

(No Model.)

W. A. COMPTON.
INDENTED EMBOSSING CUTTER.

No. 335,897.

Patented Feb. 9, 1886.

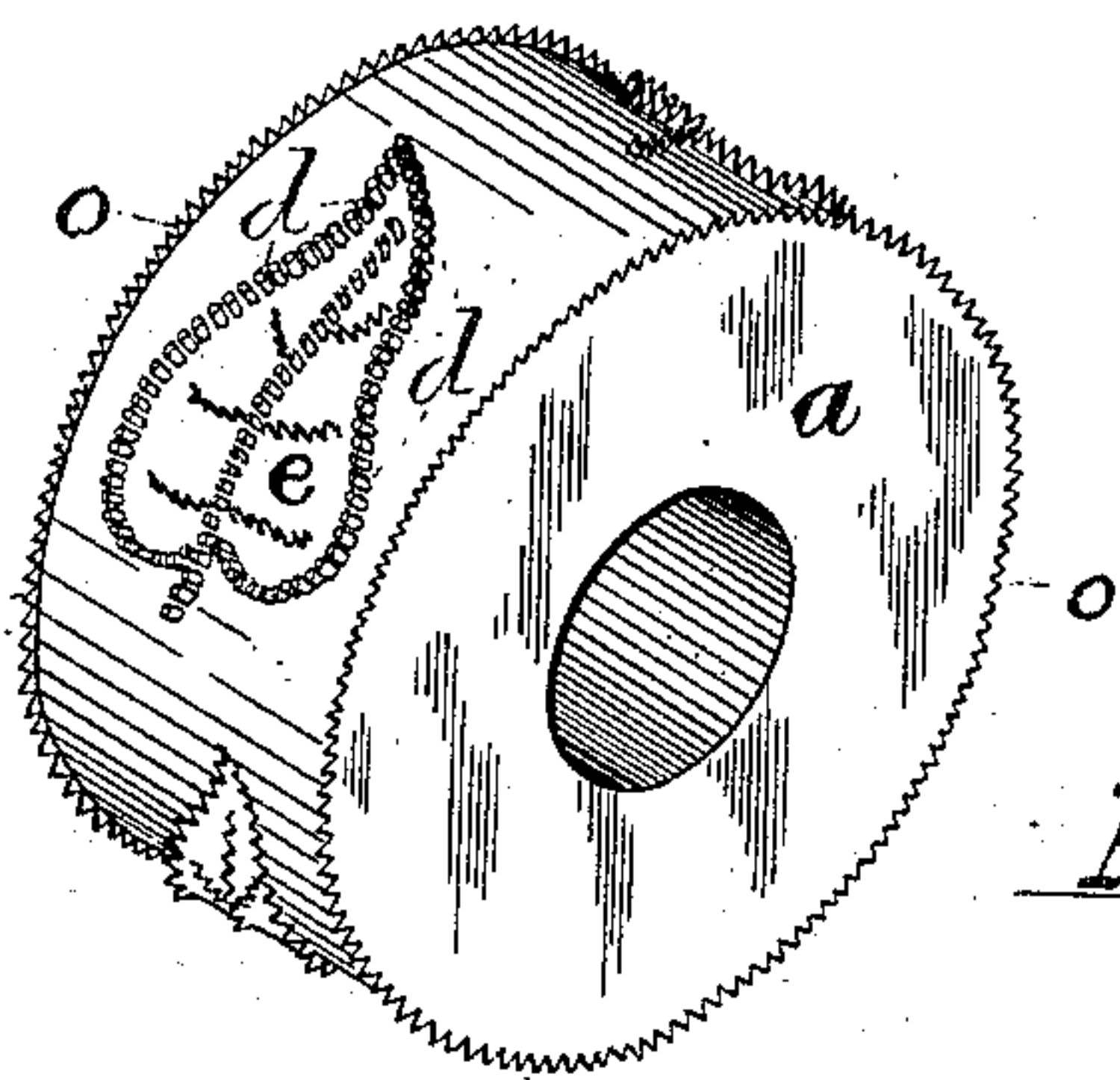


Fig. 1.

