

*H. B. Meech,
Wood Grinder.*

2 Sheets, Sheet 1.

No. 106,710.

Patented Aug. 23, 1870.

Fig. 1.

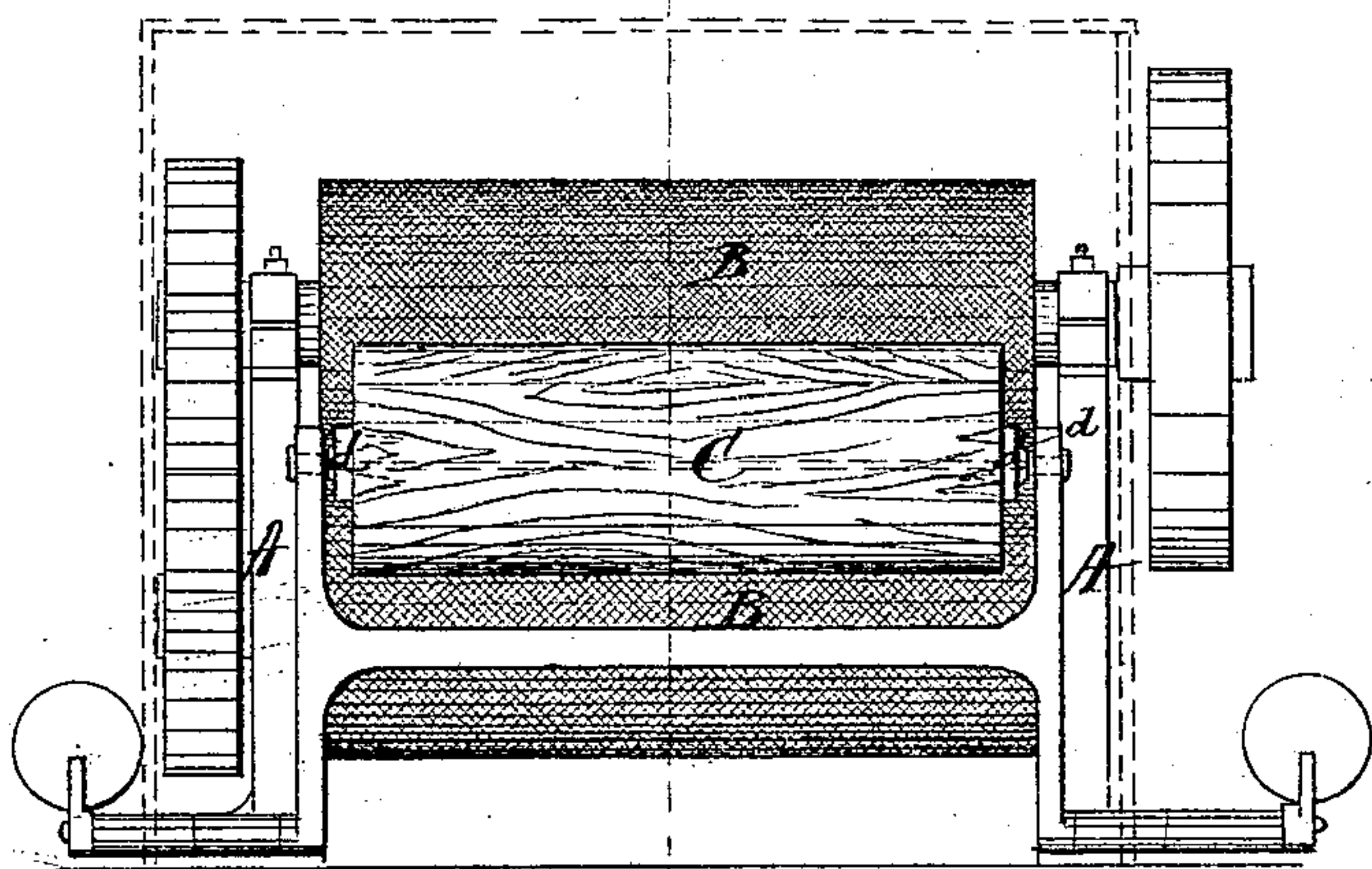


Fig. 2.

