-collar D , having a thicker portion, D' , or projection, for holding the cutters, which project beyond said portion D' to give clearance to the cutters, in combination with the cutters and suitable head-stocks, substantially as and for the purpose specified.

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

JOHN C. TUNNICLIFF.

Witnesses:

SAML. N. GROSE,
J. F. BARKER.