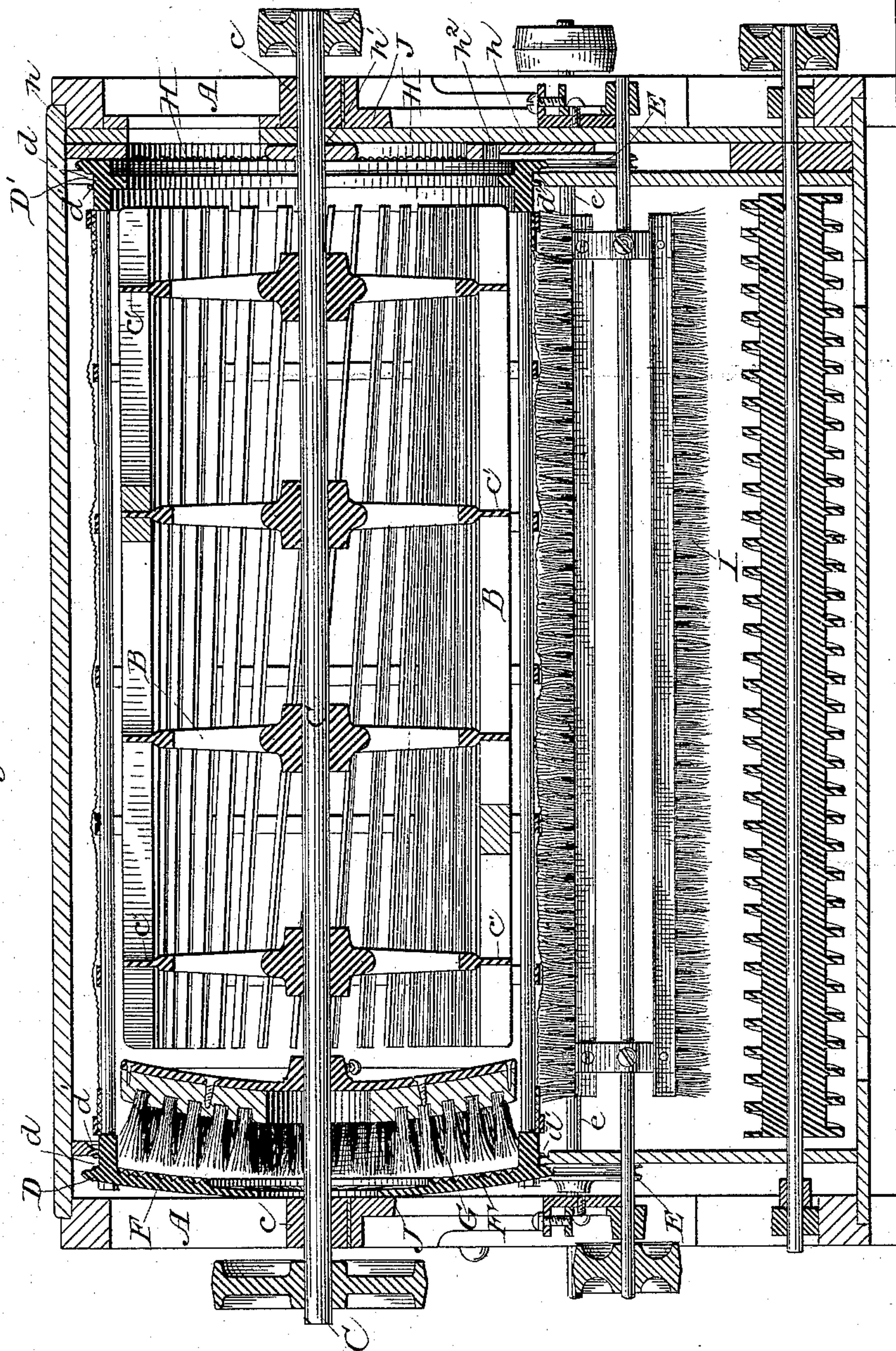


(Model.)

3 Sheets--Sheet 1.

G. E. THROOP.
Flour Dressing Machine.
No. 232,379. Patented Sept. 21, 1880.

Fig. 1.



Witnesses:
C. E. Luby
R. H. Chapman

Inventor:
Gardner E. Throop
By Parker O. Frost Jr.
Atty.

(Model.)