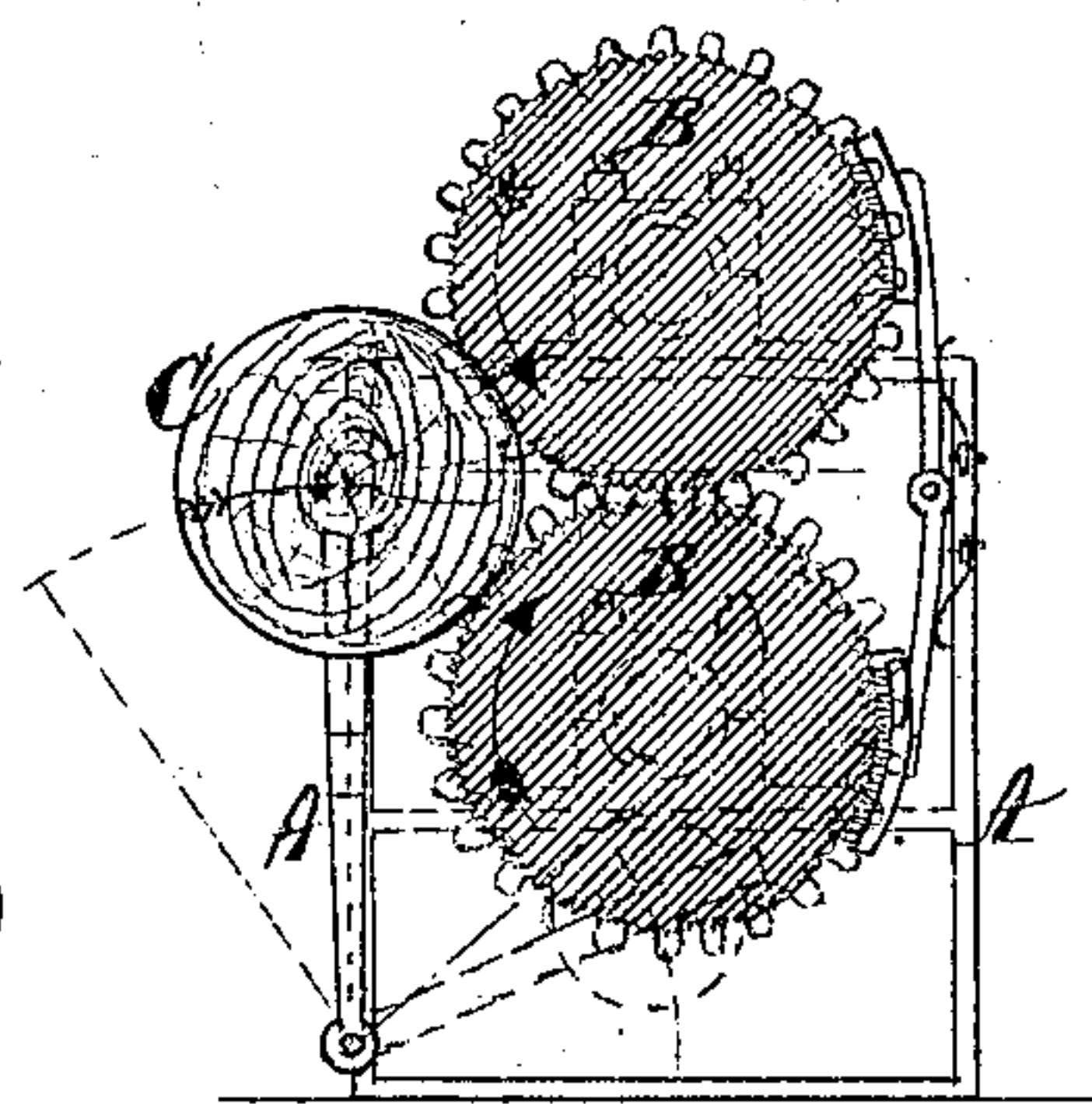


Fig. 3.

