

No. 657,733.

Patented Sept. 11, 1900.

J. W. GRAVES.
ROLLER FOR ROLLER GINS.
(Application filed Jan. 24, 1900.)

(No Model.)

Fig. 1

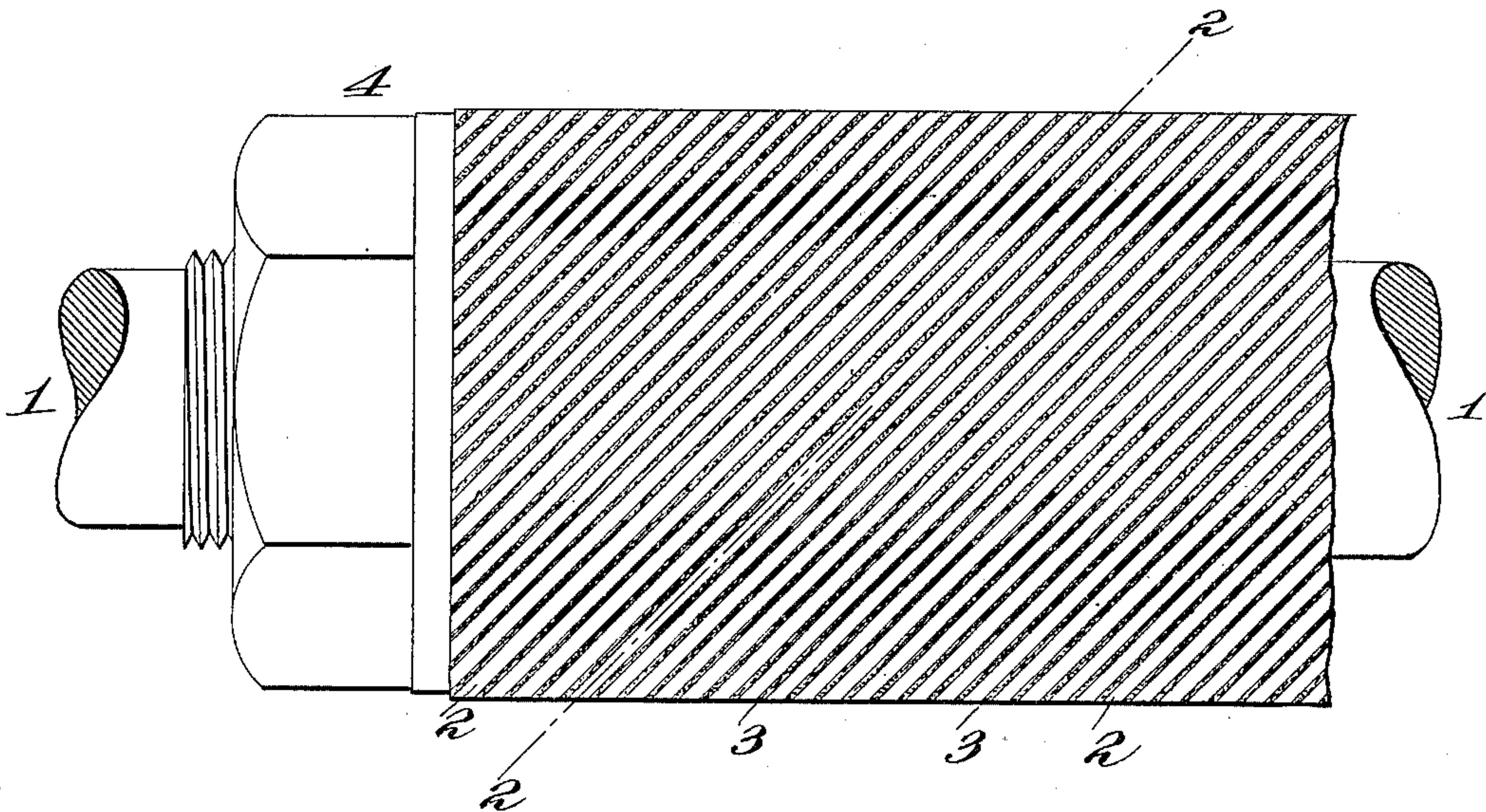


Fig. 2

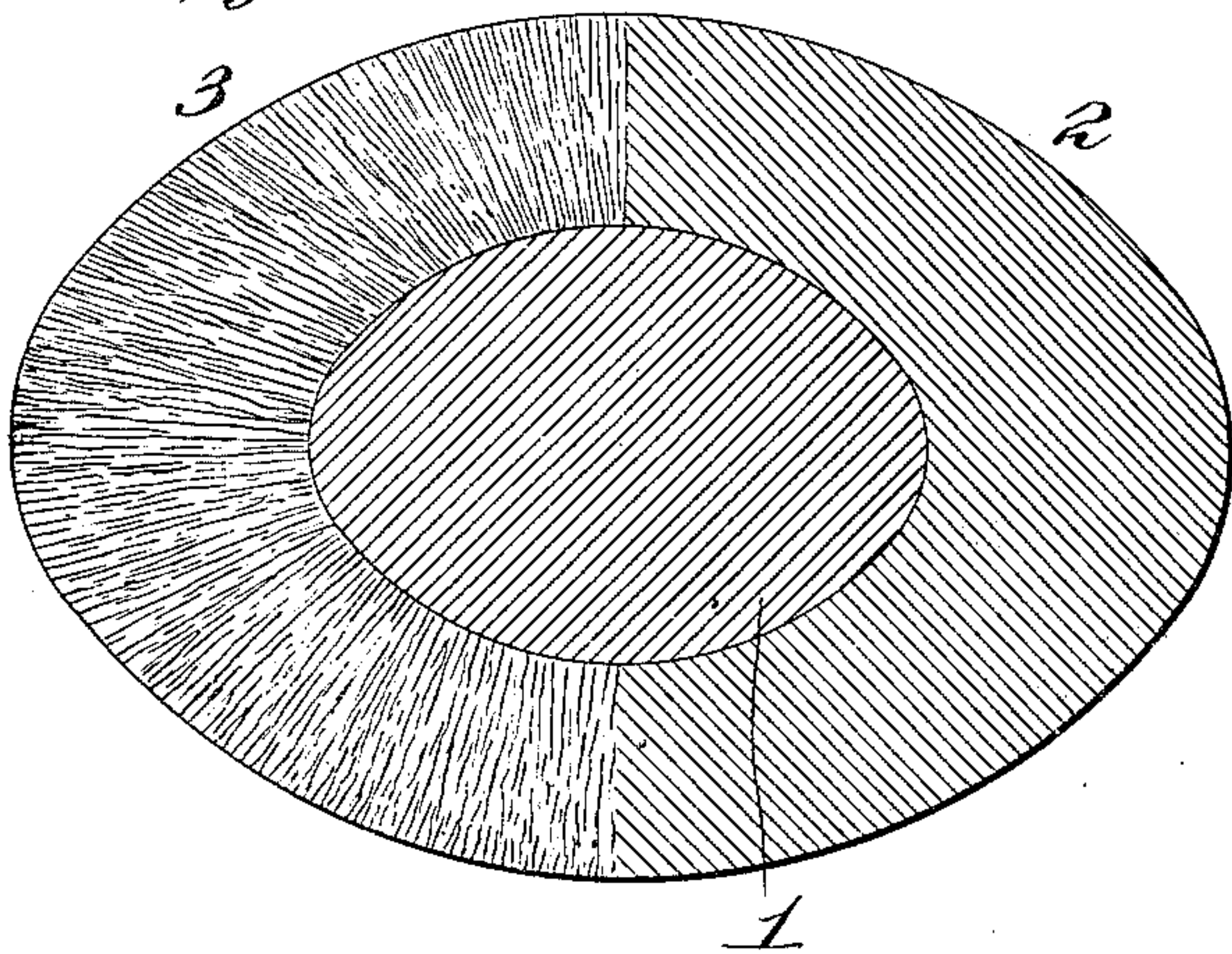
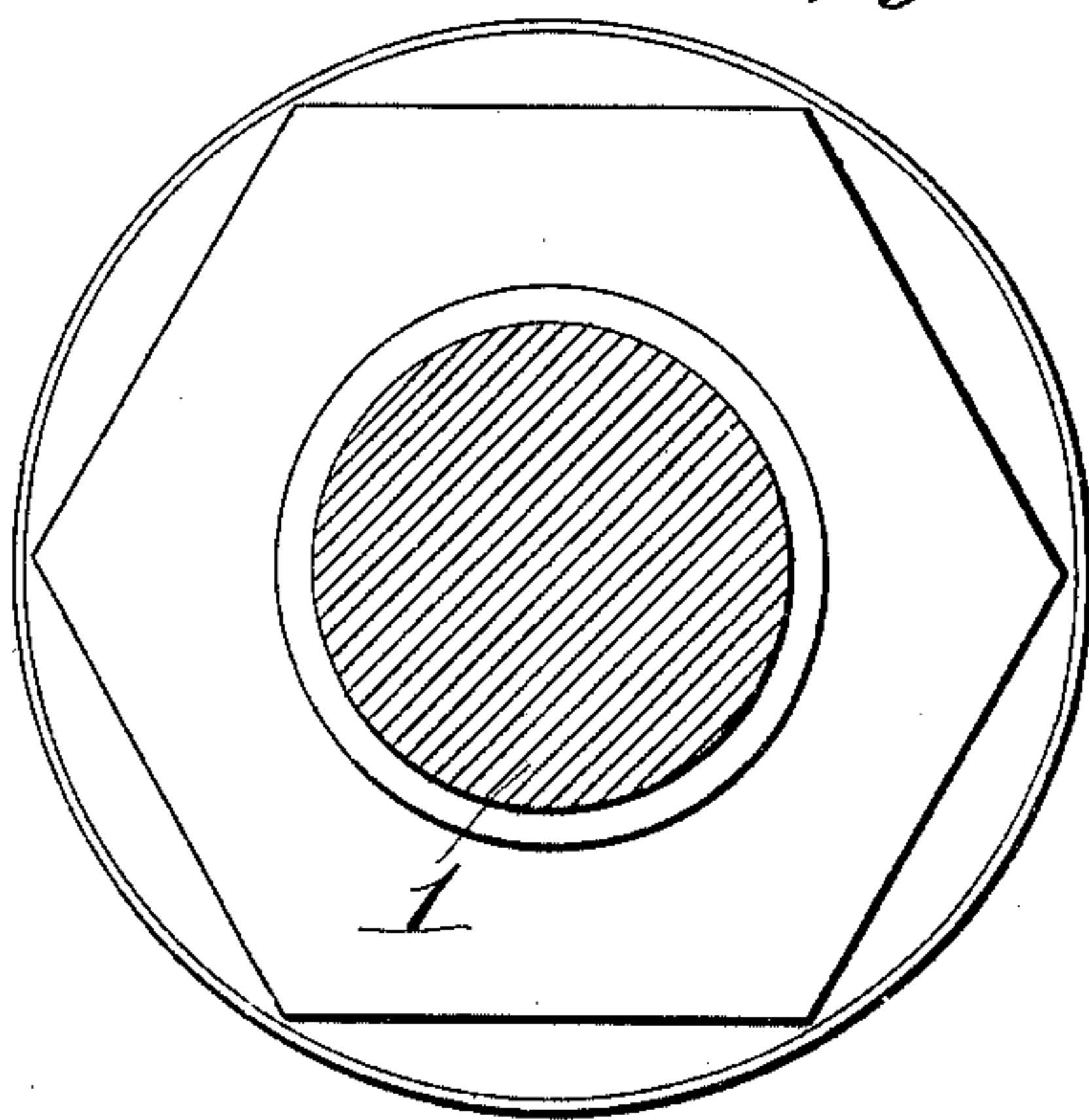