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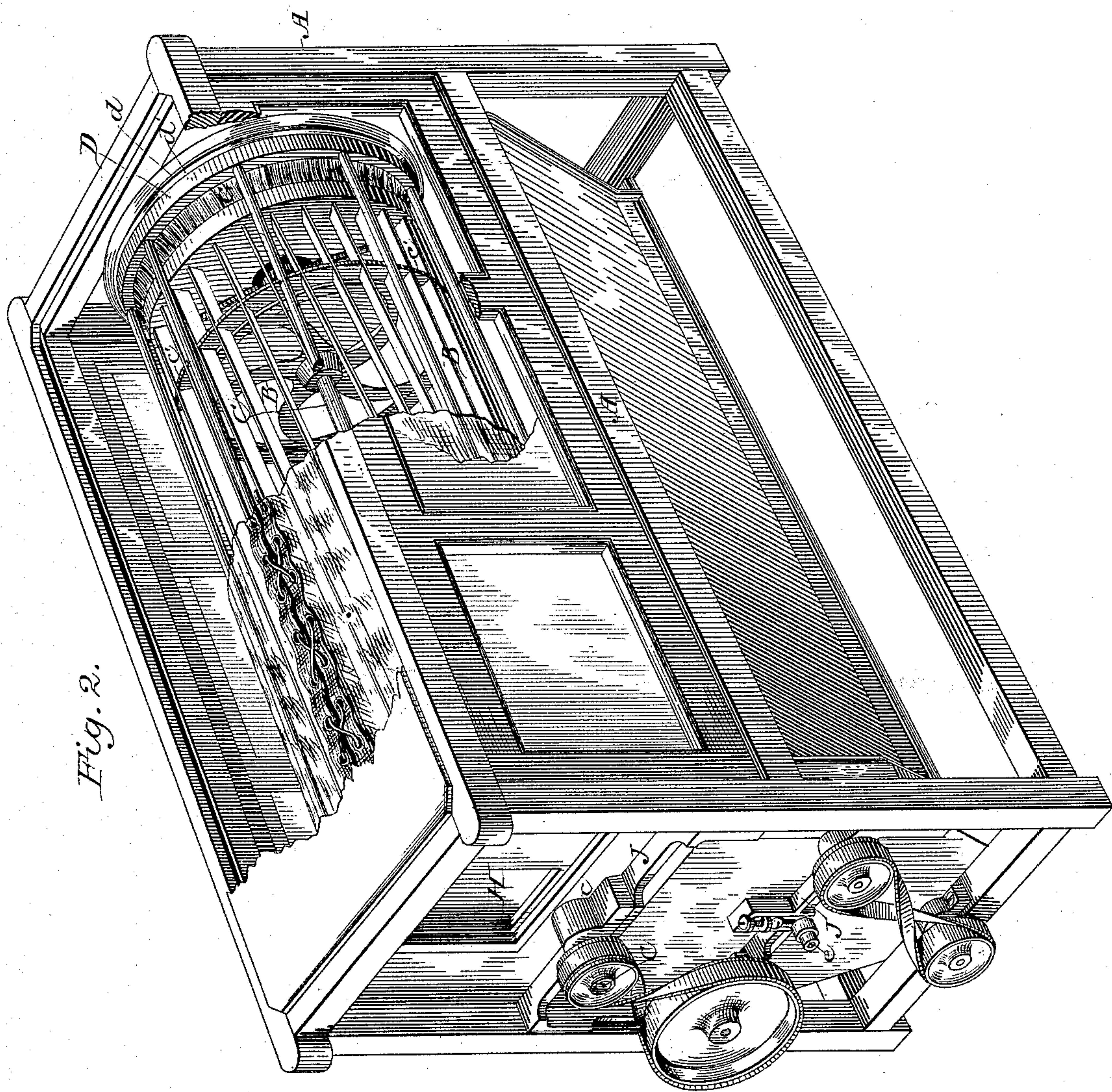


Fig. 2.

Witnesses:

E. C. Luby

R. H. Chapman

Inventor:

Gardner E. Throop

By

Parker O. Sweet, Jr.
Att'y

(Model.)

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G. E. THROOP.
Flour Dressing Machine.
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Fig. 3.