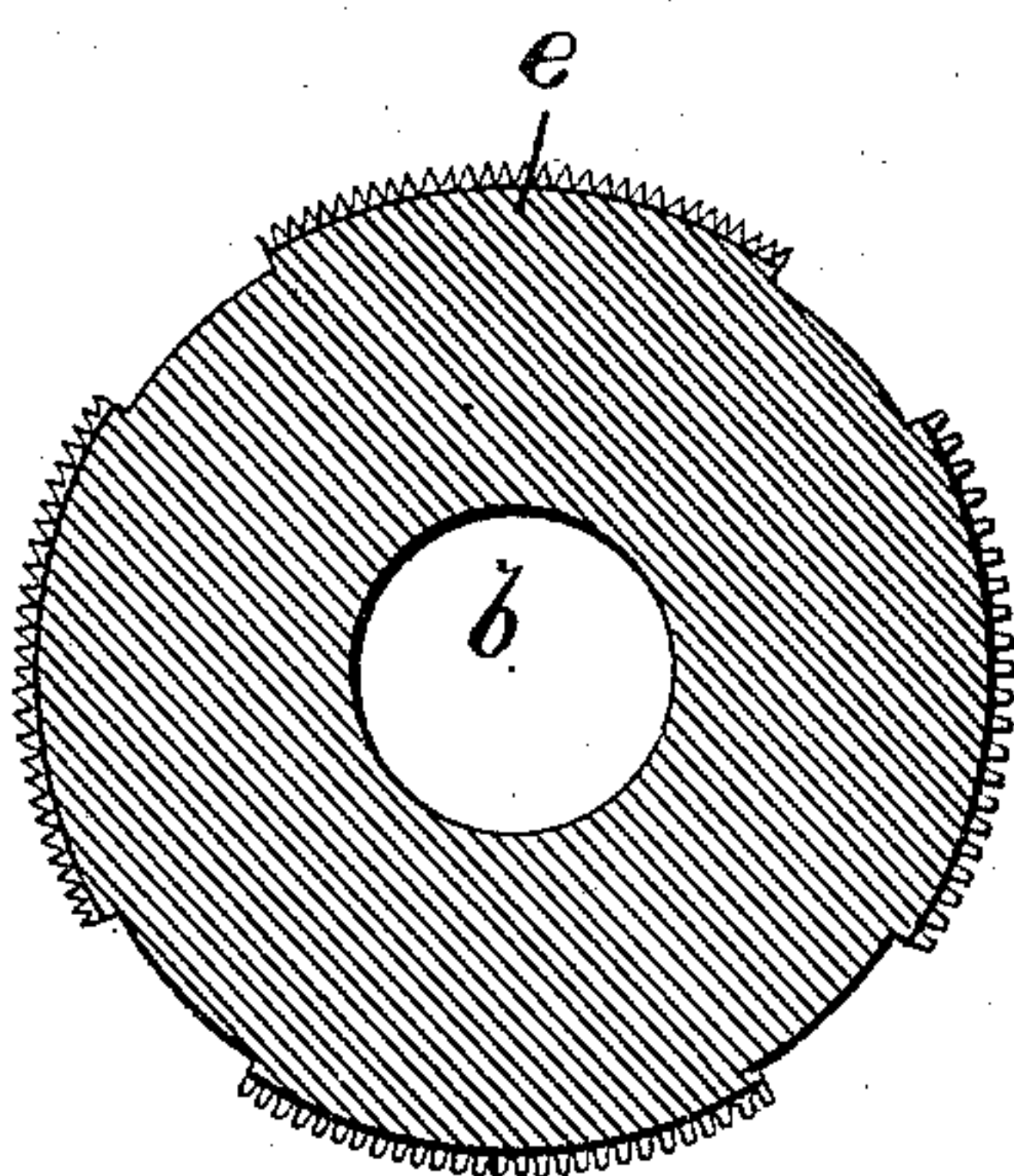


Fig. 2.