Fig. 3



Witnesses:

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Att'ys.

UNITED STATES PATENT OFFICE.

JOHN W. GRAVES, OF COVINGTON, TENNESSEE.

ROLLER FOR ROLLER-GINS.

SPECIFICATION forming part of Letters Patent No. 657,733, dated September 11, 1900.

Application filed January 24, 1900. Serial No. 2,573. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. GRAVES, a citizen of the United States, residing at Covington, in the county of Tipton and State of Tennessee, have invented a certain new and useful Improvement in Rollers for Roller-Gins, of which the following is a specification.

My invention relates to various new and useful improvements in rollers for roller-gins; and the invention is particularly adapted for use in connection with the roller-gins of the type described in my Patent No. 633,994, dated October 3, 1899, in which a plurality of rotating ginning-rollers are carried in a rotating frame, so as to successively engage with a perforated apron, seed-cotton being fed to the opposite side of said apron and the lint therefrom being blown through the interstices of the apron by air-blasts, so as to be separated from the seeds by the action of the ginning-rollers. My improved roller is particularly adapted for use with roller-gins of this type, because the wear between the rollers and the perforated apron will not tend to smooth or polish the surface of the roller and reduce its ginning capacity. When my improved roller is employed in connection with a roller-gin of this type, it retains unimpaired its desirable roughened periphery until the ginning-surface thereof may be entirely worn out. This characteristic of my improved roller fits it particularly for the specific use mentioned; but it will be understood, of course, that it may be employed in connection with any other variety of roller-gin, with the resulting advantages of rapidity of operation and of great durability.

