

(Model.)

N. COWAN.
Machine for Making Wood-Pulp.

No. 228,041.

Patented May 25, 1880.

Fig. 1.

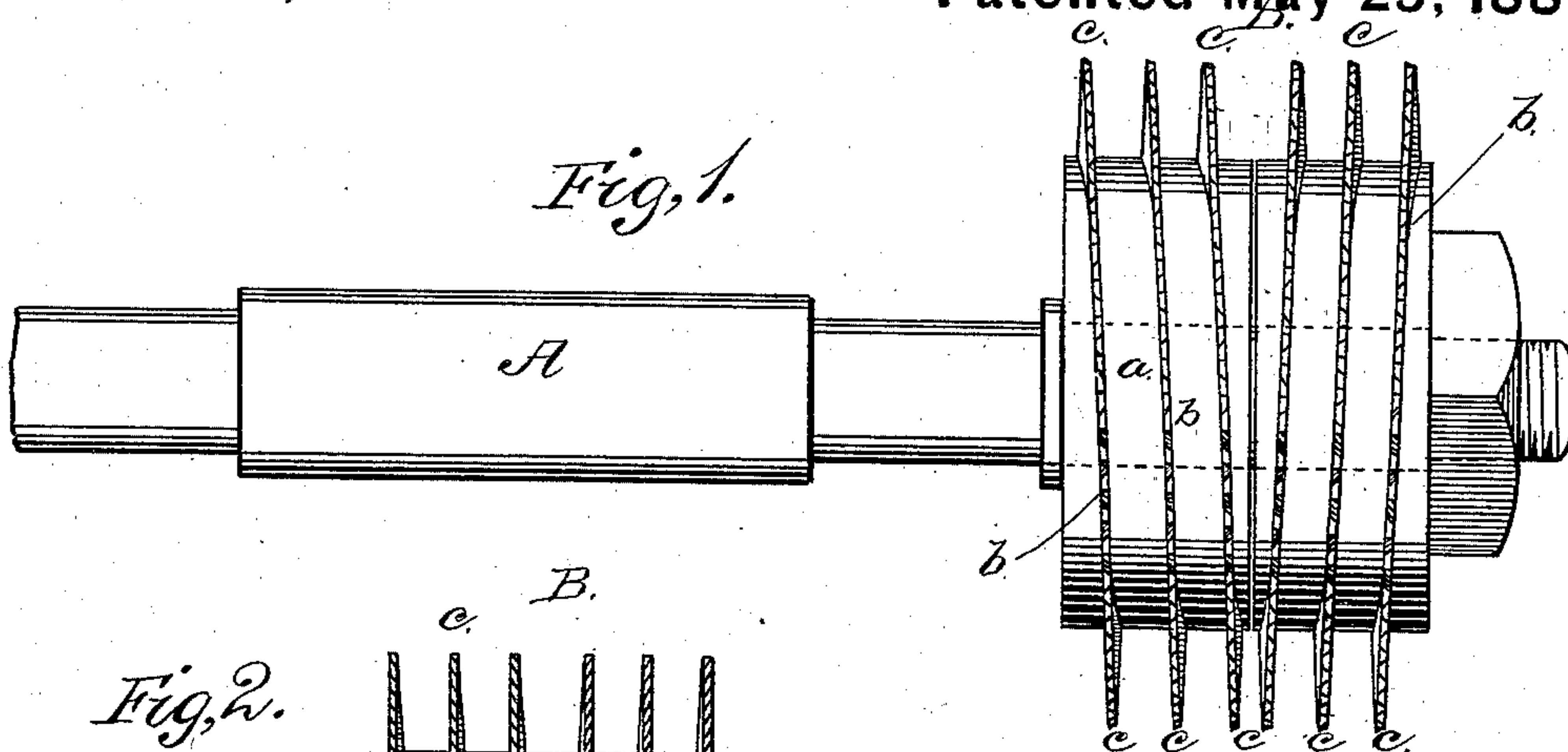


Fig. 2.