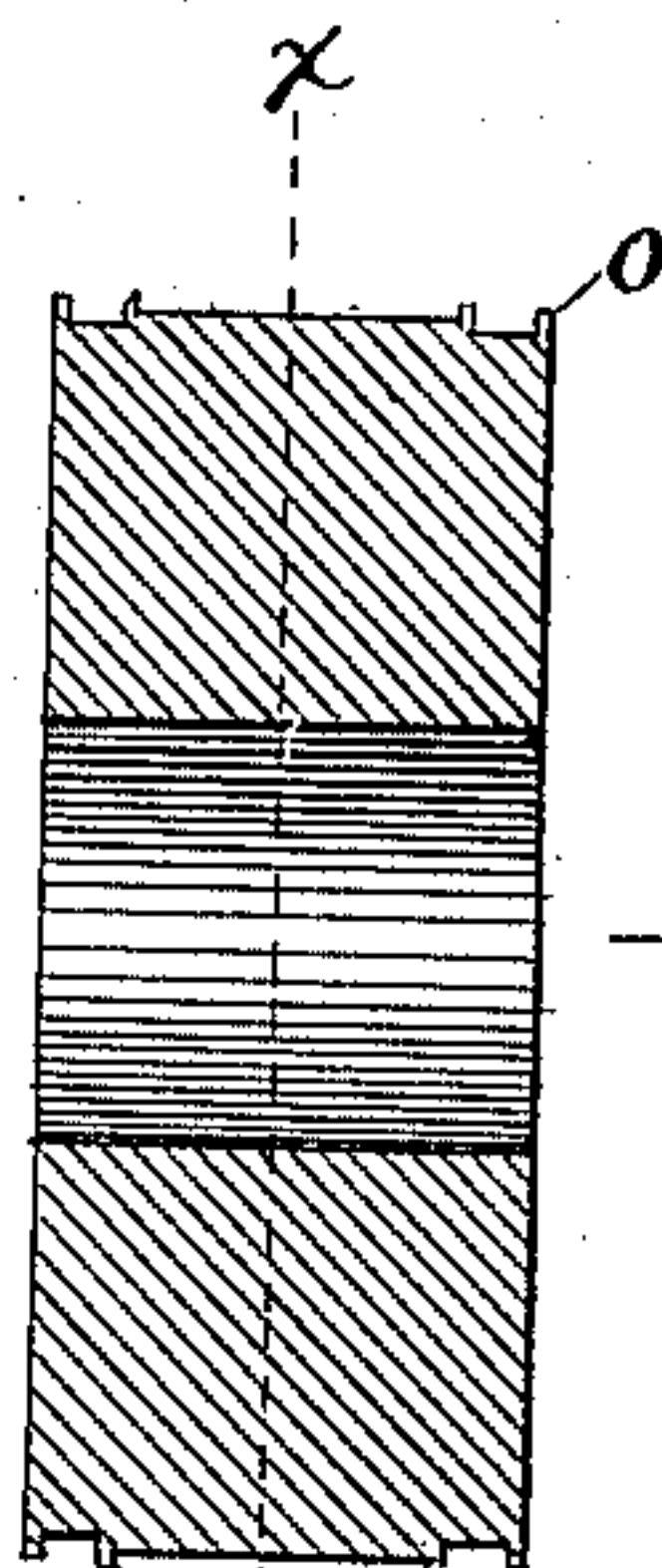


Fig. 3.

