

No. 677,257.

Patented June 25, 1901.

J. J. McDONNELL.

MECHANISM FOR THE MANUFACTURE OF BUFFER WHEELS, &c.

(Application filed Jan. 16, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

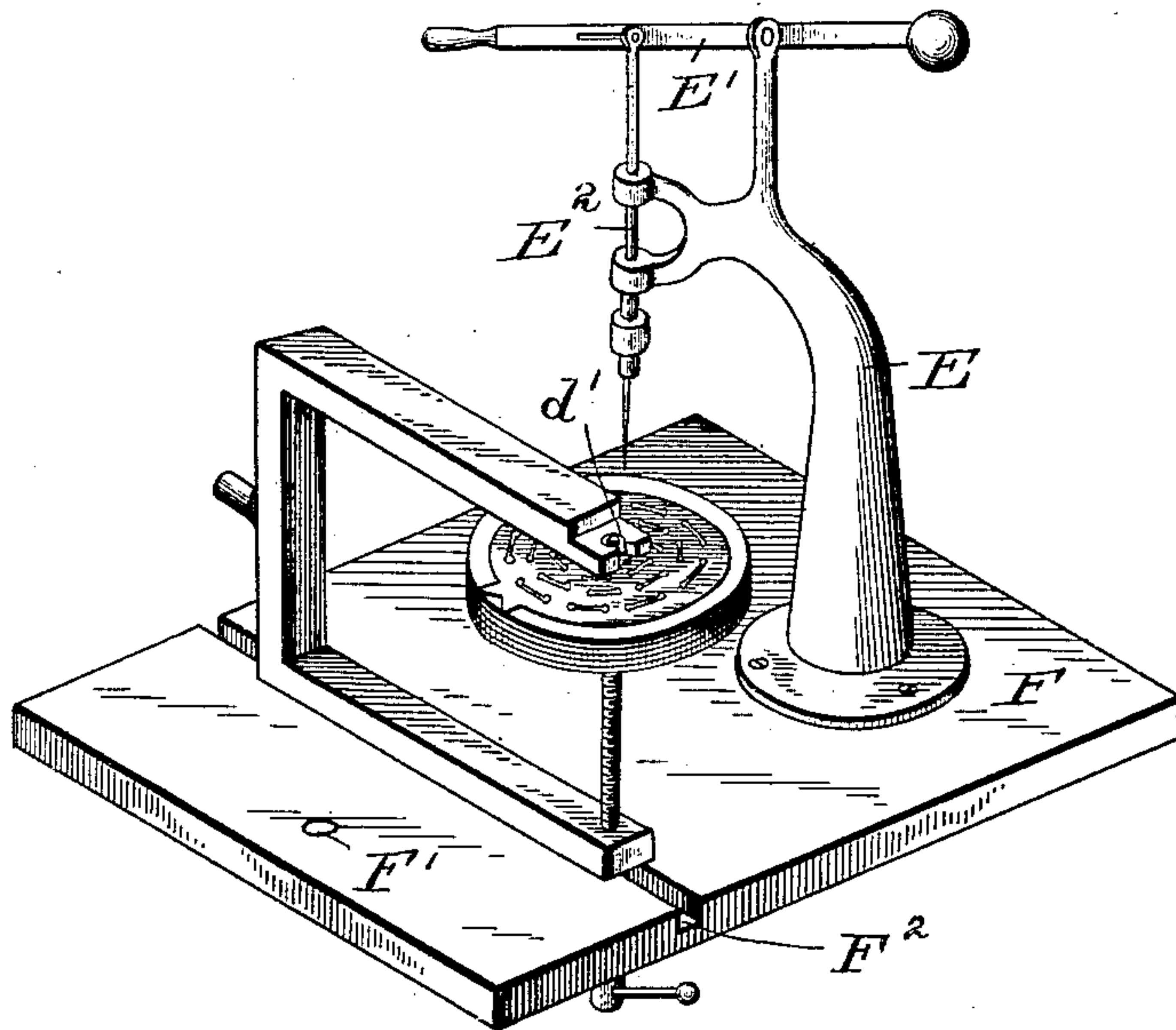


Fig. 3.