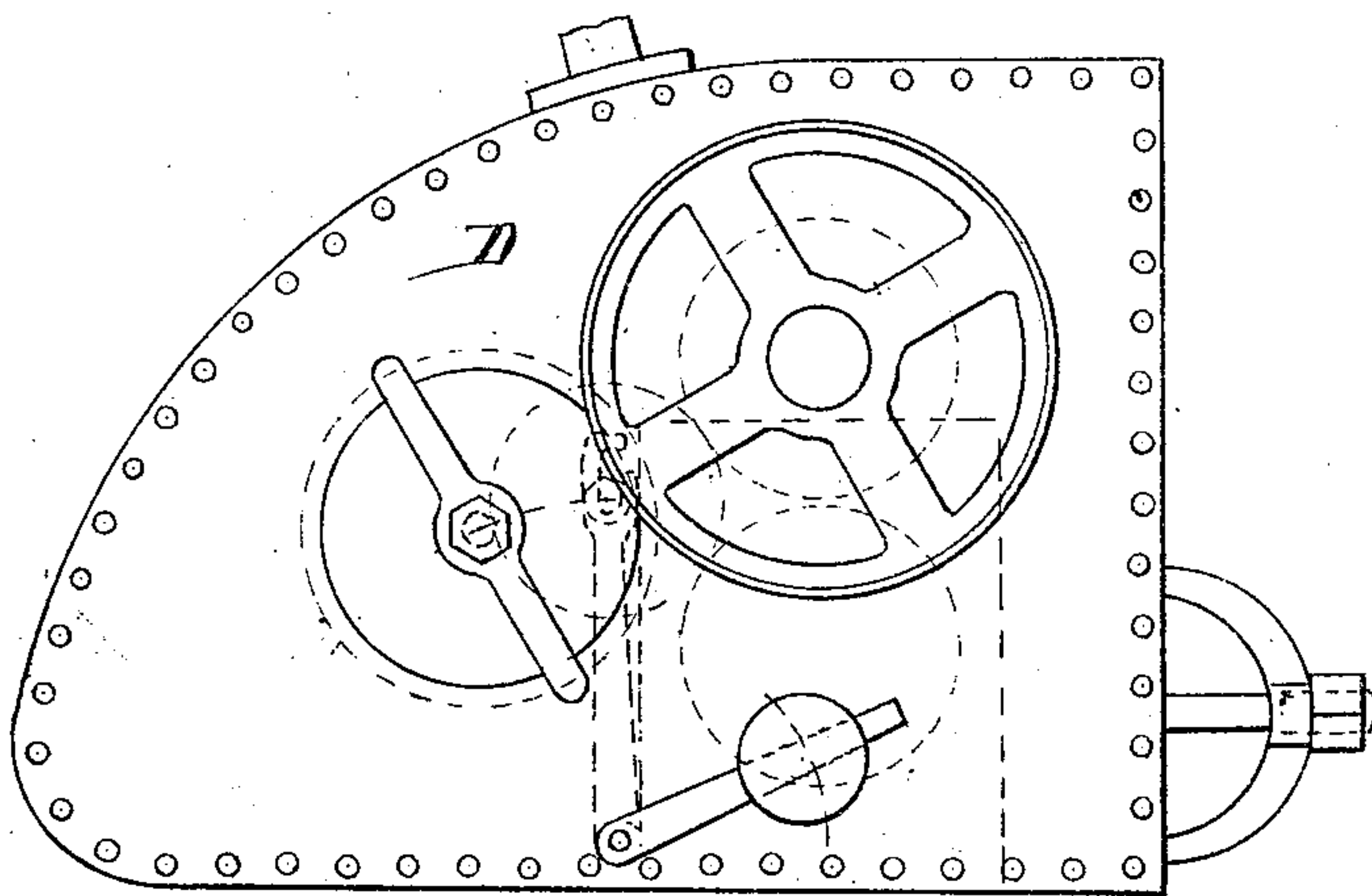


Fig. 4.

