

No. 659,785.

Patented Oct. 16, 1900.

L. K. BÖHM.
PULP WASHING AND STRAINING MACHINE.

(Application filed June 2, 1900.)

(No Model.)

Fig. 2.

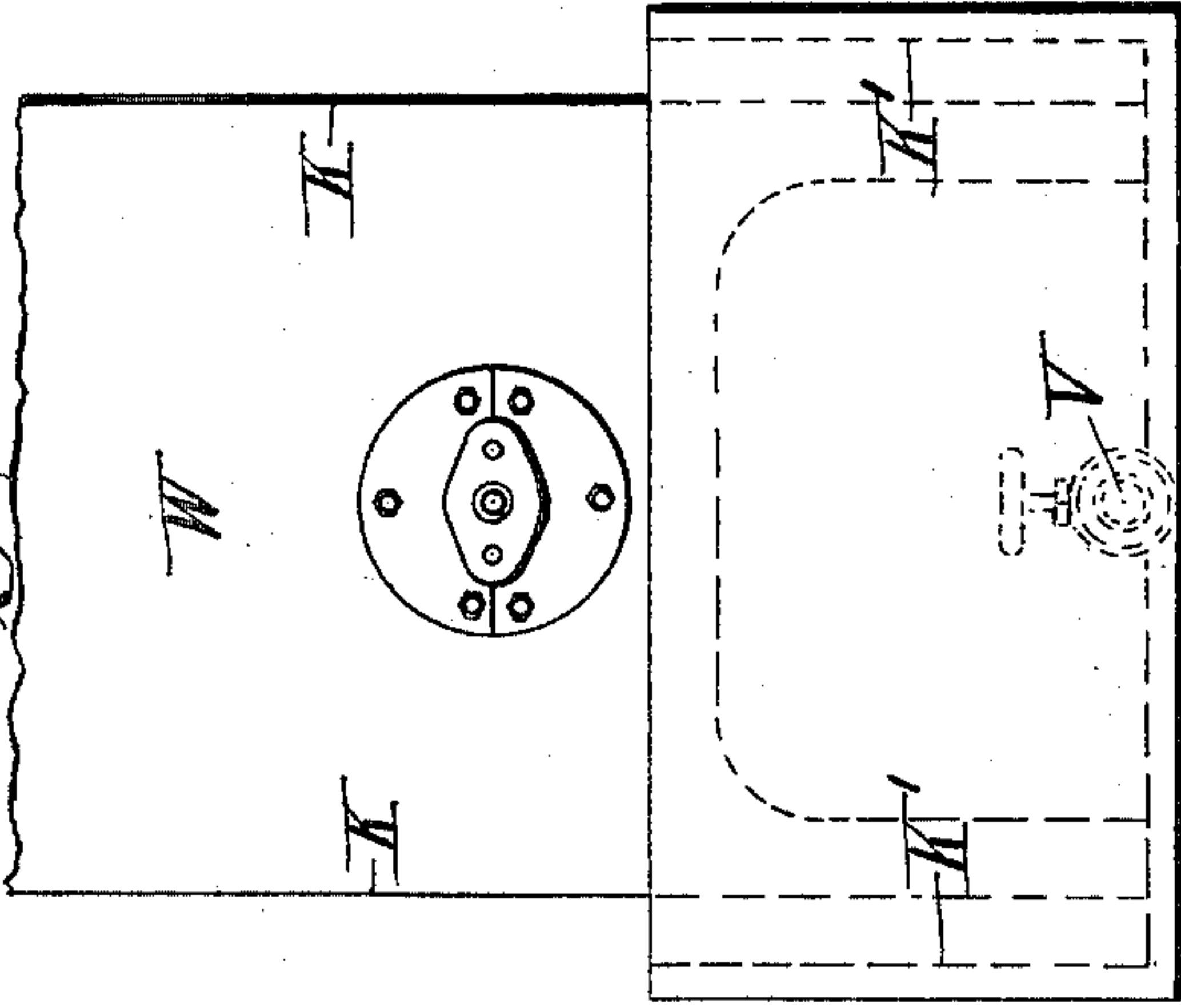
