

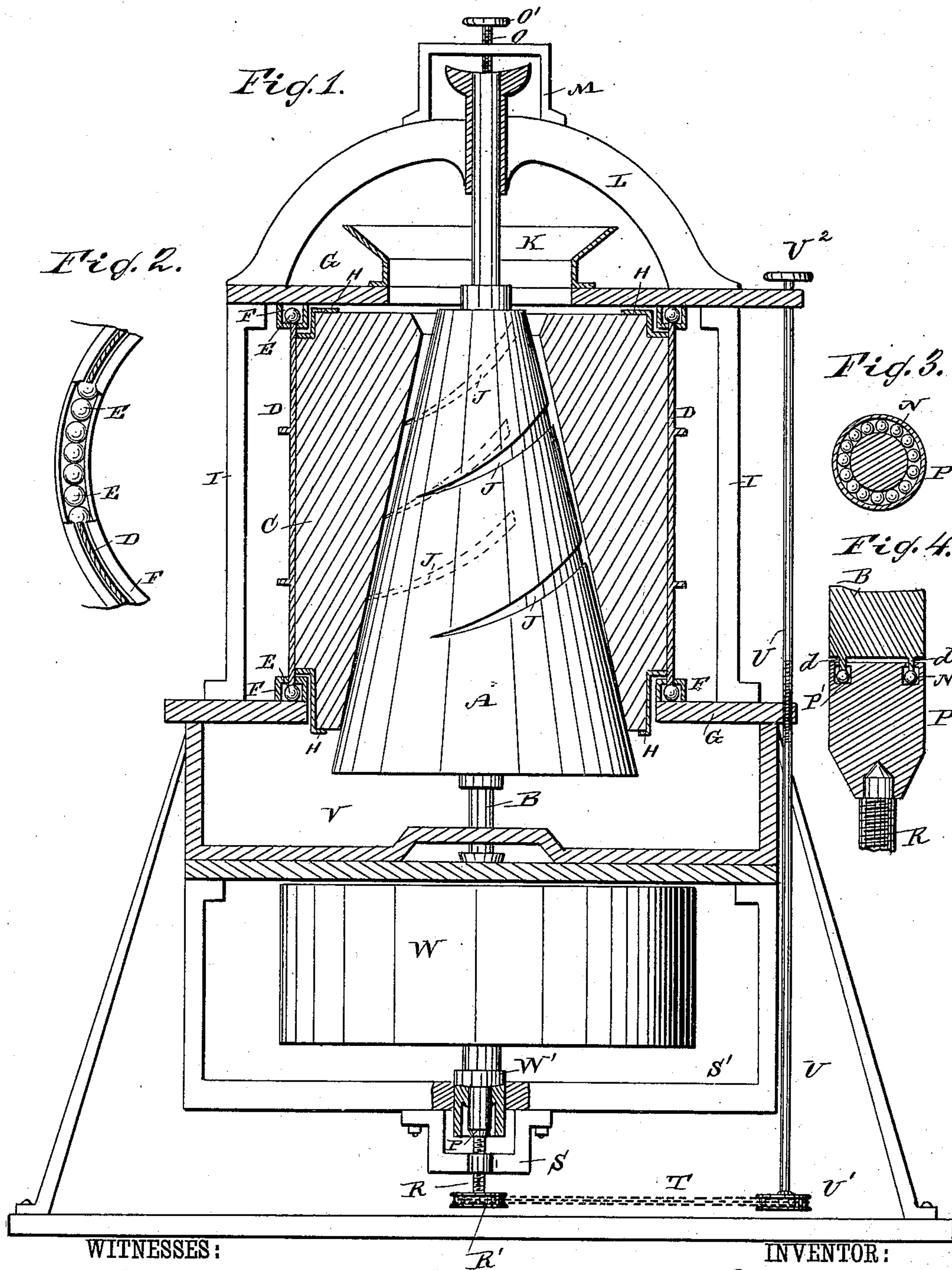
(No Model.)

W. WILKESON.

PULP GRINDER.

No. 333,369.

Patented Dec. 29, 1885.



WITNESSES:

INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM WILKESON, OF YOUNGSTOWN, NEW YORK.

PULP-GRINDER.

SPECIFICATION forming part of Letters Patent No. 333,369, dated December 29, 1885.

Application filed April 13, 1885. Serial No. 162,074. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WILKESON, of Youngstown, in the county of Niagara and State of New York, have invented a new and Improved Pulp-Grinder, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved apparatus for grinding wood pulp.