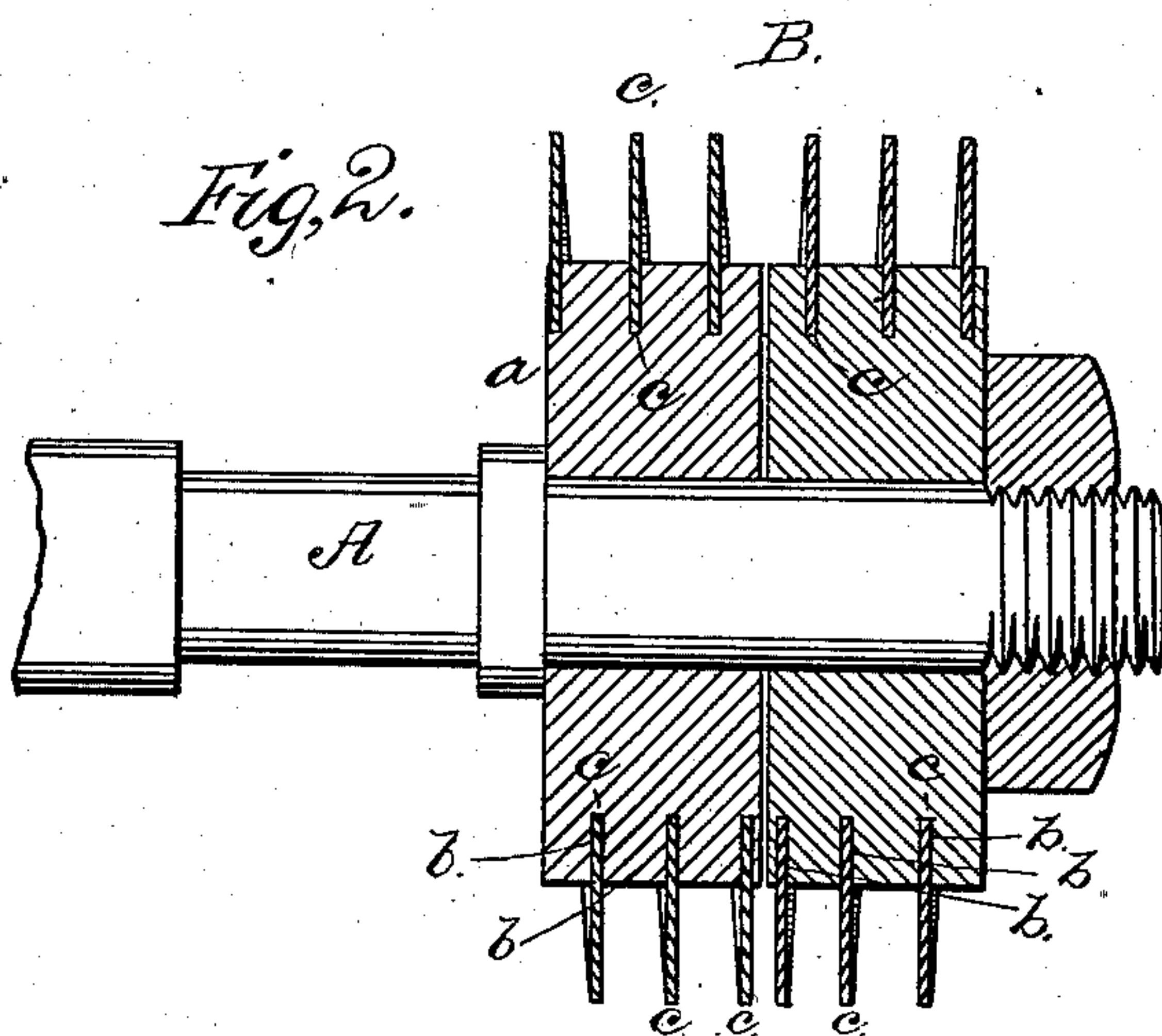
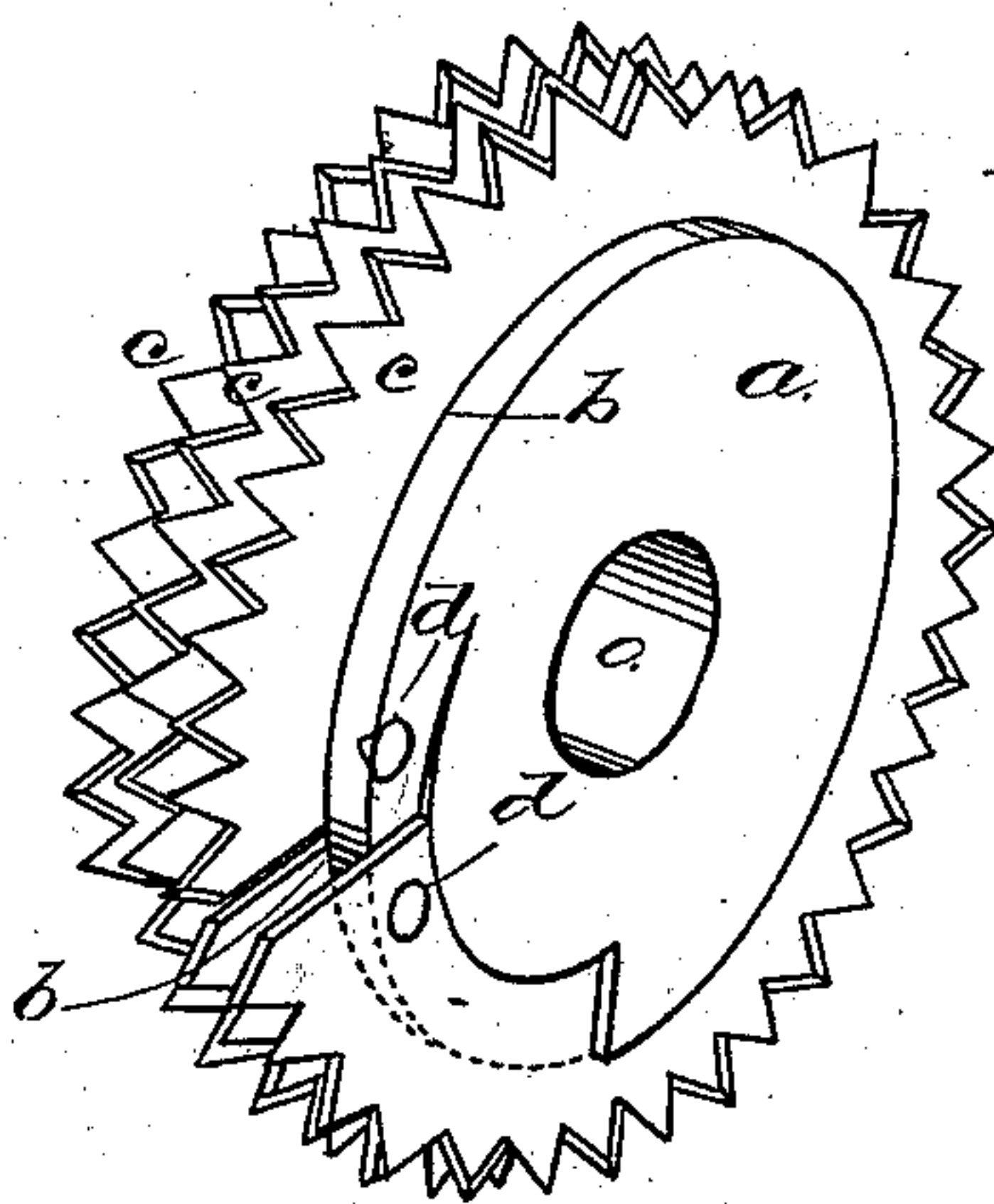