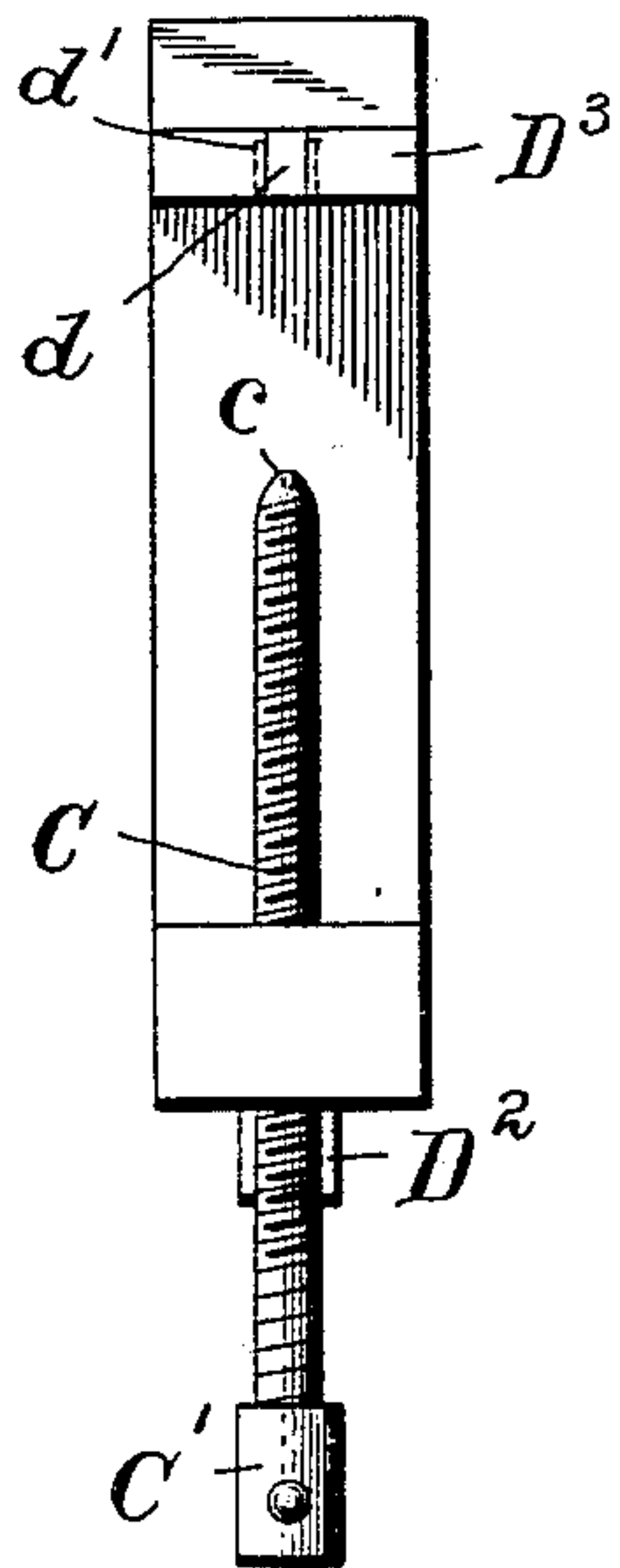
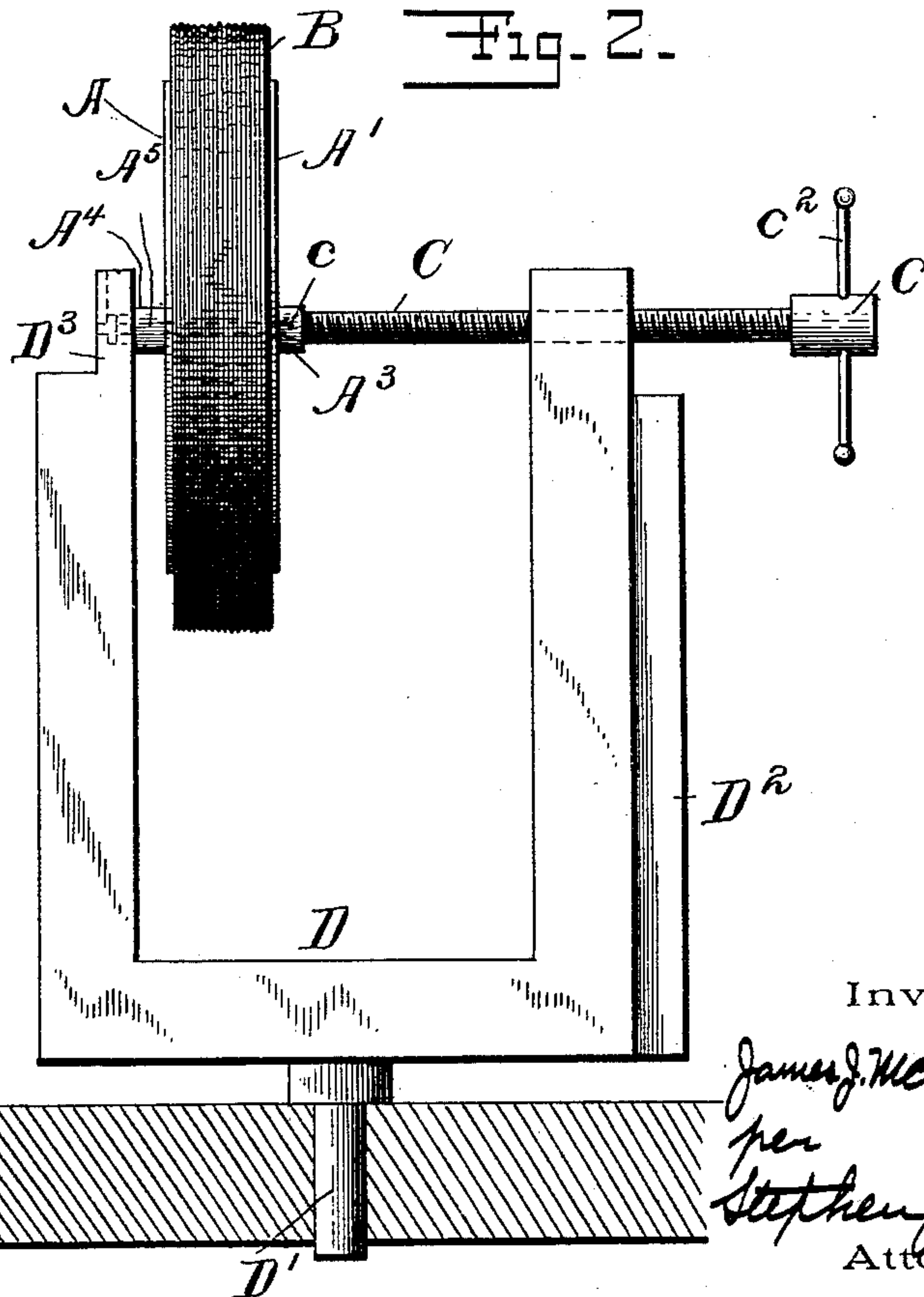


