

(No Model.)

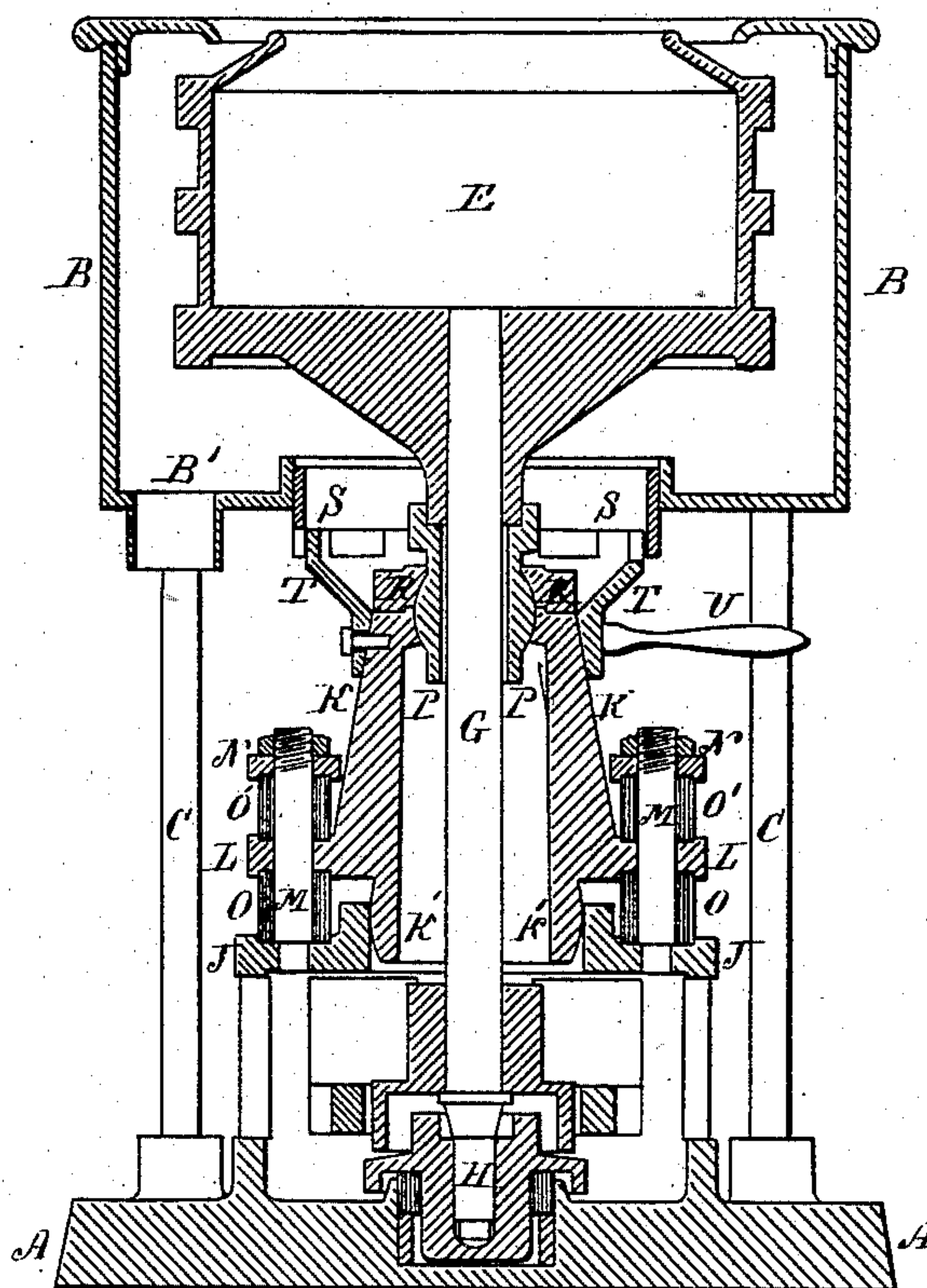
2 Sheets—Sheet 1.

T. H. MÜLLER.
Centrifugal Machine.

No. 240,839.

Patented May 3, 1881.

