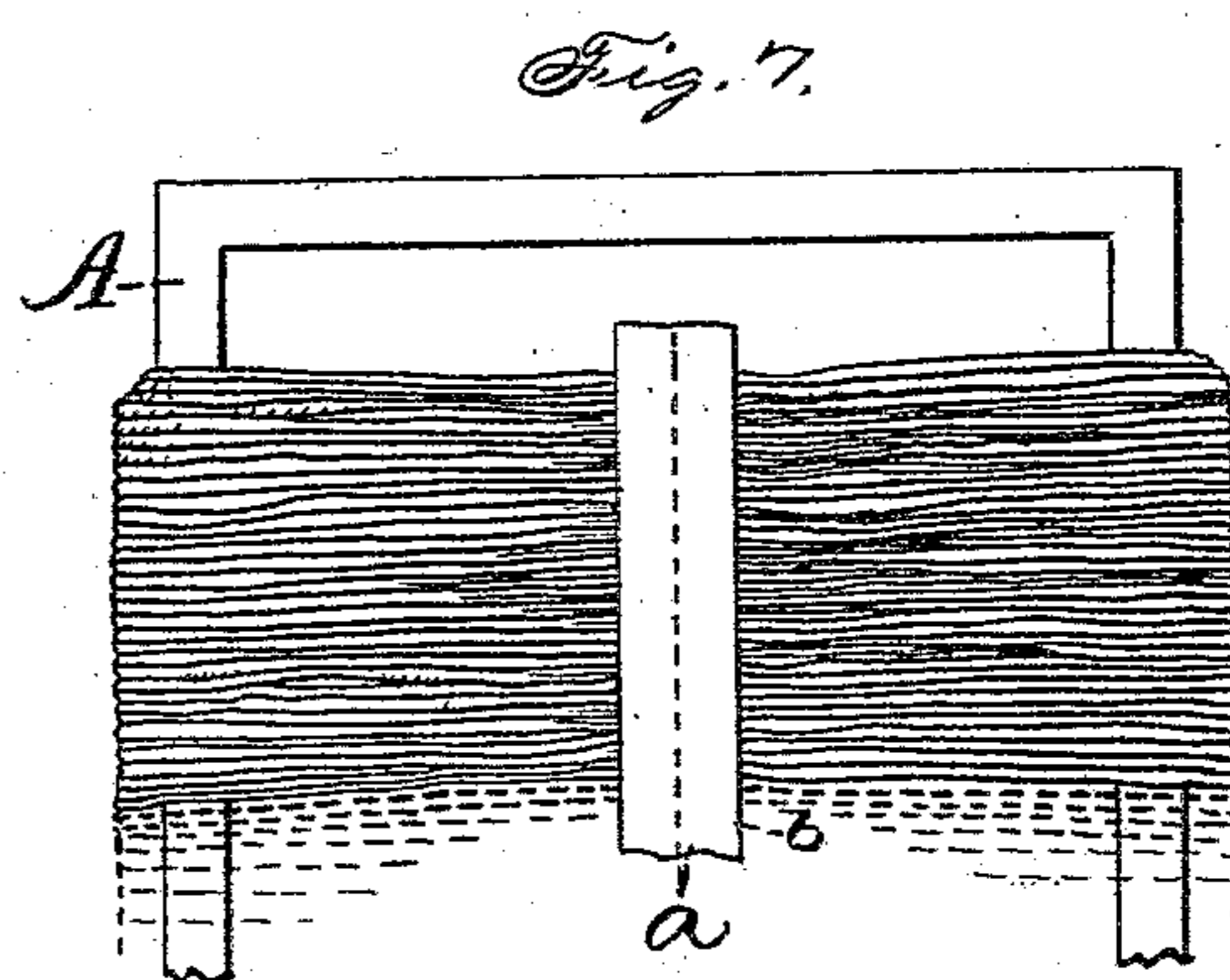