Fig. 2.



Witnesses.

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Fig. 4.

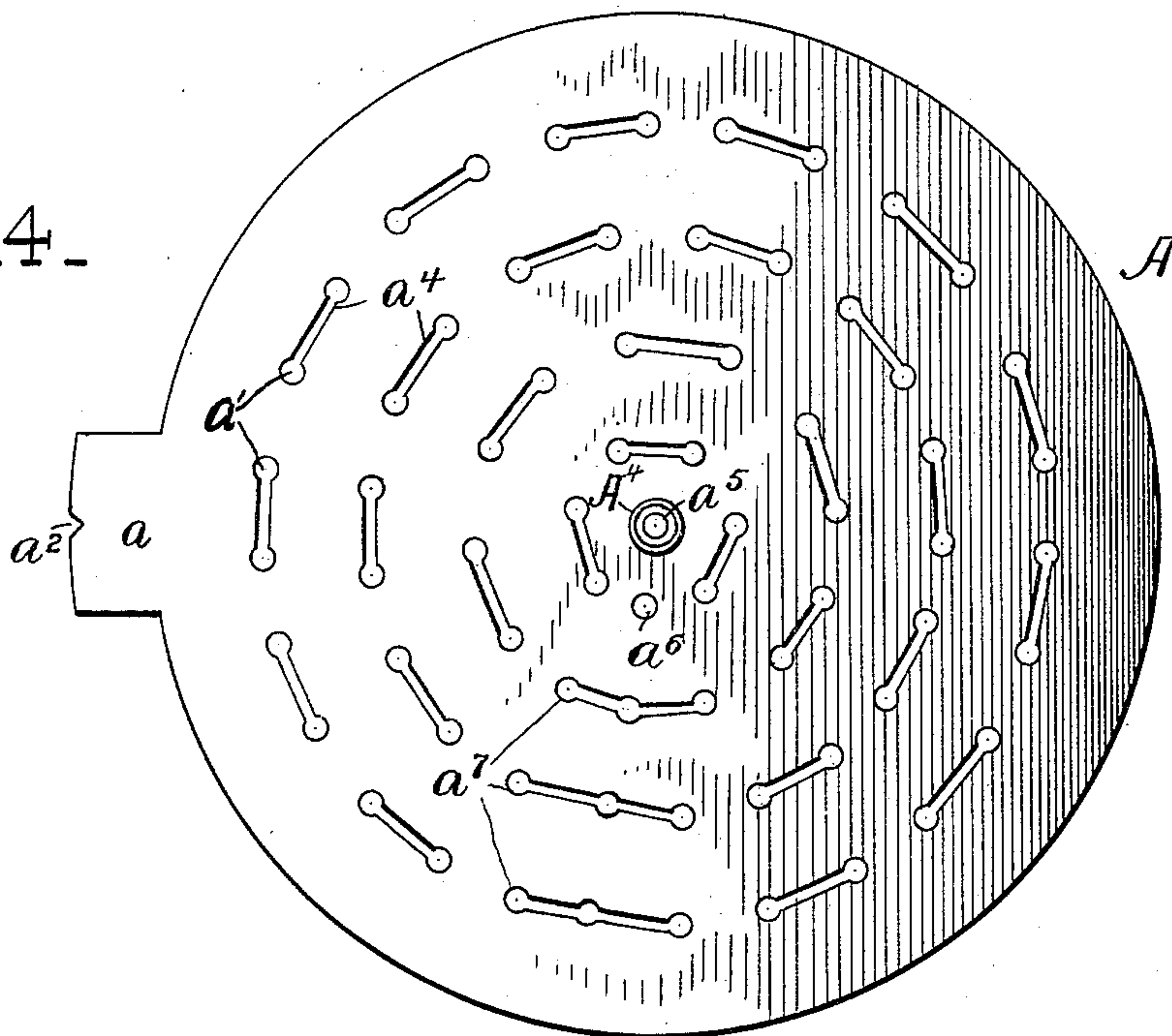
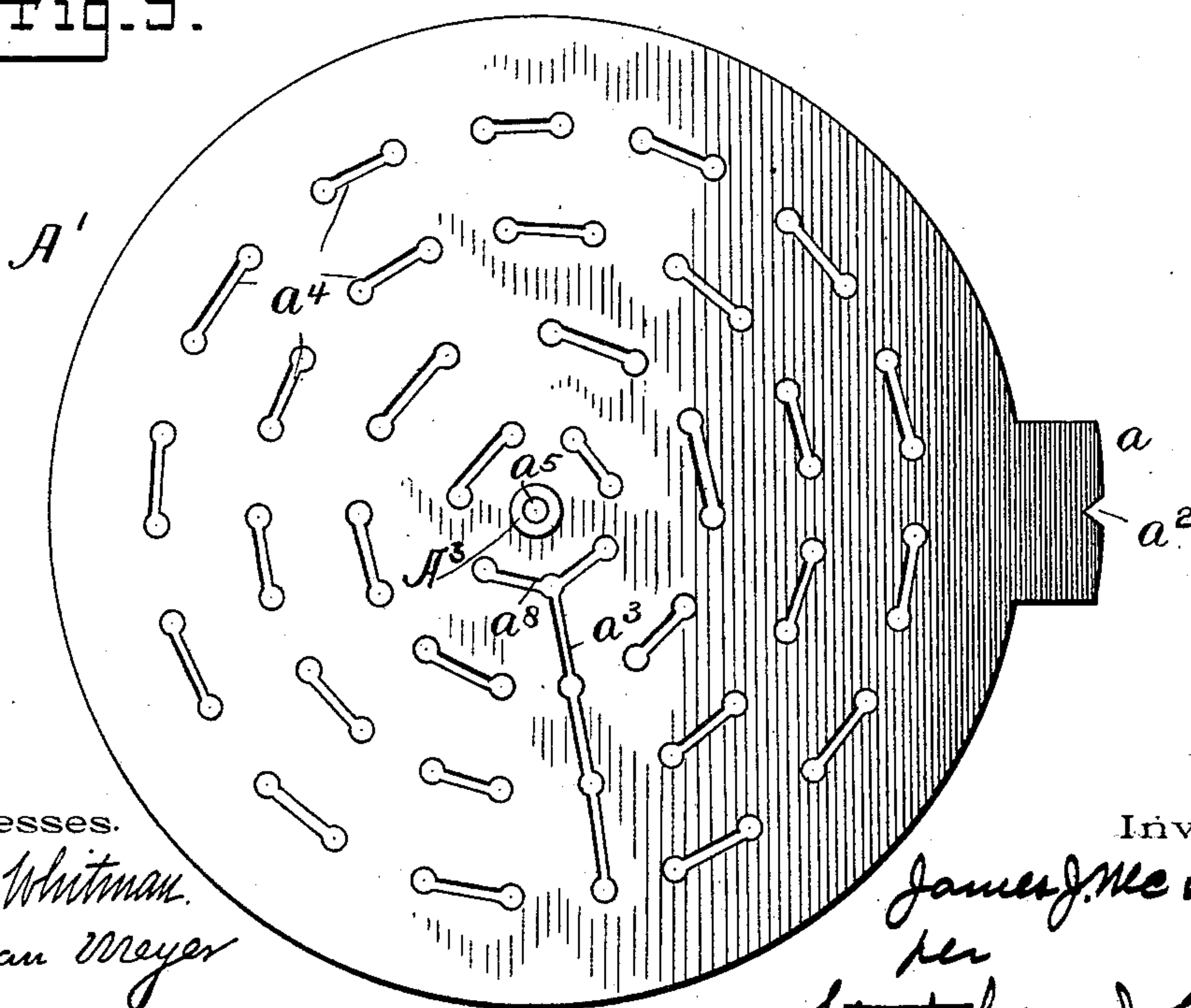


