No. 685,374. Patented Oct. 29, 1901.

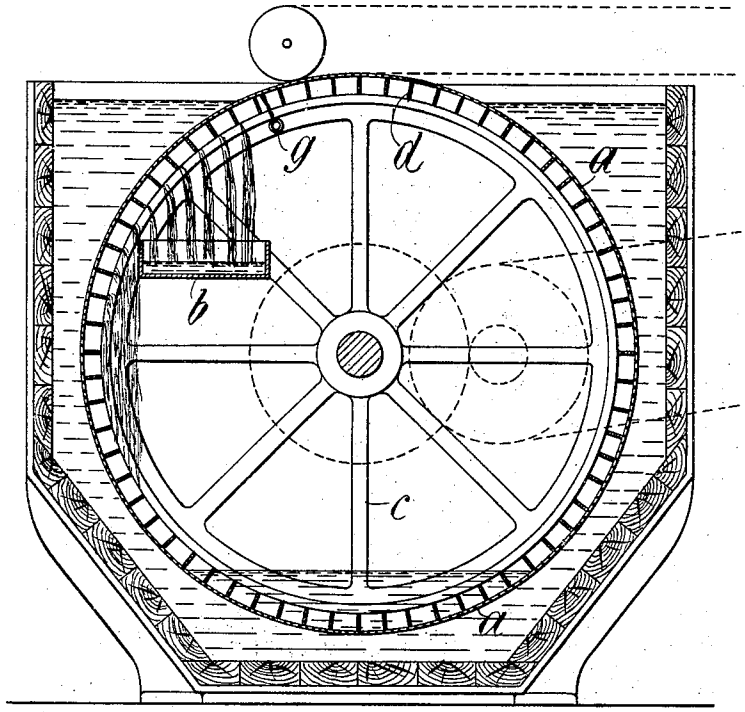
H. GAARA.

CYLINDER MACHINE FOR PULP.

(Application filed Apr. 11, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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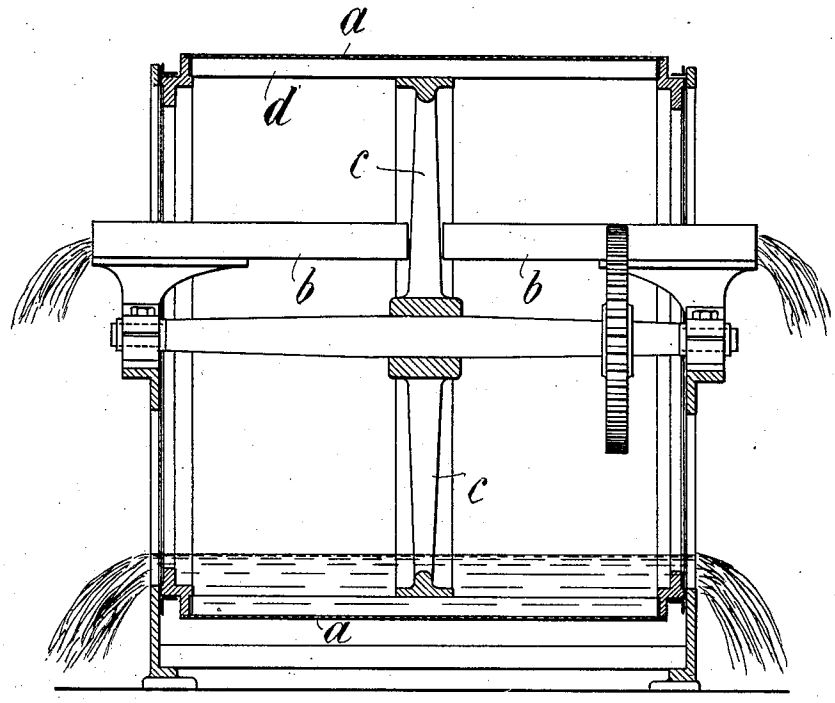
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(Application filed Apr. 11, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HALVOR GAARA, OF SKIEN, NORWAY.

CYLINDER-MACHINE FOR PULP.

SPECIFICATION forming part of Letters Patent No. 685,374, dated October 29, 1901.

Application filed April 11, 1901. Serial No. 55,356. (No model.)

To all whom it may concern:

Be it known that I, HALVOR GAARA, a subject of the King of Sweden and Norway, residing at Skien, Norway, have invented certain new and useful Improvements in Cylinder-Machines for Pulp; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to cylinder-machines used in connection with the manufacture of paper-pulp; and it consists in means whereby part of the water passing through the strainer-plates may be removed from the cylinder separately from the other part of the water. It is a known fact that the part of the water passing through the upper portion of the cylinder submerged in the vat contains considerable very finely divided pulp, while the water passing through the lower portion of the cylinder is free from this "dust stuff." By way of the very simple means which I have invented I can gather up the water containing this dust stuff, and it may then be pumped up into the vat again, whereby losses are prevented and the water leaving the mill will be completely clean, and so no contamination of the rivers will be caused, as is now the case.

My invention consists in mounting within the cylinder, but without any contact or connection with the same, one or more gutters or receptacles and causing the water containing the dust stuff to flow from the top part of the cylinder into said gutter or gutters by providing on the inner circumference of the cylinder a continuous series of radially-disposed shovels or ribs, which prevent the water from percolating downward along the walls of the cylinder and cause it to drop vertically into said gutter.

In the accompanying drawings, Figure 1 is a cross-section, and Fig. 2 a longitudinal section, through a straining apparatus, showing a preferred form of carrying out my invention.

The strainer-cylinder *a* is mounted upon its shaft by means of central arms *c*, whereby sufficient space is afforded at both ends for the introduction of gutters or receptacles *b*, serving to collect the water from the upper part of the cylinder. The cylinder is provided on its inner side with ribs *d*, which direct the water entering at the top of the cylinder away from its inner surface and cause it to drop into the receptacles *b*.

Washing-pipes *g* may be provided for the purpose of cleaning the cylinder on its inner surface.

I claim—

1. In a cylinder-machine, the combination with the tank and the cylinder revoluble therein, of means for drawing off the liquid from said cylinder at points near the bottom of the tank and near the surface of the liquid therein respectively, for the purpose set forth.

2. In a cylinder-machine, the combination with the tank and the cylinder revoluble therein provided with directing plates or ribs disposed to direct the fluid passing through the meshes of the cylinder-covering into said cylinder, and means for collecting and eductting the liquid passing into the cylinder near the surface of the liquid in the tank, and means for educting the liquid from said cylinder near the bottom of the tank, for the purpose set forth.

3. In a cylinder-machine, the combination with the tank, and the cylinder revoluble therein provided with directing-plates arranged to direct the liquid passing through its meshes away from its inner periphery; of one or more troughs within the cylinder near the surface of the liquid in the tank arranged to collect the liquid from the directing-plates and discharge the same outside of the tank, and means for discharging liquid from said cylinder near the bottom of the tank, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HALVOR GAARA.

Witnesses:
ALFRED J. BRYN,
JOH. VAALER.