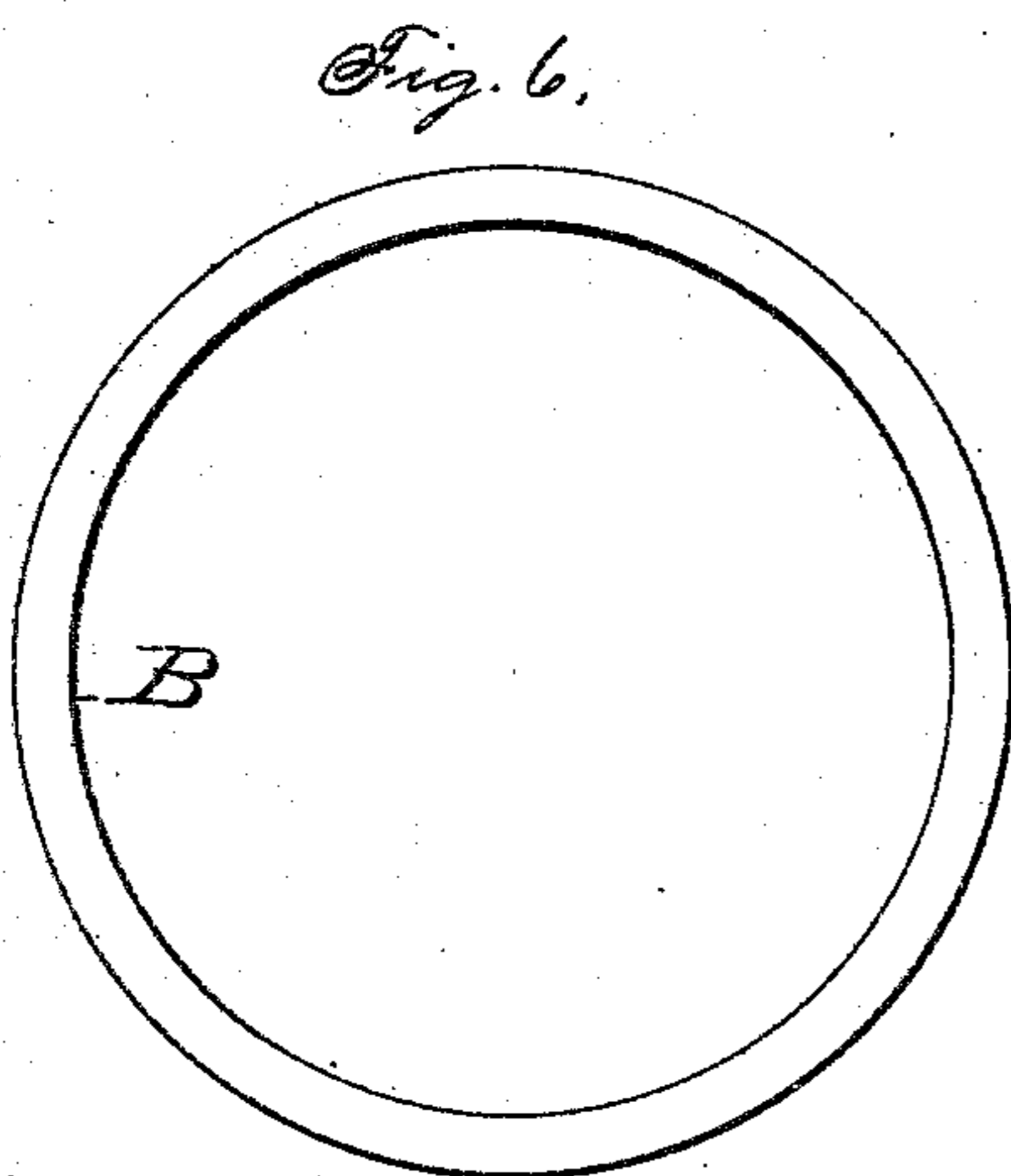
