G. J. MANSON.

ROTARY DISTRIBUTING MEMBER FOR CENTRIFUGAL MACHINES.

APPLICATION FILED MAR. 3, 1909. RENEWED JULY 3, 1911.

1,010,161. Patented Nov. 28, 1911.

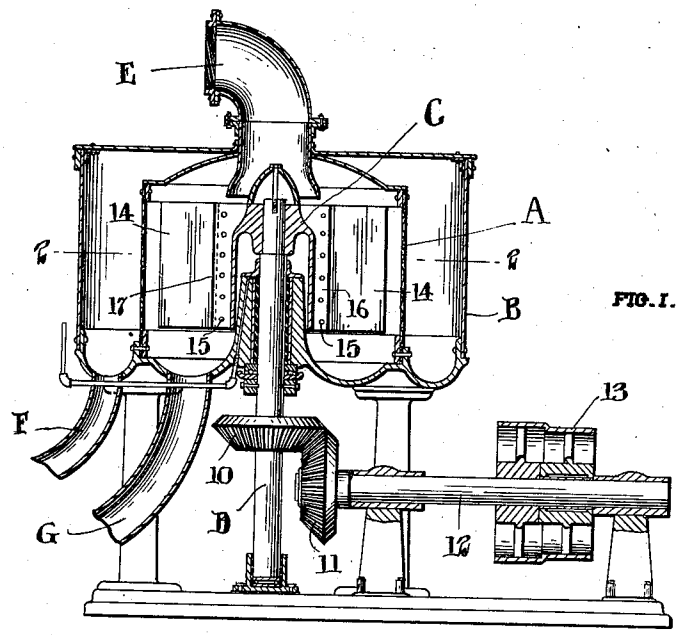


FIG. 1.

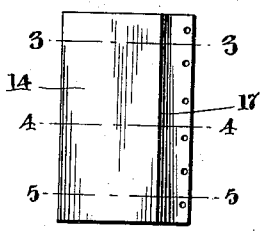


FIG. 3.

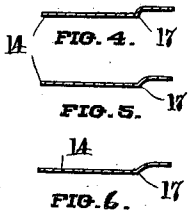


FIG. 4.

FIG. 5.

FIG. 6.

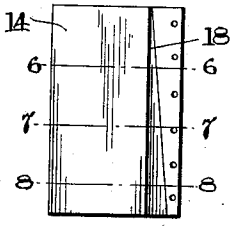


FIG. 7.

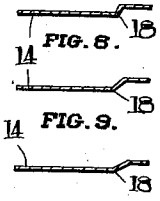


FIG. 8.

FIG. 9.

FIG. 10.

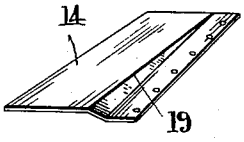


FIG. 11.

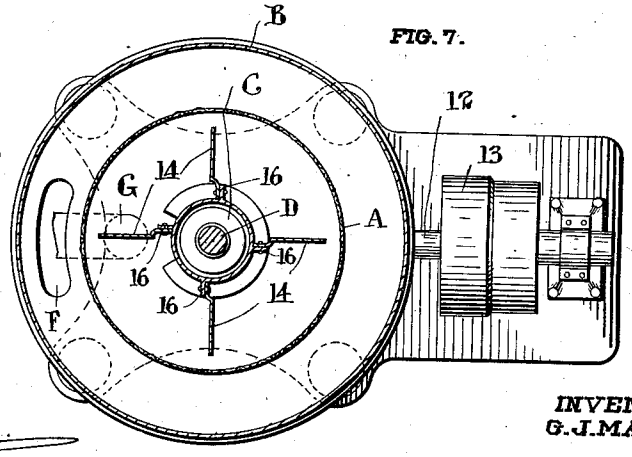


FIG. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE JAMES MANSON, OF THOROLD, ONTARIO, CANADA.

ROTARY DISTRIBUTING MEMBER FOR CENTRIFUGAL MACHINES.

1,010,161. Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed March 3, 1909, Serial No. 481,207. Renewed July 3, 1911. Serial No. 636,744.

To all whom it may concern:

Be it known that I, GEORGE JAMES MANSON, of Thorold, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Rotary Distributing Members for Centrifugal Machines, of which the following is a specification.