Fig. 1



Witnesses

Amos R. Curtis
Wilmot Horton

Inventor

Teile H. Müller
by Theo. G. Bell, atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2

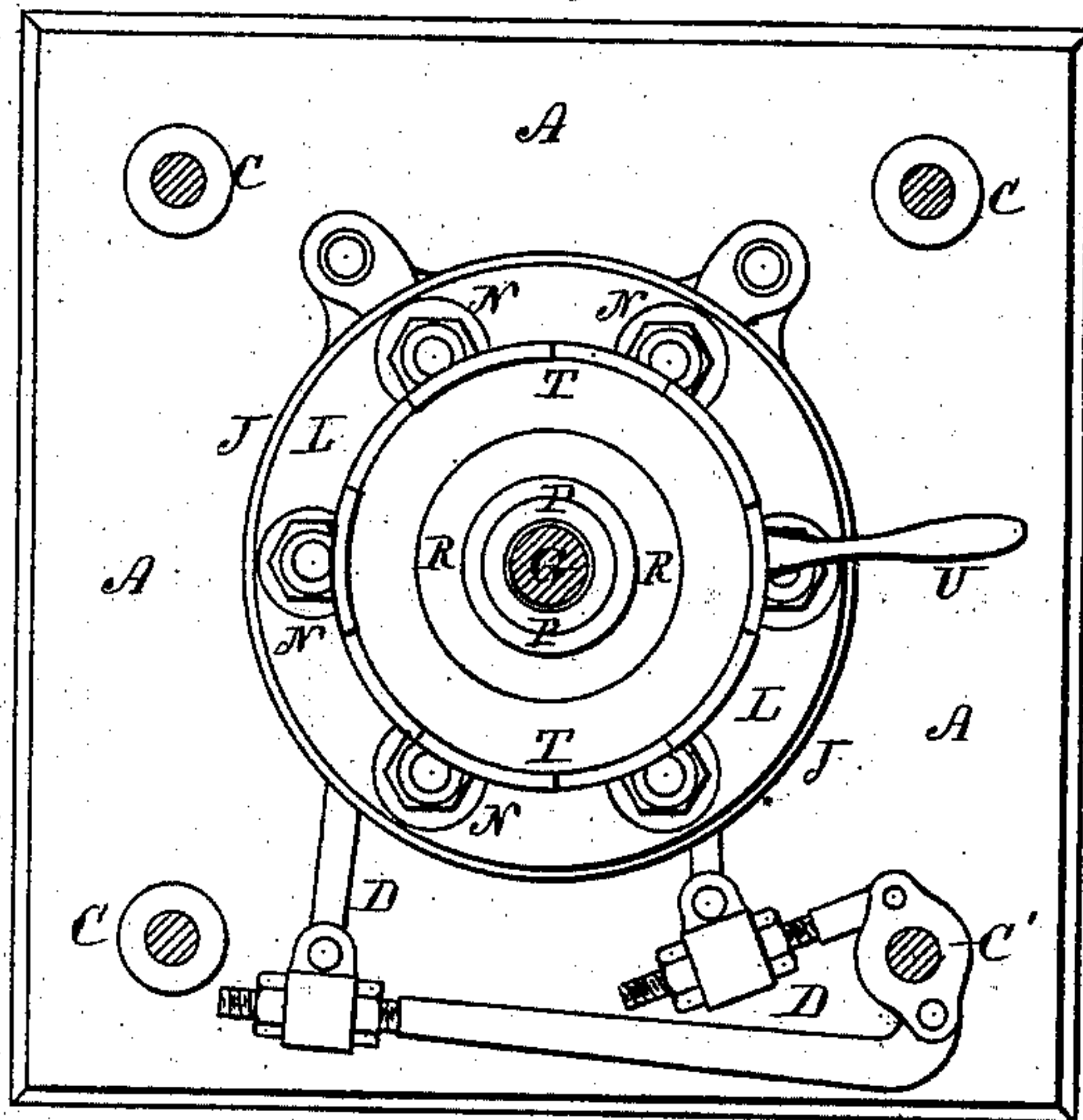
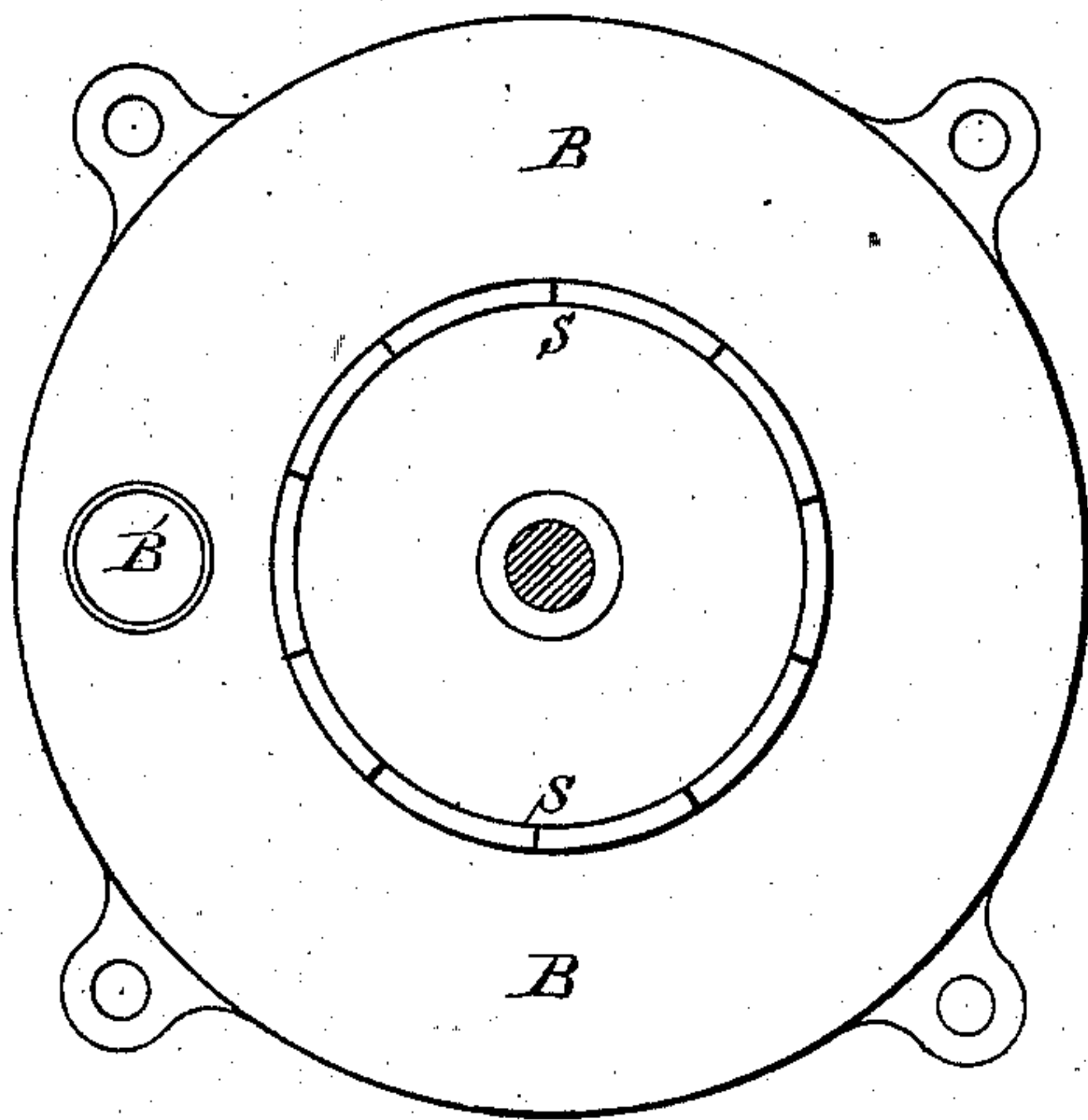