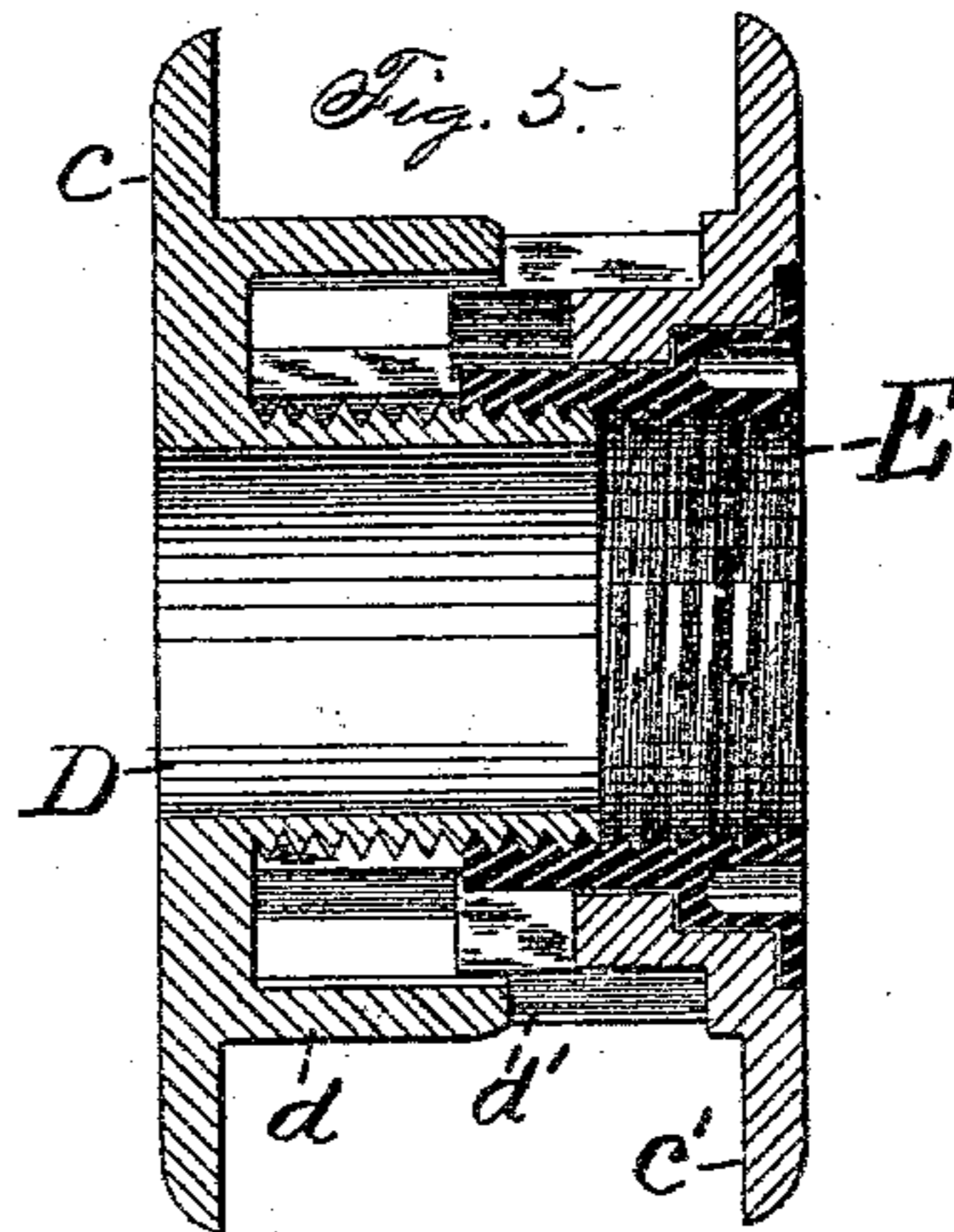
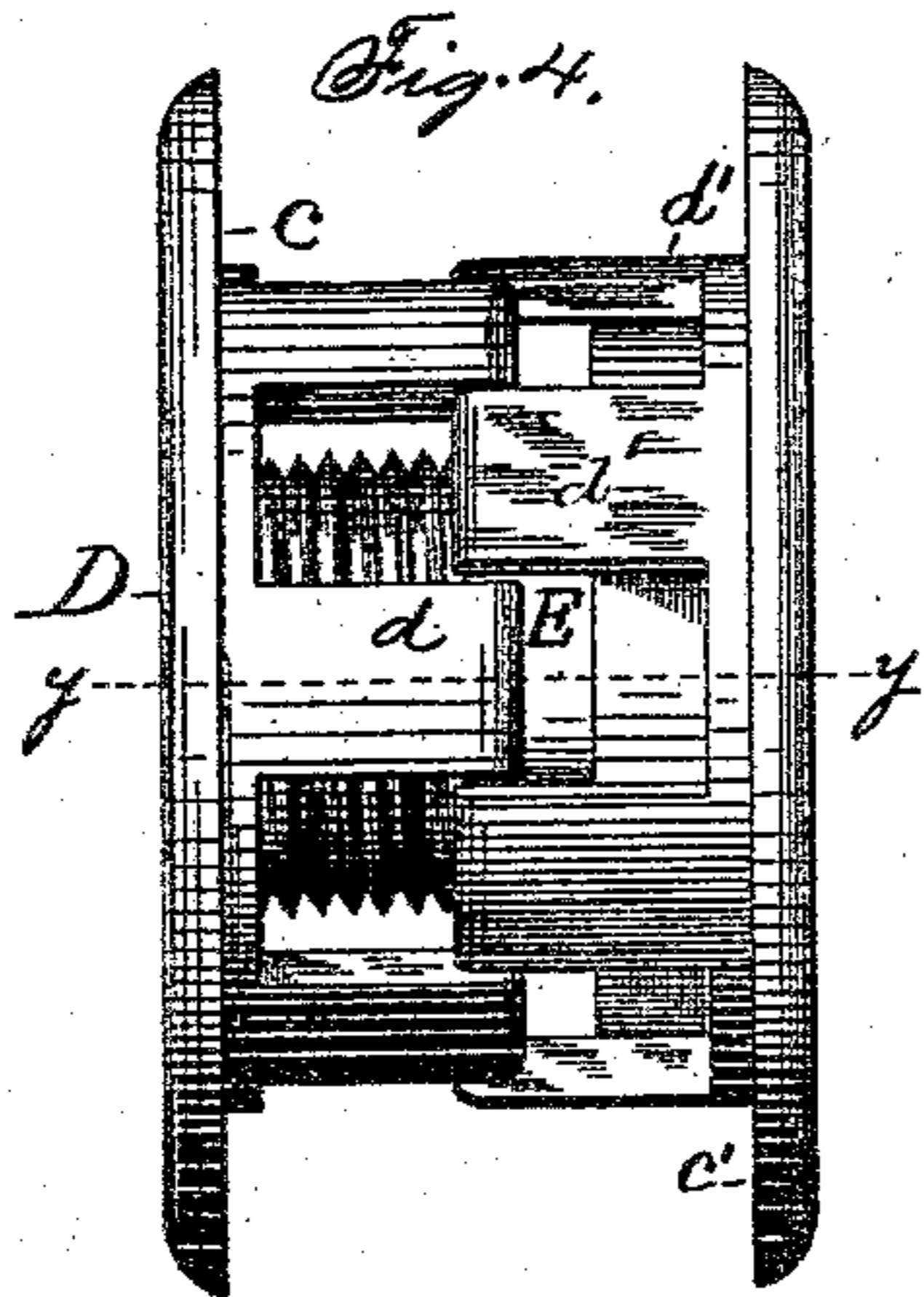