Fig. 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JAMES J. McDONNELL, OF NEW YORK, N. Y., ASSIGNOR TO DANIEL C. OLIVER, OF SAME PLACE.

## MECHANISM FOR THE MANUFACTURE OF BUFFER-WHEELS, &c.

SPECIFICATION forming part of Letters Patent No. 677,257, dated June 25, 1901.

Application filed January 16, 1900. Serial No. 1,611. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES J. McDONNELL, a citizen of the United States, residing in the city of New York, county and State of New York, have invented a certain new and useful Improvement in Mechanism for the Manufacture of Buffer-Wheels and Like Articles, of which the following is a specification.

My invention relates to devices for the sewing together of layers or thicknesses of cloth or other material for the purpose of forming the same into a wheel to be used for polishing or for other purposes; but it may be used in any case where it is desired to unite together two or more thicknesses of material. Its object is, among others, to provide means whereby the thicknesses may be firmly held together while being perforated and sewed; and to this end it consists of the combination of parts and arrangement of details hereinafter described and claimed, and illustrated in the accompanying drawings.

In the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a side view of the vise with the buffer-wheel and clamping-plates therein. Fig. 3 is a front view of the vise. Figs. 4 and 5 are plan views of the clamping-plates taken from the outer sides thereof.

The two circular disks or clamping-plates A are provided with elongated perforations or slots  $a^4$ , having enlarged ends  $a'$  arranged in concentric rings, and each disk has a lug  $a$ , provided with a notch  $a^2$  for the purpose of securing alinement when the two disks are placed together. The perforations  $a^4$  are so arranged that when the two disks are placed together their enlarged ends will be in alinement and the space between the ends of the slots at one plate opposite the slots of the other disk. Each disk is provided with a round perforation  $a^5$  at the middle. Disk A has another round perforation  $a^6$  and a radial row of double-length slots with enlargements at the middle  $a^7$ , while disk A' has a double-length slot  $a^8$ , with an enlarged portion at the middle adapted to be placed opposite the perforation  $a^6$  of the disk A, from which enlarged middle proceeds a radial slot  $a^3$ , having enlargements at each ring of perforations.

The vise D is preferably of U shape and is

provided at the end of one of its jaws with the screw-bolt C, having a head C' and cross-pin C<sup>2</sup> and a conical point  $c$ , with a hole in the point thereof, which is adapted to receive the end of a pin A<sup>5</sup>, (shown in the dotted lines on Fig. 2,) which passes through the center of the disks and the layers of cloth between them. The end of the opposite jaw D<sup>3</sup> is stepped and has a slot  $d$ , leading to a circular opening  $d'$ , which is adapted to receive the stepped lug A<sup>4</sup> at the center of the disk A. The disk A' has a lug A<sup>3</sup> at the center provided with a cup-shaped opening to receive the end  $c$  of the bolt C. One of the arms of the vise has a longitudinal extension D<sup>2</sup> and adapted to be set in the slot F<sup>2</sup> of the plate F. There is also a stepped pin D' at the back end of the vise, which is adapted to be set in the socket F' of the plate F.