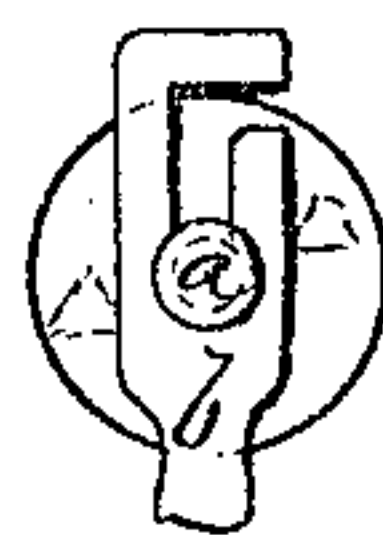
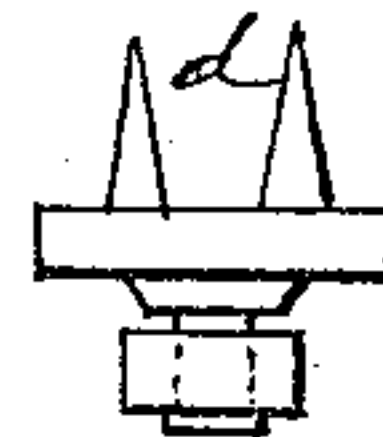


Fig. 5.



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2 Sheets, Sheet 2.

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Fig. 6.