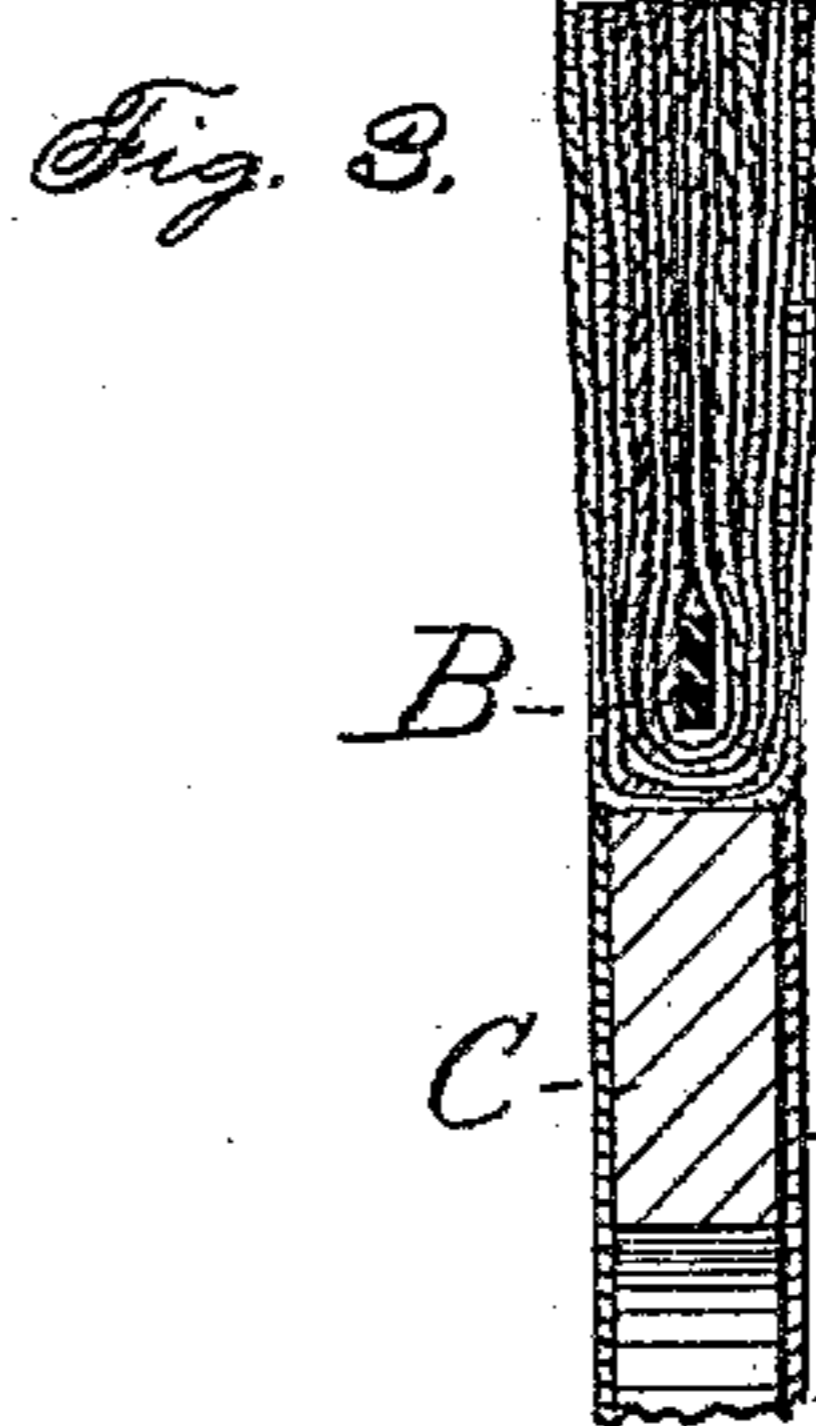