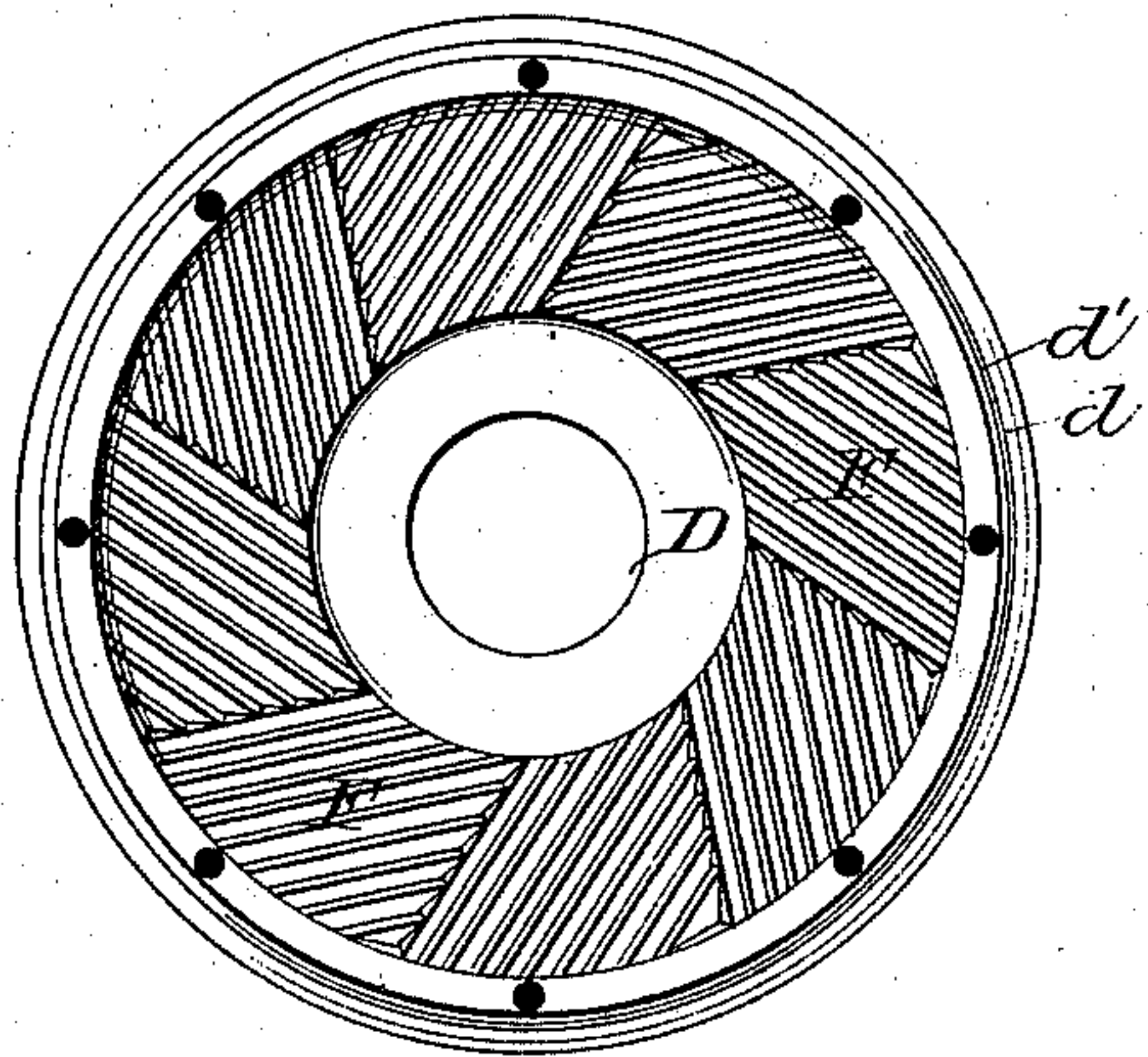


Fig. 4.

