C. GOETZ.

CLAY GRINDING MACHINE.

APPLICATION FILED APR. 2, 1912.

1,051,216. Patented Jan. 21, 1913.

Fig. 1.

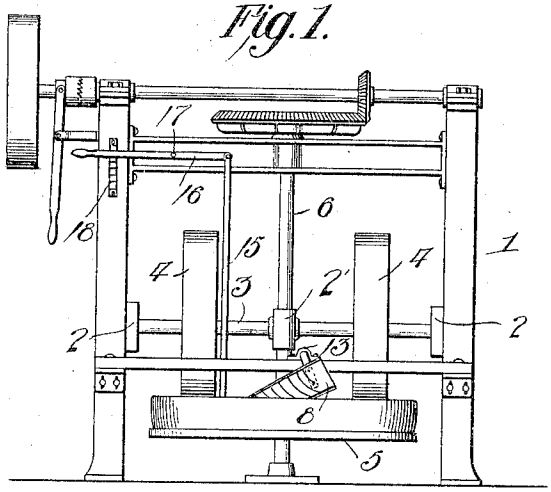


Fig. 2.

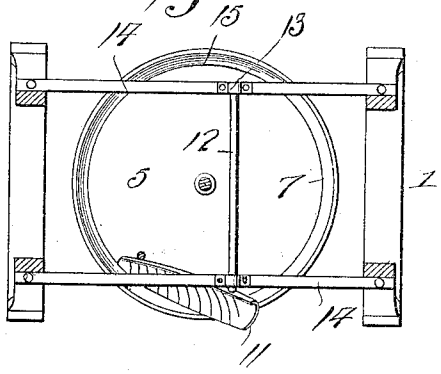


Fig. 3.

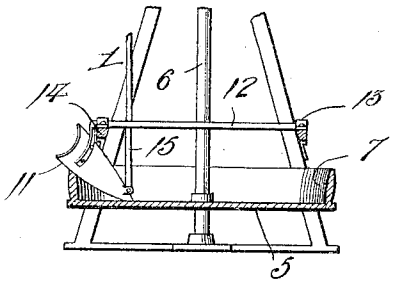
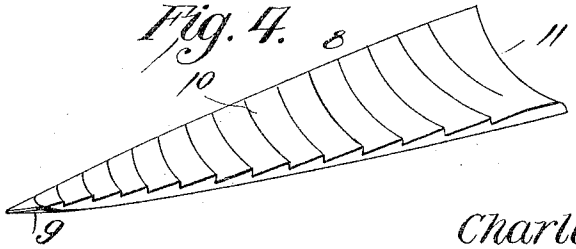


Fig. 4.



Witnesses

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CLAY-GRINDING MACHINE.

1,051,216. Specification of Letters Patent. Patented Jan. 21, 1913.

Application filed April 2, 1912. Serial No. 687,963.

To all whom it may concern:

Be it known that I, CHARLES GOETZ, a citizen of the United States, residing at Mount Savage, in the county of Allegany and State of Maryland, have invented new and useful Improvements in Clay-Grinding Machines, of which the following is a specification.

This invention relates to clay grinding machines, the main object of the invention being to provide a simple form of conveyer by means of which the ground product may be discharged in a continuous stream from the pan, during the rotation of the latter, a further object of the invention being to make said conveyer adjustable to regulate the discharge of the product.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a front elevation of a clay grinding machine, showing the invention applied thereto. Fig. 2 is a plan view of a portion of the machine, showing the conveyer. Fig. 3 is a vertical cross section, showing the conveyer adjusting lever. Fig. 4 is a detail perspective view of the conveyer detached.

Referring to the drawings, 1 designates the frame of the machine provided with the bearings 2 for the drive shaft 3 which carries the grinding wheels 4 operating against the floor of the revolving pan 5, said pan being driven by a vertical shaft 6, the parts so far described being of the usual arrangement.