My invention relates to improvements in rotary distributing members particularly adaptable for use in connection with centrifugal separating and sieving apparatus for wood pulp and other substances soaked in liquids. In apparatus such as this, the rotary distributing member usually operates within a cylindrical screen and is provided with a plurality of radial blades at the center of which the pulp or other mixture to be separated is introduced. Difficulty is experienced in causing the substance to spread uniformly over the blade, whereby it will pass uniformly through the screen, and this difficulty is overcome in the present invention by the provision near the center of each blade, of longitudinally-extending channels having the inclination of the outer walls gradually lessened from the top to the bottom, whereby it will be easier for the material to pass out of the channels at the bottom thereof. In this way, the force of gravity can be balanced against the centrifugal force so that the desirable uniform distribution of the liquid and substance may be made.

The invention is described in the accompanying specifications and drawings.

In the drawings, Figure 1 is a vertical section through a centrifugal sieving apparatus equipped with a distributing member according to the present invention. Fig. 2 is a sectional view on the line 2—2, Fig. 1. Fig. 3 is an elevation of one of the distributing blades. Figs. 4, 5 and 6 are sectional views on the lines 3—3, 4—4 and 5—5, Fig. 3. Fig. 7 is a plan view of an alternative form of blade. Figs. 8, 9 and 10 are sections on the lines 6—6, 7—7 and 8—8, Fig. 7. Fig. 11 is a perspective view of an alternative form of blade.

In the drawings, like letters of reference indicate corresponding parts in each figure.

Referring to the drawings, A represents a fixed screen of usual construction supported within a casing B.

C represents the rotary distributing member which, in the embodiment illustrated, is cylindrical in form and connected to a shaft D which is rotated in suitable manner as by the beveled gear 10 meshing with the corresponding bevel gear 11 on the shaft 12 which shaft may be driven by the pulleys 13. The material is introduced above the center of the rotary distributing member by means of a conduit E, and the separated pulp and liquid are adapted to pass out through the outlet conduits F and G.

The construction of the various parts herein above described form no part of the invention.

In accordance with the present invention, the cylindrical rotary distributing member C is provided with a plurality of radial blades 14 suitably secured to the body portion as by bolts 15 extending through lugs 16 on the body portion. In accordance with the present invention, each of these blades is provided near the center with a longitudinally-extending channel 17, the channel, in the embodiment illustrated, being substantially parallel with the axis of rotation. The outer wall of this channel is characterized by having the incline gradually decreased from the top to the bottom, as is shown more clearly in the sectional views.

In the form shown in Figs. 1 to 6, the wall is gradually curved from one incline to the other; in the form shown in Figs. 7 to 10, the wall is made flat but set at an angle to the bottom of the channel, the outer edge 18 being substantially parallel to the axis of rotation.

The form shown in Fig. 11, is similar to that shown in Figs. 7 to 10 with the exception that the outer edge 19 of the channel is inclined outwardly from the axis of rotation. The result of forming the wall of the channel with a gradually decreased inclination is that it is easier for the pulp or other material to flow out of the bottom than the top, and consequently, the tendency of the material to flow out of the top of the channel alone will be counteracted and the material will spread itself uniformly over the whole surface of the blade and will thus uniformly pass through the cylindrical screen, thereby securing greater efficiency in the sieving operation.

As many changes could be made in the above construction and many apparently different embodiments of my invention, within the scope of the claims, could be made without departing from the spirit or scope thereof, it is intended that all matter con-

tained in these specifications and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:—

1. A rotary distributing member having a blade thereon, and a channel in the blade having the inclination of the outer wall varied from one end to the other, whereby the material will be proportionately distributed over the surface of the blade.

2. An improved rotary distributing member having a blade thereon and a channel in the blade having the inclination of the outer wall gradually lessened from one end to the other.

3. An improved rotary distributing member having a blade thereon with a channel therein having a curved outer wall, the curvature being gradually lessened from one end to the other.

4. An improved rotary distributing member having a channel therein parallel to the axis of rotation, the inclination of the outer wall of the channel being gradually lessened from one end to the other.

5. The combination with a cylindrical screen of a rotary distributing member therein, having blades thereon with channels therein, the inclination of the outer walls of which is gradually lessened from one end to the other.

6. The combination with a vertically-extending cylindrical screen, of a cylindrical distributing member therein having blades thereon with channels parallel to the axis of rotation, the inclination of the outer walls of the channel being gradually lessened from the top to the bottom.

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

GEORGE JAMES MANSON.

Witnesses:

RUSSEL S. SMART,

M. GILBERTSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."