Broadly considered, my improved roller for roller-gins comprises a suitable supporting or carrying core having a ginning-surface which is formed in whole or in part of multitudinous projecting ginning-teeth arranged at an angle to the periphery of the roll. Preferably the ginning-surface is formed entirely or in part of bristles, such as horsehair, which are arranged in the manner stated. In the construction of the improved roller, assuming bristles to be used for the purpose, they are preferably secured tightly in place within confined areas between adjacent layers of a suitable flexible material, preferably leather. While the ginning surface or surfaces of the

improved roller may be arranged in any way so as to occupy planes at an angle to the periphery of the roller, I prefer to employ alternate elliptical disks of leather and of a suitable ginning material, such as horsehair, which are secured in place upon a cylindrical support by any suitable clamping devices.

In order that the invention may be better understood, attention is directed to the accompanying drawings, forming a part of this specification, and where, as a convenient embodiment of my present invention, I illustrate a ginning-roller composed of alternate elliptical disks of horsehair and leather secured upon a cylindrical shaft.

Figure 1 is a plan view; Fig. 2, a section on the line 2 2, and Fig. 3 an end view.

In all of the above views corresponding parts are represented by the same numerals of reference.

1 represents a cylindrical core or shaft carrying alternate elliptical disks 2 and 3, of leather and of horsehair, respectively, the latter being the preferred ginning-surface. By utilizing elliptical disks of these materials they will occupy an inclined plane on the shaft, as shown. At the extreme ends of the roll it will be observed that the disks of leather and of horsehair will not be continuous, but will present the form of partial disks. The horsehair material may be cut out of sheets or may be formed in strips wound into disk form. The disks may be held in place on the core 1 in any suitable way—as, for example, by means of a clamping-nut 4, which clamps all of the disks in place against a corresponding nut at the other end. When my improved ginning-roller is employed with a gin of the type described, the chafing of the leather disks against the edges of the slots in the screen causes the leather or other material, if used, to be maintained always in a roughened condition, so that the ginning capacity of the roller will be in no way impaired. As the roller becomes worn in use the bristles or other ginning-points projecting radially from the surface of the roller become merely shortened, but their effectiveness is not lessened.

By arranging the ginning-surface of a ginning-roller in such a way that it presents ridges or areas which extend at an angle to

the plane of rotation I am enabled to effect a ginning operation throughout the entire extent of the roller without the necessity of making the entire surface of the roller of the
5 ginning material.

While I prefer to use horsehair for the ginning-surface in my improved roller, it will be understood that any other material presenting multitudinous points for engagement
10 and entanglement with the fibers may be employed as a substitute therefor, and while it is desirable to use leather surfaces alternating with such bristle-like material other materials can be used instead of leather, or
15 such materials may be dispensed with.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. As a new article of manufacture, an improved roller for roller-gins, comprising a
20 core or shaft, and elliptical disks of material presenting innumerable points carried by said core or shaft at an angle to the plane of rotation thereof, substantially as set forth.

25 2. As a new article of manufacture, an improved roller for roller-gins, comprising a core or shaft, elliptical disks of material presenting innumerable points carried by said core or shaft at an angle to the plane of rotation thereof, and elliptical disks of a flexible material carried by said core or shaft in
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alternation with the disks of bristle-like material, substantially as set forth.

3. As a new article of manufacture, an improved roller for roller-gins, comprising a
35 core or shaft, and elliptical disks of horsehair carried by said core or shaft at an angle to the plane of rotation thereof, substantially as set forth.

4. As a new article of manufacture, an improved roller for roller-gins, comprising a
40 core or shaft, elliptical disks of horsehair carried by said core or shaft at an angle to the plane of rotation thereof, and elliptical disks of fibrous material carried by said core or
45 shaft in alternation with the horsehair disks, substantially as set forth.

5. As a new article of manufacture, an improved roller for roller-gins, comprising a
50 core or shaft, elliptical disks of horsehair carried by said core or shaft at an angle to the plane of rotation thereof, and elliptical disks of leather carried by said core or shaft in alternation with the horsehair disks, substantially as set forth.
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This specification signed and witnessed this 11th day of January, 1900.

JOHN W. GRAVES.

Witnesses:

FRANK L. DYER,
JNO. R. TAYLOR.