The punch E is of an ordinary construction, consisting of an upright secured to the plate or table, having a cross-arm E', provided with a counterbalance at one end and a handle at the other. The awl is fixed into the lower end of the rod E<sup>2</sup>, which is connected to the arm between the handle and its point of connection to the upright.

The operation of this device is as follows: The clamping disks or plates A A' are placed upon opposite sides of the cloth or other material to be sewed together. The notches  $a^2$  of the lugs  $a$  being in line and the enlarged circular ends of the slots being opposite each other, the disks are then placed in the vise with the stepped lug on one of them set into the opening  $d'$ . The bolt C is then rotated until its end  $c$ , pressing against the lug A<sup>3</sup>, has produced sufficient pressure to clamp the plates and layers of material firmly together. The vise is then placed on a table by setting the part D<sup>2</sup> into the slot F<sup>2</sup>. The operation of perforating the layers of material is then performed by causing the awl of the punch to pass through the enlarged circular portions of the slots and through the material between the same. After one circular row of perforations has been made the vise carrying the disks is moved backward or forward for the purpose of punching another row, the disks being rotated in the vise for the purpose of perforating each ring. After



the perforations have all been made the vise is removed from the plate and set upright thereon again by the bolt or pin D', which is passed into the socket F', and while in this position it may be freely rotated during the operation of sewing. In sewing the material together the disks are not removed, but the thread is passed through one of the perforations to the opposite side and then through the perforation in the opposite end of the slot of the other disk back again. This is repeated around the outer ring of perforations, and the thread is then passed to the next ring of perforations along the slot  $a^3$ , and so on until all the rings have been sewed.

The lugs  $a$  of the disks projecting out from the periphery enable the operator to secure a perfect alinement over the edge of the material between the disks, which may project to a greater or less extent beyond them.

What I claim is—

1. In a mechanism for manufacturing buff-wheels and the like the combination of disks provided with slots adapted to be placed partially opposite upon either side of the material and means for perforating said material so that a wire cord or thread may be passed through the said material from a slot on one side to the other side, then along a slot upon the other side, and then through the material again to another slot on the first side, for the purpose of sewing the material together, through the said slots of the disks.

2. In a mechanism for manufacturing buff-wheels and the like, the combination of disks provided with slots, having enlarged ends, adapted to be placed partially opposite upon either side of the material and means for perforating said material through the said slots of the disks.

3. In a mechanism for manufacturing buff-wheels and the like, the combination of disks provided with slots adapted to be placed partially opposite upon either side of the material to be sewed, and means for perforating the said material through the said slots and

projections upon the center and outer side of said disks adapted to receive the jaws of a vise, whereby the said disks and the material between the same, are rotatably held together.

4. In a mechanism for manufacturing buff-wheels and the like, the combination of disks provided with slots, and trunnions on their outer sides, said disks adapted to be placed upon either side of the material to be sewed, and a vise with jaws adapted to fit the said trunnions and a projection upon one side of said vise, adapted to fit into a slot, whereby the said vise is movably held in a horizontal position.

5. In a mechanism for manufacturing buff-wheels and the like, the combination of disks provided with slots, and trunnions on their outer sides, said disks adapted to be placed upon either side of the material to be sewed, and a vise with jaws adapted to fit the said trunnions and a projection upon one side of said vise adapted to fit into a slot, whereby the said vise is movably held in a horizontal position and another projection upon said vise adapted to fit into a hole or socket, whereby the said vise is rotatably held in an upright position.

6. In a mechanism for manufacturing buff-wheels and the like, plates adapted to be placed on either side of the material of which the buff is to be made, said plates being provided with annular slots and with radial slots connecting the said annular slots.

7. In a mechanism for manufacturing buff-wheels and the like, the combination of plates adapted to be placed upon either side of the material and slots on said plates so arranged that when the said plates are in position, each slot on one side is partially opposite a plurality of slots on the opposite side.

Signed at the city of New York this 30th day of December, 1899.

JAMES J. McDONNELL.

Witnesses:

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M. K. WHITMAN.