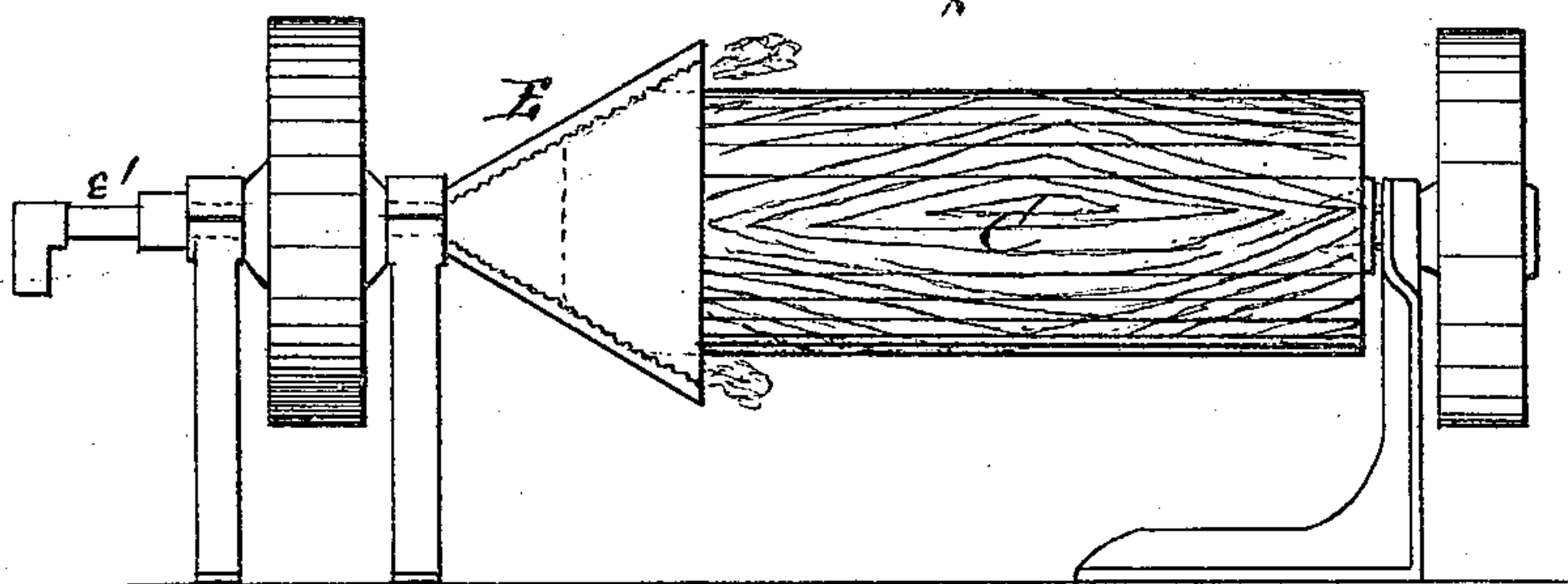
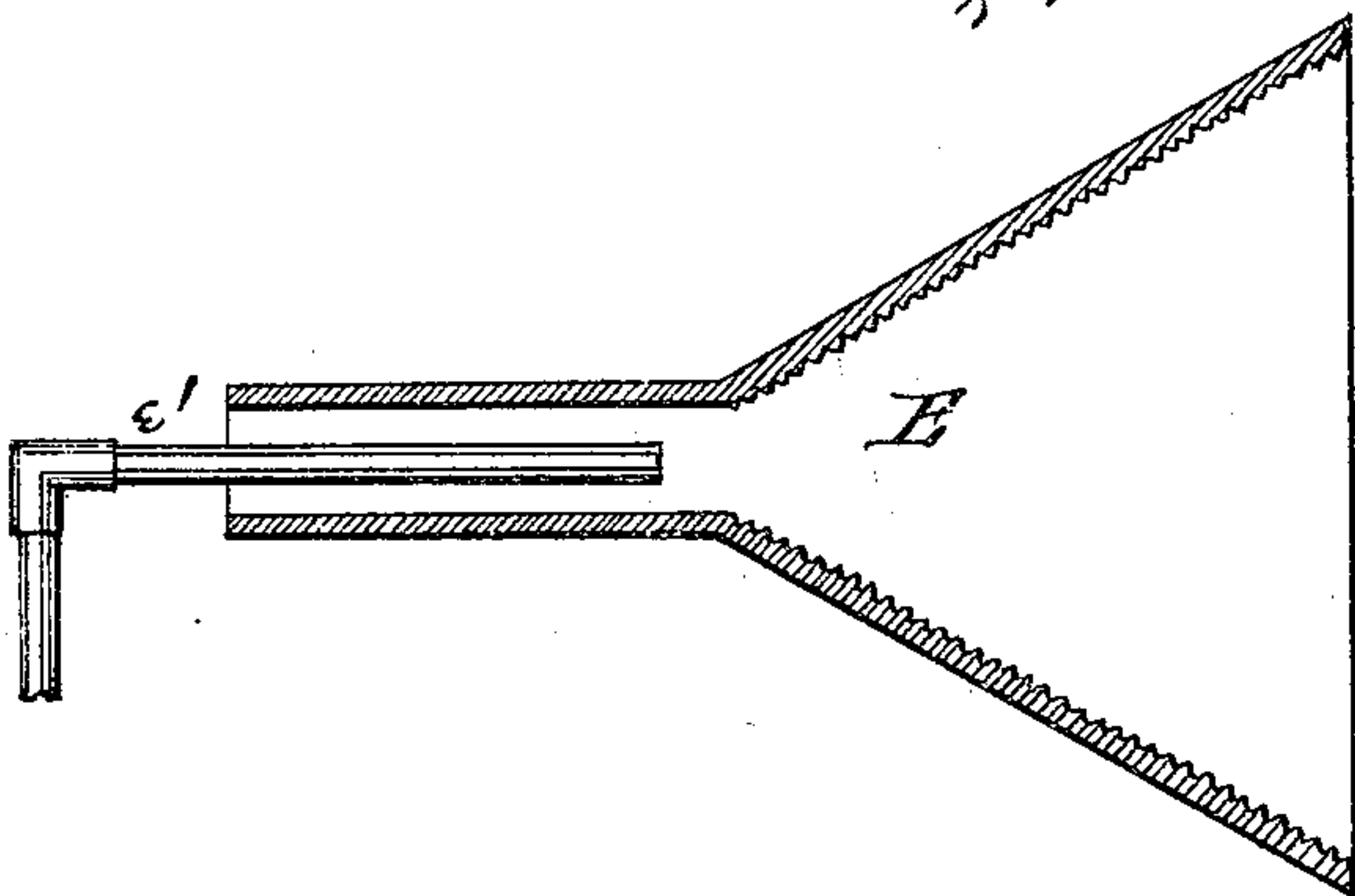