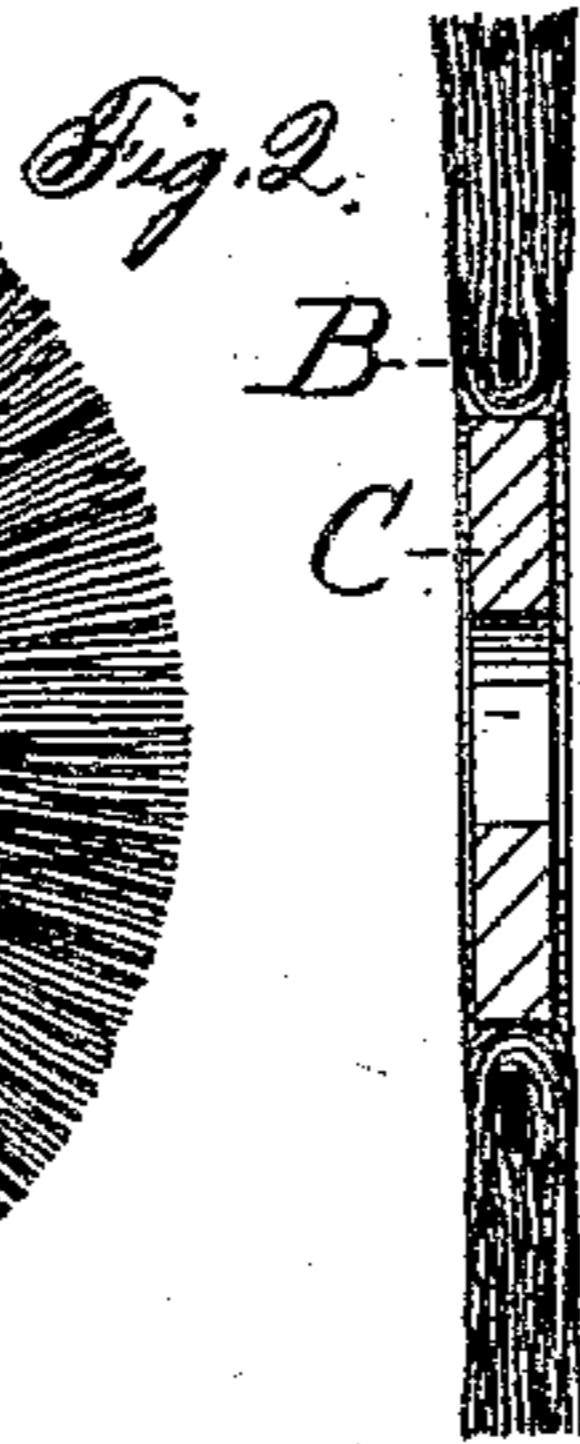