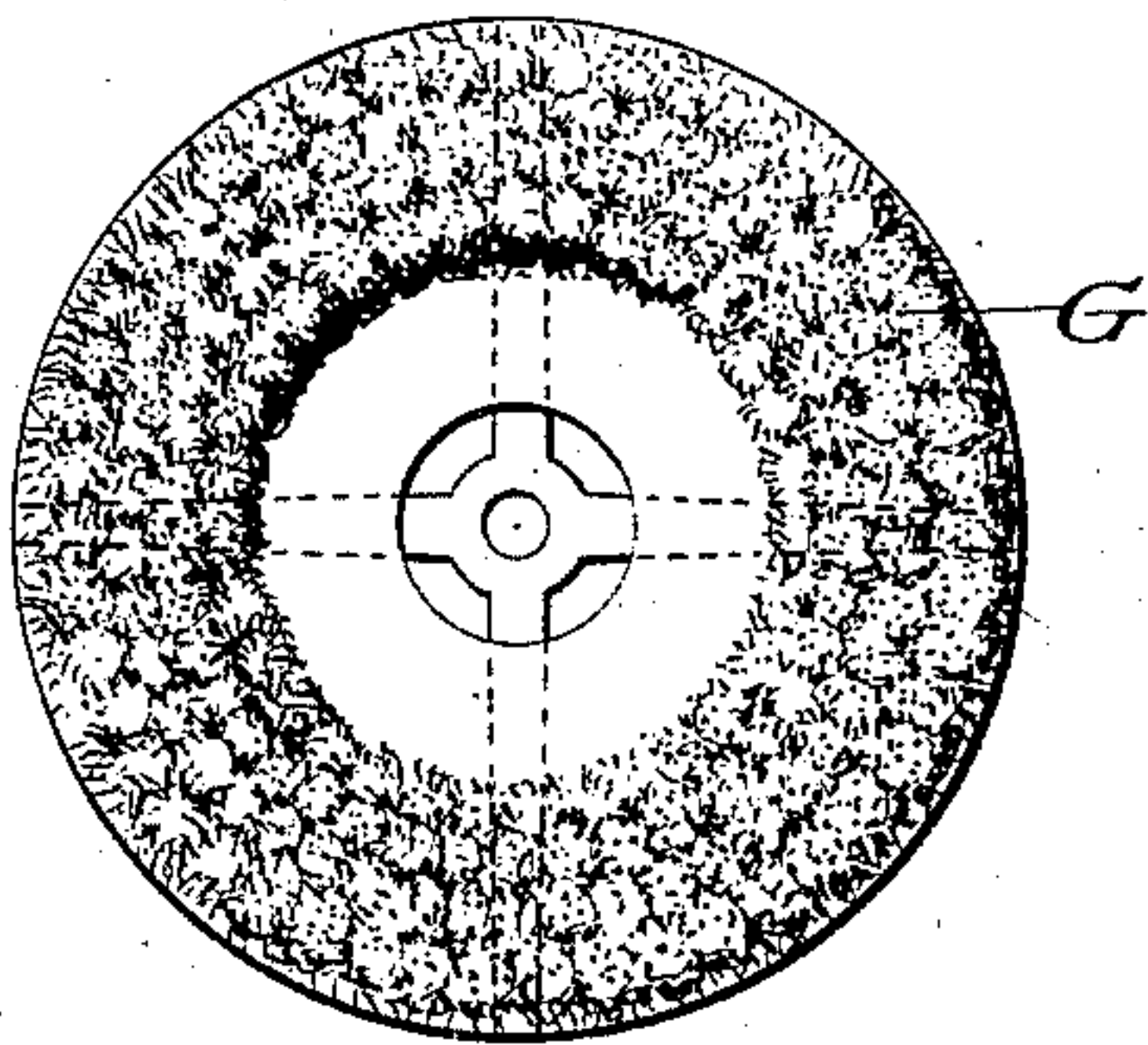
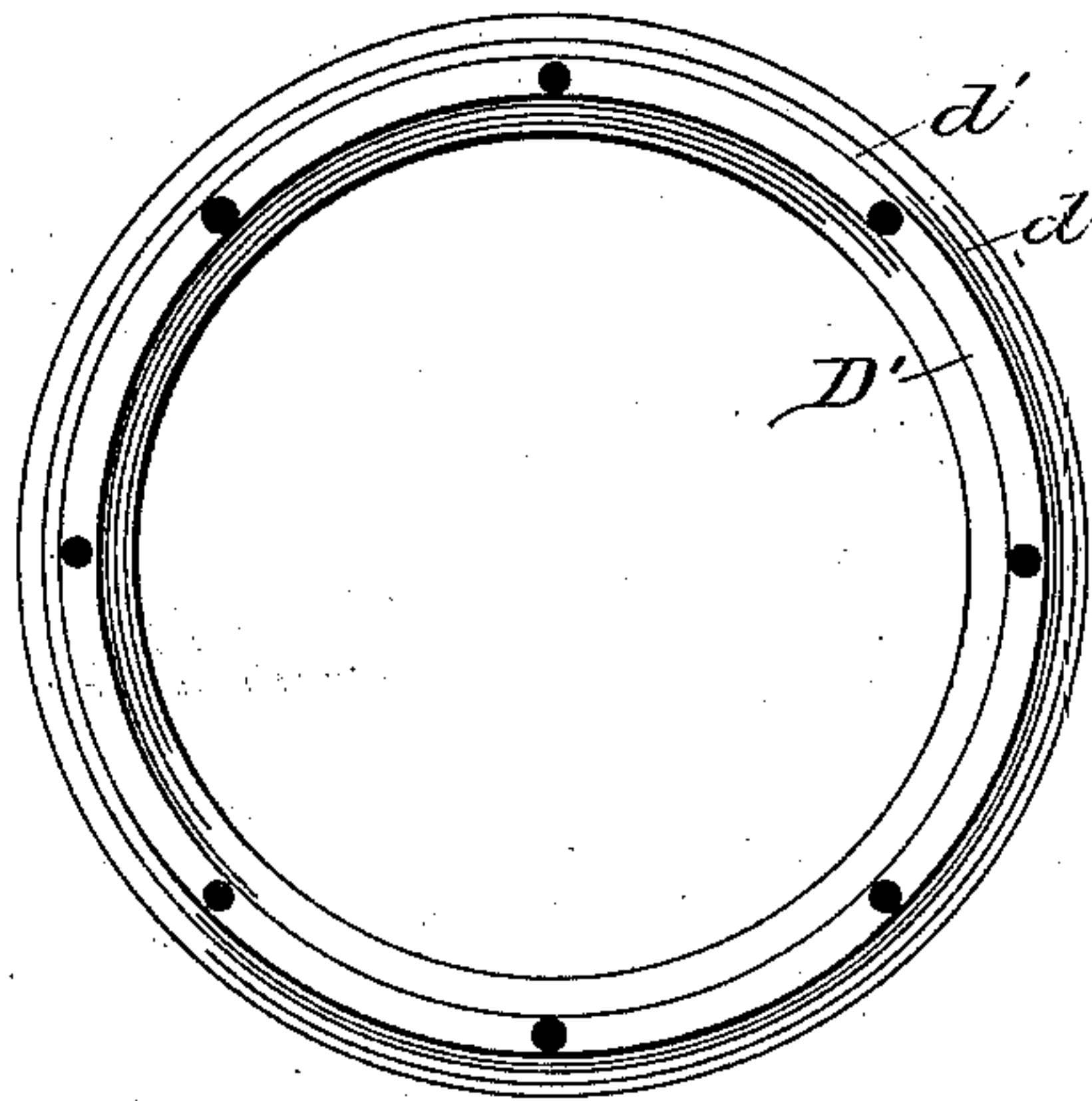