Fig. 3.



WITNESSES

Villette Anderson
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INVENTOR

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UNITED STATES PATENT OFFICE.

NORMAN COWAN, OF PULASKI, NEW YORK, ASSIGNOR OF ONE-HALF OF
HIS RIGHT TO W. F. AUSTIN, OF SAME PLACE.

MACHINE FOR MAKING WOOD PULP.

SPECIFICATION forming part of Letters Patent No. 228,041, dated May 25, 1880.

Application filed April 22, 1880. (Model.)

To all whom it may concern:

Be it known that I, NORMAN COWAN, of Pulaski, in the county of Oswego and State of New York, have invented a new and valuable Improvement in Machines for Making Wood Pulp; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my improved fiber-cutting head. Fig. 2 is a longitudinal section thereof, and Fig. 3 is a perspective view of one of its sections.

This invention has relation to improvements in means for reducing wood to a fibrous condition in the manufacture of pulp for paper-making and other purposes; and it consists in a cutting-head having spirally-arranged toothed cutting-blades around a central cone or bearing.

It furthermore consists in a cutter-head composed of sections of toothed spiral blades, the twist or direction of the spirals being alternately to the right and left on the said sections, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates a shaft or mandrel, upon which is keyed or otherwise secured the head B. This is composed of a body, *a*, of cylindrical form, having an axial perforation, *o*, for the reception of the mandrel, and in its perimeter a deep spiral groove, *b*, and of a toothed blade, *c*, of spiral form, seated in said groove and secured in position by means of rivets *d*.

The body *a* may be made in two or more sections, and when so constructed the twist of the spiral groove *b* will be to the right in

one section, to the left in the one next adjoining, and so on. Consequently the spiral of blade *c* is alternately to the right and left. The blades *c* in each of the sections of the body may be, if desired, made in two or more pieces in order to their more convenient introduction into their seats in the body or hub of the head. The action of these spirally-arranged blades upon the material is to produce a wood fiber of superior quality for the manufacture of molded ornaments for furniture and paper-making generally, the fiber being unusually long and stringy.

The alternate arrangement of the twist of the blades in each section prevents the material operated on from being forced sideways by the screw-like action of the teeth.

In my machine I employ the heads in a set or sets of two sections, the teeth of each section being part in a right-threaded spiral and part in a left-threaded spiral, as shown.

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

1. The fiber-cutting head having the spirally-arranged toothed cutting-blade, substantially as specified.

2. The fiber-cutting head having the cutting-teeth arranged in sections of alternate right and left spirals to equalize the screw-like action of the teeth, substantially as specified.

3. The fiber-cutting head having its teeth spirally arranged around a central body or hub, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

NORMAN COWAN.

Witnesses:

JNO. B. WATSON,
EDGAR C. MORRIS.