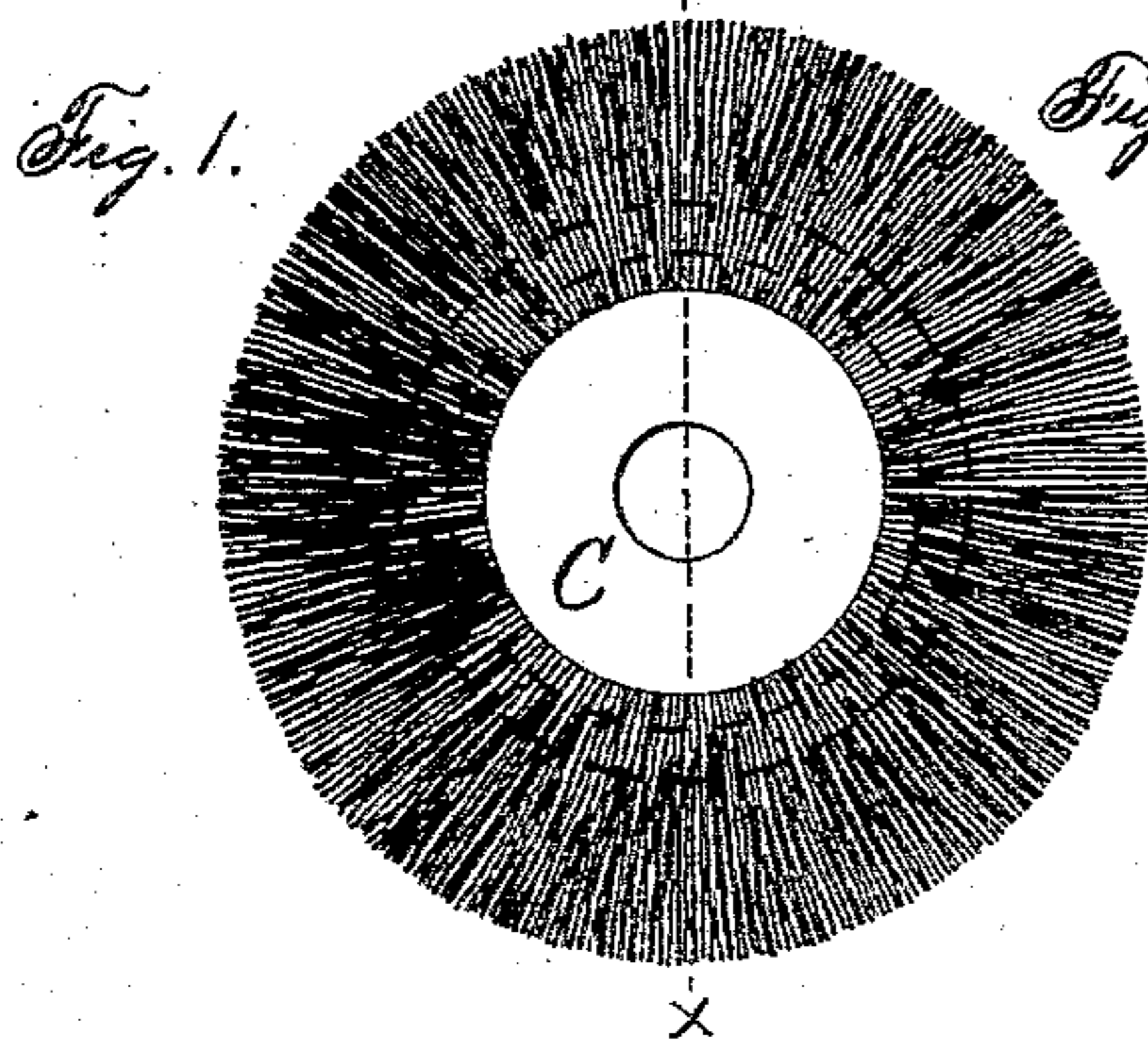