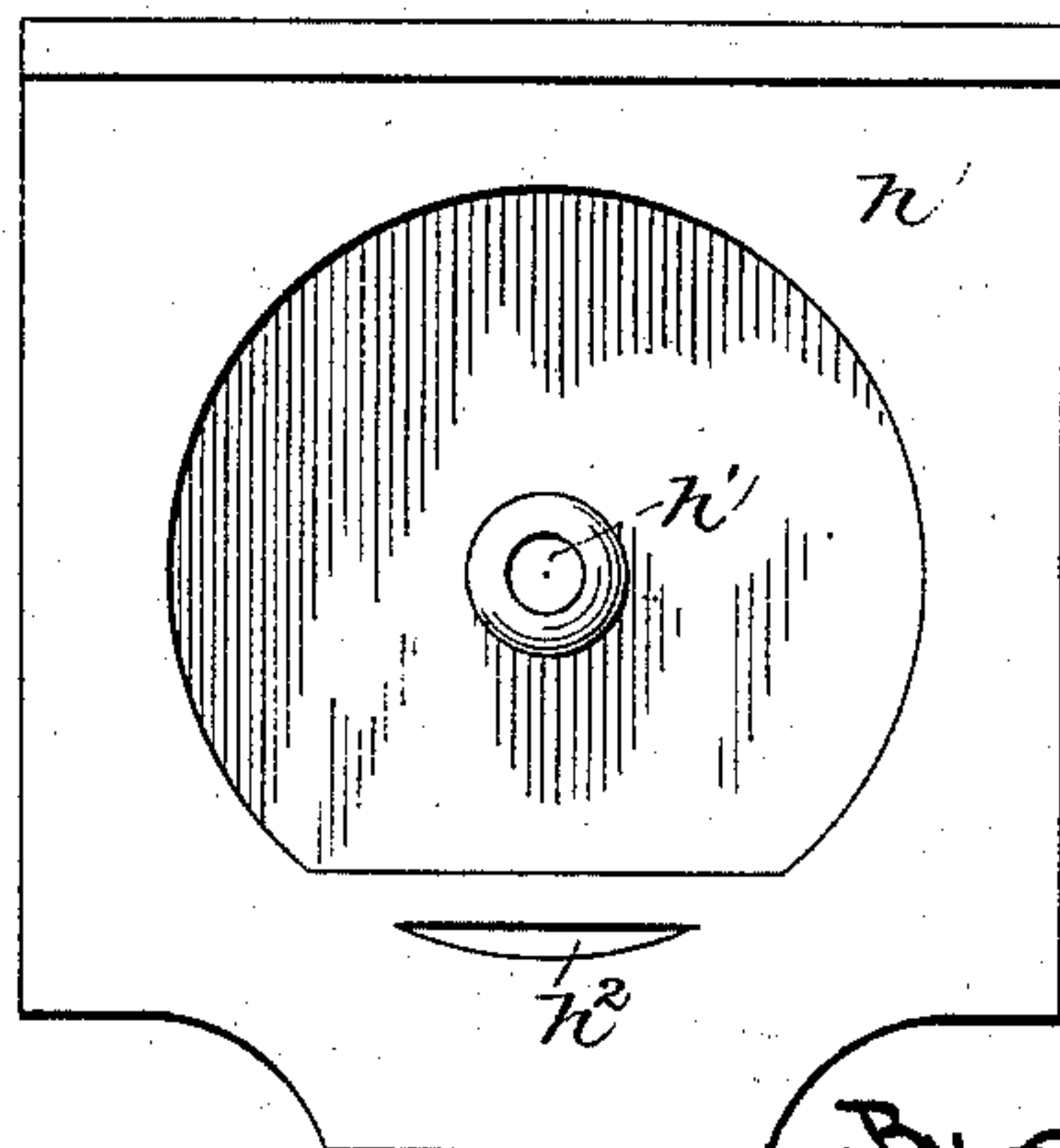