In carrying out the present invention, the inner surface 7 of the side wall or flange of the pan is made slightly convex or rounding in cross section, as shown, and in connection with the floor and side wall of the pan, I employ a special form of discharging conveyer 8 made tapering from end to end, that is to say, narrowing from one end to the other. The narrow end is chamfered, as shown at 9, adapting it to rest against the floor of the pan. It will also be noted that in cross section, the discharging conveyer is concavo-convex, and that it is provided on its concaved side with transverse riffles or corrugations 10, resembling saw teeth in cross section. The riffles extend spirally with relation to the major axis of the conveyer and form ledges, against which the material rests in its movement lengthwise of the conveyer, the depressions formed by said riffles also allowing air to pass under the ground product and thereby assisting in the easy discharge of the same. It will also be noted, by reference to Fig. 4, that the conveyer as a whole is spirally distorted, so as to permit the inner end to scoop up the ground product, while the outer extremity thereof stands approximately in a vertical plane, thus forming an overhanging and laterally ejecting portion 11 which insures the discharge of the ground product over the side of the pan, and freely therefrom, the outer extremity of the conveyer extending above and projecting beyond the outer periphery of the pan.

The conveyer is pivotally supported by means of a rock shaft 12 mounted in bearings 13 on parallel cross bars 14 connected to the main frame of the machine. Connected to the free end of the conveyer is a lift rod or link 15, the upper end of which is pivotally connected to an elevating and depressing lever 16 fulcrumed at 17 on the frame of the machine, and engaging a toothed rack 18, whereby said lever may be held at any position. This enables the conveyer to be sustained in an elevated position, during the mixing of the clay, and as soon as the mixing operation has been completed, the beveled extremity of the conveyer may be moved downwardly into contact with the bottom of the pan, for the purpose hereinabove stated. The inner surface of the wall or rim of the pan is convex or rounded in order that the adjacent side edge of the conveyer may lie in close relation or actual contact therewith throughout the said inner wall of the pan, thereby insuring the discharge of all the material ground in the pan.

What is claimed is:

1. In a clay grinding machine, the combination with a rotary pan and a grinding wheel coöperating therewith, of a discharging conveyer consisting of a gutter-shaped body concavo-convex in cross section and arranged with the inner end resting on the floor of the pan and the outer end extending over the side of the pan and projecting beyond the same.

2. In a clay grinding machine, the combination with a rotary pan and a grinding wheel coöperating therewith, of a discharg-

ing conveyer consisting of a gutter-shaped body concavo-convex in cross section and spirally distorted from end to end and arranged with the inner end resting on the floor of the pan and the outer end extending over the side of the pan and projecting beyond the same.

3. In a clay grinding machine, the combination with a rotary pan and a grinding wheel coöperating therewith, of a discharging conveyer consisting of a gutter-shaped body concavo-convex in cross section and arranged with the inner end resting on the floor of the pan and the outer end extending over the side of the pan and projecting beyond the same, said conveyer being provided with transverse riffles.

4. In a clay grinding machine, the combination with a rotary pan and a grinding wheel coöperating therewith, of a discharging conveyer consisting of a gutter-shaped body concavo-convex in cross section and arranged with the inner end resting on the floor of the pan and the outer end extending over the side of the pan and projecting beyond the same, said conveyer being provided with spiral riffles.

5. In a clay grinding machine, the combination with a rotary pan and a grinding wheel coöperating therewith, of a discharging conveyer consisting of a gutter-shaped body concavo-convex in cross section and arranged with the inner end resting on the floor of the pan and the outer end extending over the side of the pan and projecting beyond the same, and means for adjusting the inner end of said conveyer up and down.

6. In a clay grinding machine, a rotary pan, embodying an upstanding rim, the inner surface of which is convex, a discharging conveyer consisting of a gutter shaped body concavo-convex in cross section and arranged with the inner end resting on the floor of the pan an dthe outer end extending over the side of the pan and projecting beyond the same, the side edge of the conveyer lying in contiguous contact with the convex side wall of the pan.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES GOETZ.

Witnesses:
C. J. BARRETT,
LAWRENCE FANNON.