(No Model.)

R. BINNS.
BUFFING WHEEL.

No. 274,456.

Patented Mar. 27, 1883.



Witnesses.
John Edwards Jr.
Chas. B. Oakeshaw

Inventor.
Robert Binns.
By James Shepard
att'y.

UNITED STATES PATENT OFFICE.

ROBERT BINNS, OF SOUTH WINDHAM, CONNECTICUT.

BUFFING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 274,456, dated March 27, 1883.

Application filed July 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BINNS, of South Windham, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Buffing-Wheels, of which the following is a specification.

My invention relates to improvements in buffing-wheels and in the manufacture thereof, in which twine, thread, or other filament-like material is arranged in proper lengths, then temporarily secured together by stitching. Then a suitable quantity of material thus stitched is placed inside of a thin ring, the ends of the material bent toward each other over the ring, and a disk-shaped block placed inside of the material within the ring, when it is ready to be clamped between two flanges; also, in which the hub and flanges for holding the buffer are of peculiar construction; and the objects of my invention are to construct a buffing-wheel of a filament-like material in an inexpensive manner, and so that it will be durable and efficient, and so that a wheel of any desired thickness may be made up from any desired number of thin rotary brushes. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a part of my buffing-wheel, ready for application to a proper mandrel. Fig. 2 is a section of the same on line *x* of Fig. 1. Fig. 3, on a larger scale, is a sectional view of one-half the same. Fig. 4 is a side elevation of my holding-hub for buffing-wheels. Fig. 5 is a section of the same on line *y y* of Fig. 4. Fig. 6 is a side view of the holding-ring for my buffer-wheel; and Fig. 7 is a side elevation of a portion of my winding-frame with twine wound thereon and stitched, ready for removal.

The nature of the material for forming the work will vary greatly, according to the nature of the work for which the wheel is desired.

I have designated my invention as an improvement in buffing-wheels, as it is principally designed for making such wheels from thread, twine, cords, or other fibrous material; but it is evident that the same improvement may be applied to making all kinds of brush-wheels, whether of thread, twine, bristles, wire, or other filament-like material.