Fig. 5.



Witnesses:
C. E. Lusk
R. H. Chapman

Inventor:
Gardner E. Throop
By O. Parker & Co. Attys.

UNITED STATES PATENT OFFICE.

GARDNER E. THROOP, OF AUBURN, NEW YORK.

FLOUR-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 232,379, dated September 21, 1880.

Application filed March 4, 1880. (Model.)

To all whom it may concern:

Be it known that I, GARDNER E. THROOP, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Flour-Dressing Machines; 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in the class of machines especially designed for dressing wheat-meal, separating flour from middlings, whether ground by stones or reduced by rollers, dusting or sizing middlings, or redressing flour; and the invention consists, essentially, in the combination, with a horizontal or inclined bolting-reel and its head, of a revolving brush arranged inside of the reel or cylinder and working against the inside face of the said head, between which brush and head the material to be bolted or dressed passes, whereby it is subjected to a brushing or disintegrating process for making a more perfect separation of the flour and middlings from the bran or offal before passing to the bolting-silks.

It further consists in the combination, with a bolting-reel, of an air-filtering screen covering the tail end thereof for preventing the escape of any of the flour at that end, while permitting the exit of air, so as not to retard the action of the fan arranged inside thereof.

Referring to the drawings, Figure 1 represents a longitudinal vertical section of my improved machine. Fig. 2 represents a perspective view, with the upper part of the casing and a portion of the bolting-cloth on reel removed to show the interior construction. Figs. 3 and 4 are detail views of the metallic rings forming the head and tail of the bolt and also the brush. Fig. 5 is a view of the air-filter or screen at the discharging end of the bolt.

Similar letters of reference occurring on the several figures indicate corresponding parts.