10 The invention consists in parts and details and combinations of the same, as will be fully set forth hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of my improved pulp-grinder. Fig. 2 is a plan view of the ball-track for the outer running-stone. Fig. 3 is an enlarged plan view of the ball-track for the lower end of the vertical shaft. Fig. 4 is a cross-sectional elevation of the same.

20 The conical running-stone A is rigidly mounted on the vertical shaft B, and is surrounded by the outer running-stone, C, which is surrounded by a casing, D, the ends of which rest on chilled iron balls E, contained in circular pockets F on the upper and under sides of the cast plates G, forming part of the frame of the apparatus. Angle-bars H are secured to the casing D for holding the outer stone, C. The conical stone A has a series of spiral grooves, J, and the inner stone has like grooves J in the sides of its cavity, the shape of which is such as to fit the conical stone. On the top plate, G, the feed-hopper K is arranged, and also the arms or bridge-trees L in which the upper end of the shaft B is journaled. An adjusting-screw, O, resting on the upper end of the spindle or shaft B, has a hand-wheel, O', and is passed through arms M on the arms L. The lower end of the spindle B is provided with a ring, d, which rests on rollers N in an annular groove, P', in the top of a block, P, resting on the top of a screw, R, passed through a yoke, S, on the bottom of a frame, S', on the lower end of which screw a sprocket-wheel, R', is mounted, over which a chain, T, passes, which also passes over a sprocket-wheel, U', on the lower end of a vertical rod, U, passed through the plate

G, and having a hand-wheel, U², on its upper end. A sleeve, W', surrounds the lower end of the spindle B and the block P. By turning the rod U by means of its handle U² the adjusting-screw R is turned and is screwed either up or down, and thus the spindle B and the inner stone, A, on the same are adjusted vertically. By means of the said screw R and the top screw, O, the inner stone can be adjusted very nicely in relation to the outer stone. That part of the rod U passing through the plate G is screw-threaded, and the aperture in the plate G is also screw-threaded, so that when the said rod U is turned to screw the screw R upward the said rod will also be moved upward. The washer pulp box V is below the lower plate, G. The belt-pulley W is mounted on the spindle or shaft B below the washer pulp box V. The plates G are connected by bars I to form a suitable frame for the outer stone.

The operation and adjustment are as follows: The spiral grooves J in the conical stone A draw the material down, and the grooves on the stone C force it down. The shaft or spindle B runs on the balls or rollers N, and the stone C and its casing D run on the balls E. The balls E and N materially reduce the friction and cause the stone C to run very easily. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a pulp-grinder, the combination, with the outer stone having curved grooves in its base, and the inner conical stone, also having curved grooves, of annular pockets containing balls against which the edges of the casing of the outer stone rest, substantially as and for the purpose set forth.

2. In a pulp-grinder, the combination, with the inner and outer revolving stones, of annular pockets containing balls against which the edges of the casing of the outer stone rest, substantially as herein shown and described.

3. In a pulp-grinder, the combination, with the inner and outer revolving stones, A and C, of the casing D, surrounding the outer stone, the plates G, the slotted annular pockets F, and the balls E in the same, substantially as herein shown and described.

4. In a pulp-grinder, the combination, with

the inner and outer stones, A C, of the plates G and the bars I, substantially as herein shown and described.

5 5. In a pulp-grinder, the combination, with the inner and outer stones, A C, of the plates G, the bridge-trees L, the arms M, and the screw O, substantially as herein shown and described.

10 6. The combination, with the stones A and C, of the spindle B, and the ball-box P, on which the spindle rests, substantially as herein shown and described.

15 7. The combination, with the stones A and C, of the casing D, surrounding the stone C, and of the angle-bars H, substantially as herein shown and described.

8. In a pulp-grinder, the combination, with

the stones A C, of the shaft or spindle B, the screw R, held in a yoke, S, the rod U, and a chain and sprocket-wheels for revolving the screw R from the rod U, substantially as herein shown and described. 20

9. In a pulp-grinder, the combination, with the stones A C, of the spindle B, the screw R, held in the yoke S, the sprocket-wheel R' on the lower end of the screw R, the chain T, the sprocket-wheel U', and of the rod U, having a screw-threaded part, passed through a screw-threaded aperture in the frame of the machine, substantially as herein shown and described. 25 30

WILLIAM WILKESON.

Witnesses:

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