Fig. 7.



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UNITED STATES PATENT OFFICE.

HARRISON B. MEECH, OF FORT EDWARD, NEW YORK.

IMPROVEMENT IN THE MANUFACTURE OF PAPER-PULP FROM WOOD.

Specification forming part of Letters Patent No. 106,710, dated August 23, 1870.

To all whom it may concern:

Be it known that I, HARRISON B. MEECH, of Fort Edward, in the county of Washington and State of New York, have invented certain new and useful Improvements in the Manufacture of Wood - Pulp for Paper; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of my invention consists in a new and improved process and apparatus for manufacturing wood - pulp for paper, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a front view, and Fig. 2 an end view, of my machine. Fig. 3 shows the machine inclosed in a steam-tight vessel. Figs. 4 and 5 are detached views of portions of the machine. Figs. 6 and 7 show a different construction of the machine, but involving the same principle.

The wood to be ground and bleached is first cut up into logs or blocks about two feet long, to suit the machine, which is constructed as follows:

A represents the frame of the machine, in which are placed two iron rollers, B B, having their surfaces picked or made rough like the surface of a file, so as to bruise the fiber off instead of cutting. These rollers are to be about one foot in length, placed side by side in the frame A, so as to nearly touch each other, and their journals *a a* are in suitable journal-boxes *b b*.

The rollers revolve toward each other at the rate of about two or three hundred revolutions per minute.

The log or block C of wood to be ground has dogs *d* driven in each end and placed on the side of the rollers B B, where the log is made to revolve in either direction, and is held between the rollers with a light pressure until it is nearly ground up.

The machine thus constructed is placed in a steam-tight vessel, D, and steam or chlorine

gas is admitted into the same through the pipe *e* on the fiber while grinding, thus bleaching and grinding at the same time.

The steam or gas may be let on between the log and the grinding-surface of the rollers when grinding. In either case such steam or gas, at the same time as it bleaches the fiber, also softens it and facilitates the grinding.

In Figs. 6 and 7 I have represented a conical cylinder, E, having the grinding-surface on the inside and the steam or gas pipe *e'* entering said cone through the journal in the small end.

The log C of wood is held by a dog at one end and the other end inserted in the cylinder. Here also the steam or gas is admitted to the fibers while grinding, so as to grind and bleach at the same time.

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

1. The process herein described of separating the fibers from a log or block of wood, the same consisting in rasping, grinding, or rubbing off the fibers from the log or block while subjected to action of the steam in a closed vessel.

2. The jet of steam or gas applied between the wood and the grinding-surface of the roller or rollers, as herein set forth.

3. Two revolving rollers having rasping or file-like surfaces so arranged as to act upon a log or other mass of wood, substantially as described.

4. The grinding-rollers B B, so arranged as to act upon the log C within the vessel D, having steam or gas admitted into it, substantially as and for the purposes herein set forth.

5. The combination of the conical cylinder E, log C, and steam or gas pipe *e'*, as and for the purposes herein set forth.

6. The herein-described process of making pulp from wood, the same consisting in separating the fiber from the log or block and bleaching it by a continuous operation, as set forth.

HARRISON B. MEECH.

Witnesses:

W. M. LANE,
F. L. HODGMAN.