I first take a slotted plate or frame, A, of any suitable length, and about twice as wide as the radial length of the threads will be in the wheel when completed. I then wind said frame with twine or other material, as a portion of it is represented to be wound in Fig. 7. The frame, with the twine thus on it, is placed in a common sewing-machine, and the several lengths of twine stitched together through the middle of the frame. The broken line *a* is intended to represent the stitching, and *b* designates a strip of cloth or tape which for convenience is placed over the twine before stitching. The frame A is left open in the middle principally to allow the needle to operate in stitching the twine together. After stitching, the twine is all cut along both edges of the frame, but, by reason of the stitching, the several lengths remain together in a sort of sheet-like form. When bristles are used, or other material which is not in long lengths, like cord or twine, of course the frame and the winding of it would be dispensed with, and the bristles could be placed along in position and stitched together; but where the material is long enough to be wound the frame is a great convenience for both measuring the desired lengths to be cut off and for handling it while being stitched.

B designates a flat annular ring. It is also indicated by the broken circles in Fig. 1. A length of the sheet of stitched twine measured on the line of stitching *a*, about equal to the inner circumferential edge of the ring B, is then placed in said ring and against said circumferential edge. A little glue or cement may be applied to the threads near the middle of their length at the stitching, said point now being brought against the inside of the ring. Any suitable shaft or core is inserted inside of the ring and threads to bring the threads snugly against the inside of the ring, and the ends of said threads are bent up toward each other from opposite sides of the ring and clamped firmly under pressure until dry. The ring and threads then have the form illustrated in Figs. 1, 2, and 3. The wheel or part of wheel so produced can be made thicker or thinner, as desired, by making the sheet of stitched threads thicker or thinner.

In order to keep the threads in proper posi-

tion on the ring for transportation, I insert a wooden block, C, as shown in said figures, which block may be bored out by the user to fit any sized mandrel or hub in case the buffer
 5 is to be used on a hub not large enough to fill the space inside of the ring and threads; or the block may be removed and a metal bushing substituted therefor. The wooden block C is believed to be the most preferable core,
 10 because it is sufficiently solid for the purpose. It is cheaply made, can easily be reamed out to fit any sized mandrel, and by the use of a core which is substantially of a disk form, whether of wood or other material, I can make
 15 the ring and brush of a large diameter and readily place it upon an ordinary-sized mandrel. In all of the thin brushes having individual cores and intended for use by placing side by side with the cores in them, it is essential that
 20 the cores shall be no thicker than the thickness that the thin brush will be when compressed between flanges, and it is preferable to have them a little thinner. I intend to supply the trade with these buffers in the form
 25 illustrated in said Figs. 1, 2, and 3, and any desired number of them may be placed side by side on one mandrel to form one wheel and clamped by flanges in the ordinary manner of clamping buffing-wheels. In Figs. 4 and 5 I
 30 have shown a hub and flanges specially adapted for clamping these or other buffers of varying thicknesses.

D designates the main hub, having a central bore to fit a suitable mandrel or driving-
 35 shaft, and having also a flange, c, and an outer and inner hub, d and e, respectively, the latter being threaded on its periphery.

E designates a clamping-nut threaded to fit the hub d, and surrounding said nut is an outer hub, d', having a flange, c'. The outer hubs, 40 d d', instead of being solid, are slotted, so that the solid parts of each fit into the slots of its companion, as shown, whereby the flanges may be adjusted to and from each other to accommodate buffer-wheels of varying thick- 45 nesses and still leave a central and extensible hub to form a core or support for the wheel.

I claim as my invention—

1. The thin rotary brush for forming a part of a thicker wheel, consisting of a ring with 50 filament-like material bent over the inner circumferential edge of the ring, and a disk-shaped core or block, C, whose thickness is no greater than that of the compressed filament-like material upon said ring, substantially as 55 described, and for the purpose specified.

2. That improvement in the manufacture of buffing or brush wheels which consists in winding filament-like material over a suitable frame or plate, stitching the same together thereon, 60 cutting the material at the edges of said frame, and placing the stitched-together filament inside of a ring for confinement, substantially as described, and for the purpose specified.

3. The extensible flanged hub having the 65 parts d d' between the flanges c c', slotted and fitted into each other, substantially as described, and for the purpose specified.

ROBERT BINNS.

Witnesses:

HUBER CLARK,
 WILLIAM L. WILLIAMS.