A represents the outer casing or frame-work of the machine, provided with the usual openings for admission to the interior thereof.

B represents a gauze-covered bolting frame or cylinder, the cloth or covering of which can be of different degrees of fineness, as may be deemed expedient. Through the center of the cylinder passes an axial shaft, C, journaled in bearings *c* at the ends of the frame, and having mounted thereon a series of rings, *c'*, carrying a series of spirally or obliquely arranged fan-blades for producing air-currents through the cylinder.

The head and tail of the bolting-cylinder is provided with metallic rings D D', having annular-grooves *d* and flanges *d'*, which rest on revolving grooved wheels E E at both ends of the machine, connected by longitudinal shafts *e e*, and through the medium of which the bolting-reel is supported and revolved by frictional contact. The metallic ring D, at the head of the cylinder in the present case, is provided with a concave inner ribbed or corrugated head, F, having a central opening, through which the material passes to the interior of the cylinder; and upon the shaft C is mounted a brush, G, having a convex face working against the head F, between which head and brush the material to be dressed passes, whereby it is subjected to a brushing or disintegrating process for more thoroughly and effectually separating the adhering flour and middlings from the bran or offal before reaching the bolting-surface of the cylinder.

I do not wish to confine myself to any particular form of brush or head to brush against, it only being necessary to have the head and brush so constructed as to hold the material a sufficient length of time to accomplish the desired results, and said head may be made to revolve or remain stationary and its working-face ribbed, corrugated, or smooth, as may be deemed expedient.

It is very important to save all the flour and middlings and pass it through the bolting-surface of the cylinder, and thereby prevent any passing over the tail or end of the cylinder with the bran or offal. I arrange at the end thereof a muslin or other suitable screen, H, which, while permitting a sufficient amount of air to pass through, so as not to retard the action of the spiral fan, prevents the escape of the flour or middlings at that end. This screen is mounted on a frame, *h*, secured in the end

of the machine, and is provided with a central opening, h' , for the shaft C, and opening h^2 at its lower end for the escape of the bran or offal.

Arranged under the bolting-cylinder is a longitudinal revolving brush, I, for cleaning its meshes, and having its shaft journaled in adjustable bearings at the ends of the frame of the machine.

The ends of the frame of the machine are provided with rectangular metallic frames J J, for supporting the journal-bearings of the revolving or operating shafts of the machine, and which are connected together by gearing or pulleys and bands, as may be deemed preferable, and driven from any suitable motor-power. The machine is also provided with the usual screw-conveyer, arranged in the bottom of a trough or hopper having suitable openings for the escape of the material passing through the bolting-cylinder, and said openings may be provided with movable slides, whereby the material may be removed according to the grades of cloth used.

The brushing or disintegrating process both improves and increases the quantity and quality of the flour and middlings. The manner of attaching and operating the brush and head takes but little additional space and no extra machinery to drive them. The spiral or oblique fan-blades working inside of the cylinder produce a blast of air not only through the surrounding bolting-surface, but out of the tail end of the machine where the bran or offal leaves the machine, and by the use of the muslin screen before referred to the flour and middlings are prevented from passing out of the end of the cylinder with the air.

Further description of the operation of the

machine is deemed unnecessary, it being obvious from the foregoing, it being only necessary to state that the driving-gear of the machine is or can be so arranged as to revolve the shaft carrying the obliquely or spirally arranged fan-blades with greater speed than the dressing-cylinder, as may be deemed expedient.

Having thus described my invention, what I claim as new and useful is—

1. In a flour-dressing machine, the combination, with a horizontal or inclined revolving bolting reel or cylinder and its head D, of a revolving brush, G, arranged inside of the reel or cylinder and working against the inside face of the said head for thoroughly brushing the material before going onto the silks, substantially as specified.

2. In a flour-dressing machine, the combination, with a bolting-reel and a blast device, of the frame h , provided with the air-filtering screen H and an opening, h^2 , arranged in the tail end thereof for preventing the escape of the flour and permitting the bran or offal to escape through said opening h^2 , substantially as specified.

3. In a flour-dressing machine, the combination, with a bolting reel or cylinder, of the revolving metallic ring D, provided with a head, F, and the shaft C, provided with a brush, G, working against said head, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

GARDNER E. THROOP.

Witnesses:

JOSEPH C. ANDERSON,
S. CADY TITUS.