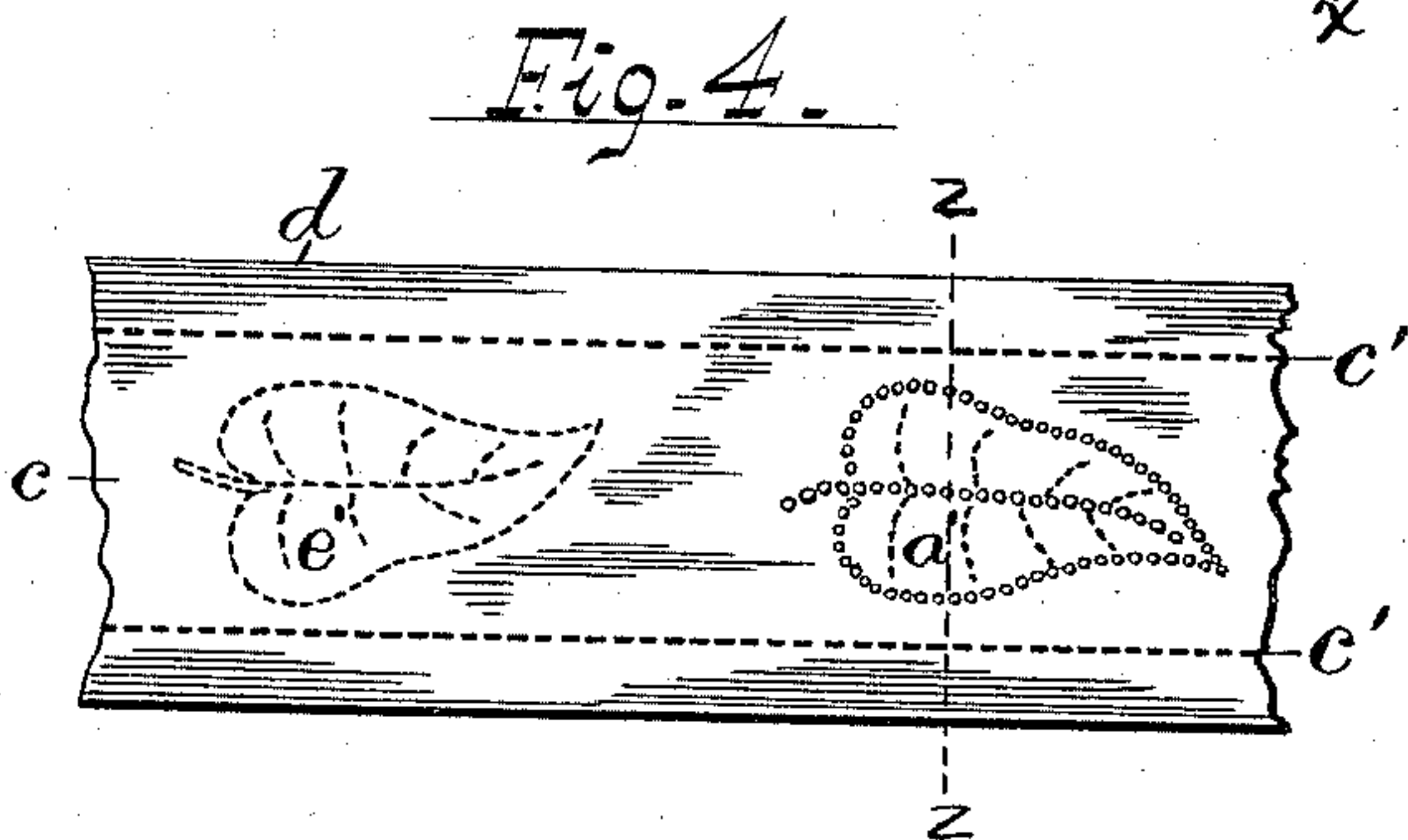


Fig. 4.

Fig. 5.



Attest;

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WILLIAM A. COMPTON, OF LIBERTY CORNER, NEW JERSEY.

INDENTED EMBOSSING-CUTTER.

SPECIFICATION forming part of Letters Patent No 335,897, dated February 9, 1886.

Application filed November 23, 1885. Serial No. 183,817. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. COMPTON, a citizen of the United States, residing in Liberty Corner, Somerset county, New Jersey, have invented certain new and useful Improvements in Indented Embossing-Cutters, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to sever the fibers of the wood around any portions that may be depressed in the operation of embossing the same without the use of the cutting-edge claimed in my Patent No. 331,770. The object of such cutting-edge was to sever the fibers smoothly at the margin of the depressed parts of the embossed wood.

I have discovered that the wood may be effectually divided at the margin of any surface where it is depressed by a series of minute projections operating to rupture the fibers in a succession of minute groups, instead of continuously, as by the cutter claimed in my said application.

My invention therefore consists in the combination, with the raised part of the embossing-tool which operates to form such depressed portions, of a series of projecting points, either obtuse or acute, and adapted to rupture the fibers at a series of minute intervals adjacent to one another about such margin.

My improvement is shown herein applied to an embossing-roller having four raised portions of leaf shape, such portions, as well as the ends of the embossing-roller, being provided with projecting points of various kinds.