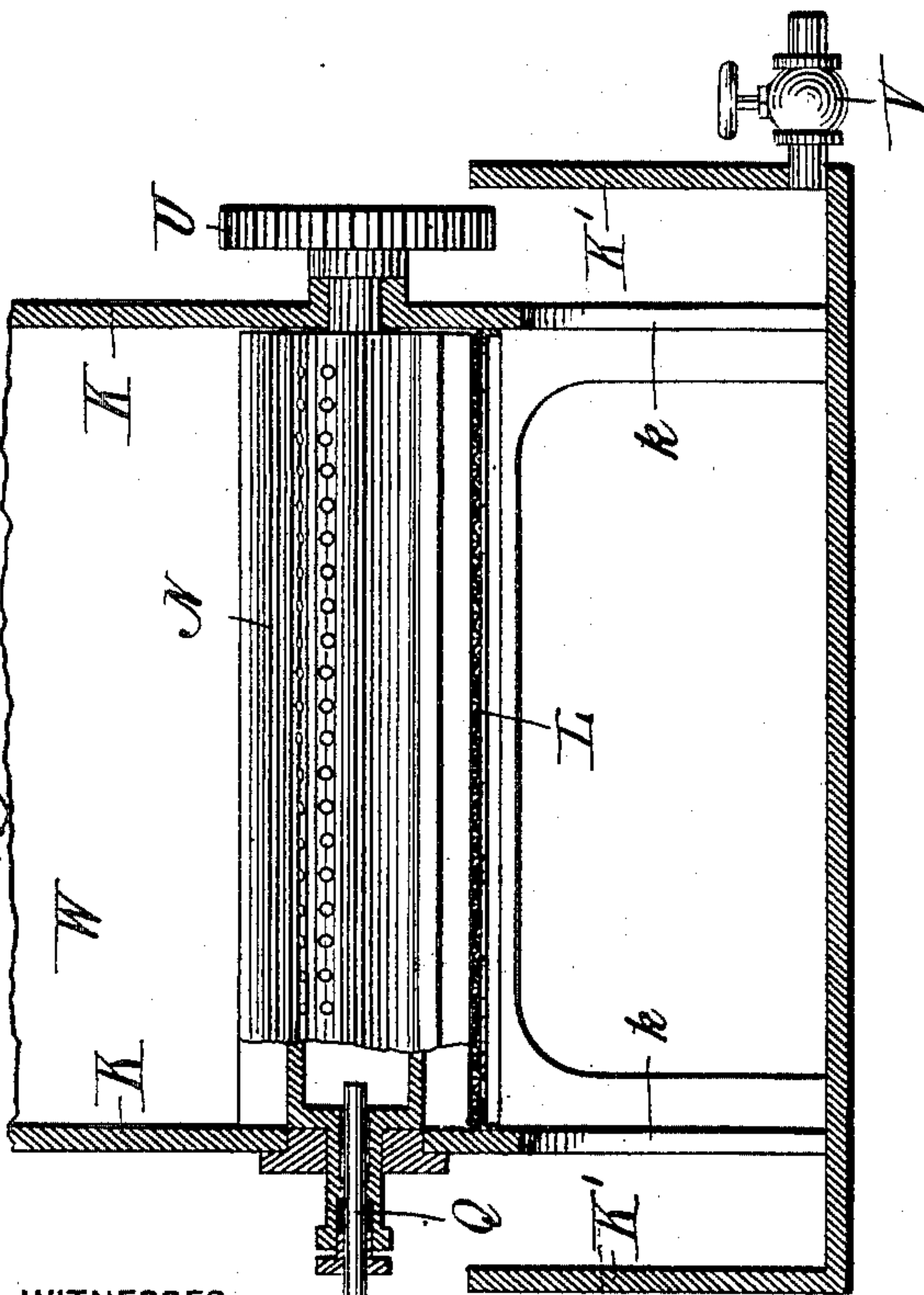
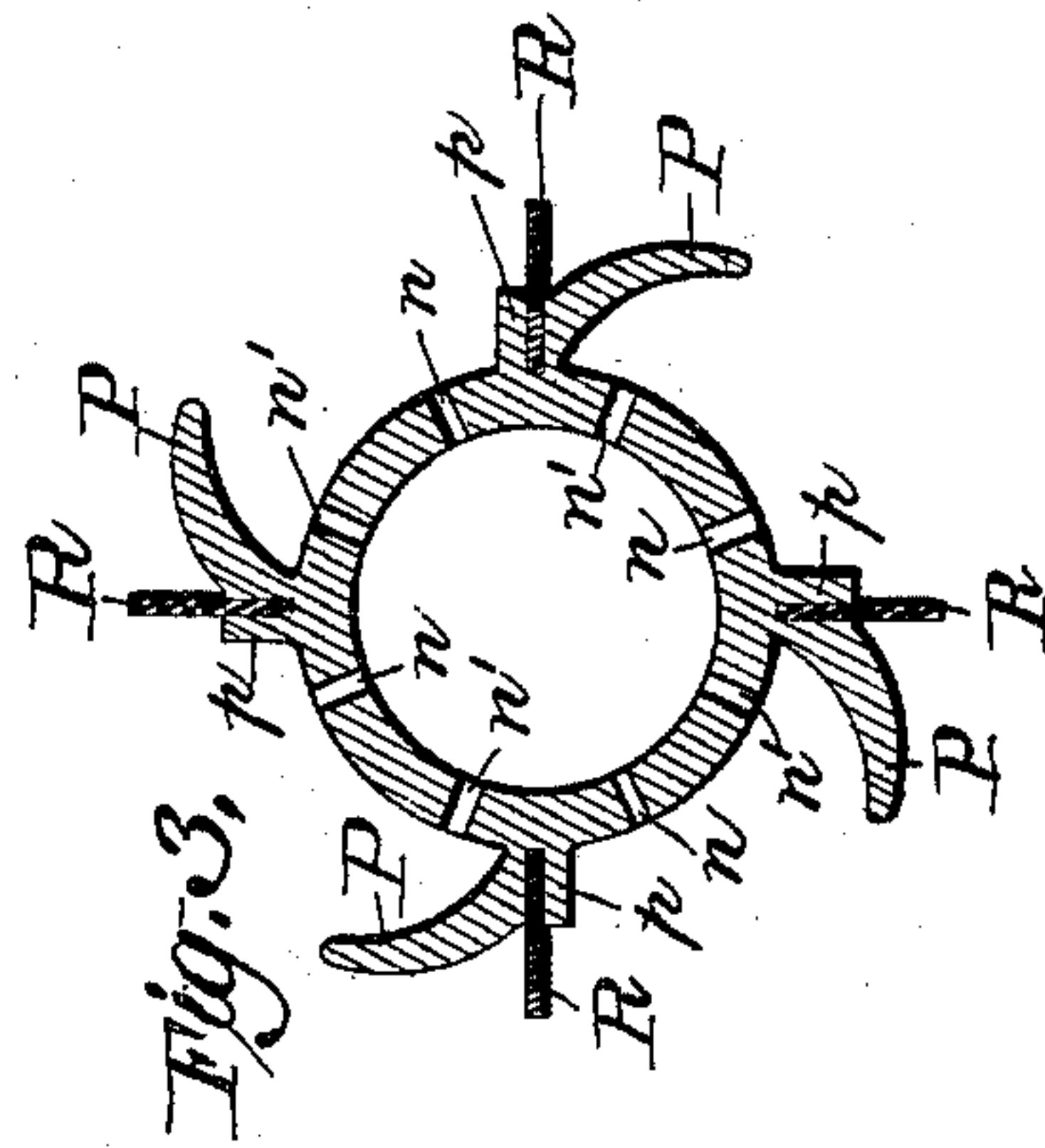