Fig. 3



Witnesses

Samuel R. Curtis
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T. H. Müller
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UNITED STATES PATENT OFFICE.

TEILE H. MÜLLER, OF NEW YORK, ASSIGNOR TO SAMUEL S. HEPWORTH,
OF YONKERS, AND JOSEPH COLWELL, OF NEW YORK, N. Y.

CENTRIFUGAL MACHINE.

SPECIFICATION forming part of Letters Patent No. 240,839, dated May 3, 1881.

Application filed December 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, TEILE H. MÜLLER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Centrifugal Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to centrifugal machines, such as are used for the draining of sugar and the separation of liquid or moisture from a variety of substances, and more particularly to that class of machines having elastic bearing for the spindle of the revolving basket.

The object of my invention is to provide a better elastic bearing than has heretofore been in use, and also to furnish a more efficient device for locking the position of the spindle, so that the elastic connections cannot operate when it is desired to hold the basket in a fixed position while revolving.

In the accompanying drawings on two sheets illustrating my invention, Figure 1 shows a vertical section through the basket and its supports. Fig. 2 is a top view, with the basket and curb removed. Fig. 3 is a view of the under side of the curb removed from the machine.

A is the base of the machine.

B is the fixed curb which surrounds the revolving basket, and contains the sirup-gutter B', from which the liquid is discharged by means of a spout, in the usual manner.

C C C are columns extending from the base to support the curb. There are preferably three of these arranged on three angles of a square, the fourth angle being occupied by the vertical rod C', which extends upward through suitable bearings, and is furnished with a lever at its top, above the basket, for operating the brake D.

E is the revolving basket, which is firmly attached to the spindle G. This basket, as well as the curb, may be of any ordinary construction.

H is the foot-step of the spindle, which is fitted to the base with an elastic or flexible joint, so as to permit the spindle to vary slightly from its vertical position.

J is a plate forming part of the fixed base of the machine.

K is a movable sleeve surrounding the spindle, which is provided with a flexible ball-bearing, with a cylindrical central opening in the plate J. This is shown at K in Fig. 1.

M M, &c., are bolts firmly fixed in the base-plate J, and extending upward through the flange L, which move freely upon them.

O O' are rubber springs placed between the flange L and the base-plate J, and between the flange L and the caps N upon the top of the bolts M. These rubber springs can be given any desired amount of compression by means of nuts above the caps N on the bolts M. The bottom of the sleeve K being held from movement in a horizontal direction by the flexible ball-joint K', the springs O O', acting upon the flange L, tend to hold the top of the sleeve in its position and to restore it if deflected from its equilibrium.

P is the upper bearing in which the spindle G revolves. It is fitted into the top of the sleeve K with a ball-and-socket joint, R, as shown in Fig. 1. Whenever the spindle is deflected or moved laterally out of its central position, the sleeve K turns upon the joint K', which causes a vertical movement of opposite edges of the flange L and compression of the springs O O', which tends to restore the equilibrium.

It will be observed that the number of springs around the circumference of the flange L is not essential. There may be three or more, or the spring may be made continuous without affecting the nature of my invention. The exact position or inclination of the springs is also not material, so long as they operate in a proper direction to prevent the oscillation of the sleeve K.

For substances which part with their liquid reluctantly, it is sometimes necessary to run the basket in fixed bearings until the material is so far drained as not to be liable to shift inside of the basket or change its position rela-

tive thereto. For this purpose I use the hereinafter-described locking device.

5 S is a notched ring attached to the inside of the curb, as shown in Figs. 1 and 3. The projections occupy somewhat less than one-half the circumference.

10 T is a similar notched ring attached to or forming a part of a movable collar upon the top of the sleeve K. The ring T is of smaller diameter than S, with projections likewise occupying somewhat less than one-half its circumference. The collar can be turned by means of the lever U so that these projections will be opposite the projections upon the ring S, or
15 so as to come opposite the openings. In the former case the sleeve K will be locked in position, and in the latter the projections in each ring will meet with no obstruction to passing through the openings and the sleeve can move
20 freely. The collar is provided with a set-screw, which moves in a slot, so as to stop it in either of the above-named positions.

25 In the drawings the notched ring S is shown as fixed to the curb, but it can be attached to any other convenient part of the frame of the machine, and the movable ring attached to a corresponding part of the sleeve K. For instance, one of the notched rings can be at-

tached to the base-plate J and the other to the flange L, meeting at their edges. This will serve the same purpose, as has been described. 30

What I claim as my invention is—

1. The combination of the oscillating sleeve K, having the joint K' in the fixed frame of the machine, and the flange L, with the bearing P, of the spindle, and the springs O O', substantially as described. 35

2. The combination of the fixed base-plate J, the oscillating sleeve K, the ball and socket R, and the springs O O', to form an elastic or flexible pedestal in a centrifugal machine, substantially as described. 40

3. The flexible sleeve K, provided with the ball-joint K' at the bottom, and suitable springs to maintain its equilibrium, to serve as an elastic support for the upper bearing of the spindle of a centrifugal machine, substantially as described. 45

4. The notched rings S and T, operating as described, in combination with the oscillating sleeve K and the fixed frame of the machine, substantially as described. 50

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Witnesses:

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