Figure 1 shows such roller in perspective; Fig. 2, in transverse section on line $x x$ in Fig. 3, the view exhibiting all the projecting points along one side of each raised portion. Fig. 3 is a section through the axis of the roller. Fig. 4 is a plan of a board having an embossed strip formed continuously in its surface by such roller, and Fig. 5 is a transverse section of such board on line $z z$ in Fig. 4.

a is the roller, with hole b , by which it may be mounted upon a suitable arbor. c are blunt serrations formed around the outer edge of the roller, to sever the depressed strip c at its edges from the remainder of the board d on line c' in Fig. 4.

The raised portions in Fig. 1 are shown of leaf shape, the depressions in the bottom of the strip in Fig. 4 being of corresponding form; but the margin of such depressed strip and the margins of the leaf-shaped depressions in the bottom of the strip are differently represented in Fig. 4, to show the effect of projecting points of different forms.

At the leaf e in Fig. 1, in the mid-rib, the stem, and the margin of the leaf, the projecting points d are formed as blunt round studs adapted to punch a series of minute round holes, as shown in the leaf a' in Fig. 4.

The veins of the leaf in Fig. 1 are shown formed of sharp points, like thin saw-teeth, producing correspondingly narrow indentations, as in the mid-ribs marked in the embossed leaf a' in Fig. 4.

The serrations o , formed at the outer edges of the roller, are shown in Figs. 1 and 3 like thick saw-teeth, thus producing correspondingly-broad indentations, as are shown by the heavy dotted line at the margin of the strip c in Fig. 4. In the latter figure a leaf, e' , is also shown, in which the margin of the leaf, its mid-rib, and veins are represented in thin dotted lines, illustrating the action of thin saw-teeth or wedge-shaped points, such as are shown in Fig. 1 in the veins of the leaf e .

In Fig. 2 the projecting points along the sides of the four leaves are shown, those at the top and left of the figure representing wedge-shaped points like saw-teeth, while upon the projections at the right hand and lower side of the same figure the points are represented of conical shape with blunt ends. Each of the small projecting points when pressed upon the wood intersects such a small number of the fibers as to sever the same with great ease, and a continuous row of such points thereby operates to separate the fibers effectually along a given line without depressing or rupturing the wood at either side of such line.

Other forms of teeth than those shown herein may be employed, as their shape is not material, provided they are arranged continuously at the edges of any raised parts in the embossing-tool, so as to sever a line of fibers at the margin of the depressed parts in the embossed wood.

The row of points o at the edges or ends of

the roller are not at the margin of a raised surface, but nevertheless operate to separate the fibers of the wood where the entire face of the embossing-roll depresses them to form the strip *c*. In like manner a row of points may be used around a recess in the surface of the roller at the edge of the adjacent embossing-surface to sever the depressed from the unde-
10 roller is applied thereto.

My invention is widely distinguished from the mechanism used for perforating sheets of paper, as I do not employ a row of punches operating in separate dies to cut out any of
15 the material; nor does my invention include any dies operating in conjunction with the projecting points, as dies could not be formed to cut the material in connection with acute wedge-shaped points, such as I chiefly employ
20 in practicing my invention.

I am aware that the entire raised surface of the roll has been roughened by sharp ridges, which operate, not like my points, to form isolated rows of holes in the embossed wood, but
25 to roughen the entire background of the latter chiefly for an ornamental purpose.

I therefore disclaim the use of ridges, and, having distinguished my rows of points from a continuous cutting-edge on the one hand and from a roughening of the whole emboss-
30 ing-surface on the other, it is plain that what I do claim is evidently not an indented roller, but an indented cutter, one that operates to cut or separate the fibers on given lines only, where the wood is to be depressed.
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I claim as follows:

The combination, with the surface of an embossing-tool, of rows or lines of projecting points arranged at the margin of the projec-
40 tions or depressions upon the surface of the tool, and adapted to sever the depressed from the unde-
45 pressed part of the woody surface to which the roller may be applied.

In testimony whereof I have hereunto set my hand in the presence of two subscribing
45 witnesses.

WILLIAM A. COMPTON.

Witnesses:

THOS. S. CRANE,
L. LEE.