Fig. 1.



WITNESSES:

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LUDWIG K. BÖHM, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM S. MACCLYMONT, OF SAME PLACE.

PULP WASHING AND STRAINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 659,785, dated October 16, 1900.

Application filed June 2, 1900. Serial No. 18,822. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG K. BÖHM, a citizen of the United States of America, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Paper-Pulp Washing and Straining Machines, of which the following is a specification.

This invention has reference to a novel paper-pulp washing and straining machine to be particularly employed in washing and straining paper-pulp manufactured from straw. It is well adapted for washing and straining the so-called "half-stuff," as well as the fine paper-pulp after same leaves the beating-machine.

My novel washing-machine is so constructed that a large quantity of water can be introduced therein in a relatively-short time, whereby a thorough and quick washing of the pulp is effected.

The machine further is provided with a novel and very effective revolving drum, as will be fully described farther on.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents in vertical section the pulp-washing machine, a portion of the revolving drum employed therein being shown in outside elevation. Fig. 2 is an end view of the washing-machine, and Fig. 3 is a vertical cross-section of the revolving drum employed therein.

Similar letters of reference denote like parts in all the figures.

My novel pulp washing and straining machine consists, essentially, of a wooden trough K, supported by a number of legs *k*. The trough K is open at the top and its bottom is formed of strong wire-gauze L, having relatively-small interstices. The washing-machine is mounted in a large wooden box K'. Within the trough K there is provided a revolving hollow cylinder N, mounted in the walls of the trough. This revolving cylinder is of peculiar construction, as shown in vertical cross-section in Fig. 3. The cylinder is so constructed that water for washing the pulp is introduced through a pipe Q. This pipe is stationarily mounted in suitable pack-

ing and the cylinder revolves around its outer surface. Through this pipe Q a steady flow of water is supplied into the hollow revolving cylinder. This cylinder is provided with a number of curved paddles P, preferably integral therewith. The curve of the paddles is from left to right, so that upon the revolution of the cylinder in the direction of the movement of the hand of a watch these paddles carry up the paper-pulp and upon descending the pulp is thrown into the fresh water. The base part *p* of the paddles P is provided with a long slit in which large and heavy rubber sheets R are secured. These rubber sheets extend a little above the circumference of the paddles, and when the cylinder N is revolved then these rubber sheets act as wipers on the strong wire screen L, assuring thus a constant flow of water through the screen when the apparatus is operated. The cylinder further is provided with a number of openings *n n'*, through which the water entering through the pipe Q into the cylinder issues into the washing-machine. The openings *n'* are so located that the water issuing therefrom tends to clean the paddles from pulp. The water passing through the screen is replaced by fresh water through the openings *n n'*, and it is easy to regulate the flow of water through the supply-pipe Q, so that the quantity of water practically is the same throughout the whole time the machine is operated. The water passing through the screen goes into the tank K', from whence it flows off through the valve V. The rubber wipers R are very essential in this machine, because I have found in practice that even after the chemical treatment of the straw some slimy substance is found on the screen and later on the bottom of the tank K'. This slimy substance may be contained in the straw, presumably between the real fibers, and is set at liberty in the macerator. It clogs up the interstices of the screen, so that the free passage of the water through same is hindered, and although this slimy substance is very fine it clogs the wire screen. By the employment of the rubber wipers R, however, a steady passage of the water through the screen is effected, and this is im-

portant, because it is essential that a large quantity of water can be introduced into the washing-machine in a relatively-short time. The drum is revolved by means of suitable gearing U, Fig. 1. Thus I have produced a novel paper-pulp washing and straining machine intended particularly for washing paper-pulp manufactured from straw, by means of which the pulp is thoroughly washed and strained in a relatively-short time.

Having now described my invention, I claim as new and desire to secure by Letters Patent—

1. A paper-pulp washing and straining machine consisting of a hollow revolving cylinder, curved paddles provided on the cylinder, slits in the base part of the paddles, rubber wipers secured in these slits, and openings in the revolving cylinder, a trough in which the revolving cylinder is mounted, a wire screen forming the bottom of the trough on which the rubber wipers act, a large box surrounding the trough, a stationary water-pipe secured in suitable packing and extending into the cylinder which revolves at one end around the stationary water-pipe and means for revolving the cylinder, substantially as specified.

2. In a paper-pulp washing and straining machine a revolving hollow cylinder provided with curved paddles, slits in the base part of the paddles, rubber wipers secured in these slits and extending beyond the circumference of the paddles and openings in the revolving cylinder provided so that the water

issues against the curved paddles, substantially as specified.

3. In a paper-pulp washing and straining machine a revolving hollow cylinder provided with curved paddles, slits in the base part of the paddles, rubber wipers secured in these slits and extending beyond the circumference of the paddles and openings in the revolving cylinder provided so that the water issues against the curved paddles, in combination with a stationary water-pipe extending into the cylinder which revolves at one end around the same, substantially as specified.

4. In a paper-pulp washing and straining machine a revolving hollow cylinder provided with curved paddles, slits in the base part of the paddles, rubber wipers secured in these slits and extending beyond the circumference of the paddles and openings in the revolving cylinder provided so that the water issues against the curved paddles in combination with a stationary water-pipe extending into the cylinder which revolves at one end around the same and a trough in which the revolving cylinder is mounted, substantially as specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LUDWIG K. BÖHM.

Witnesses:

HARRY C. GREEN,
LOUISE WEBER.