

A. B. COUCH.
GRAIN POLISHER.
APPLICATION FILED JULY 6, 1909.

989,542.

Patented Apr. 11, 1911.

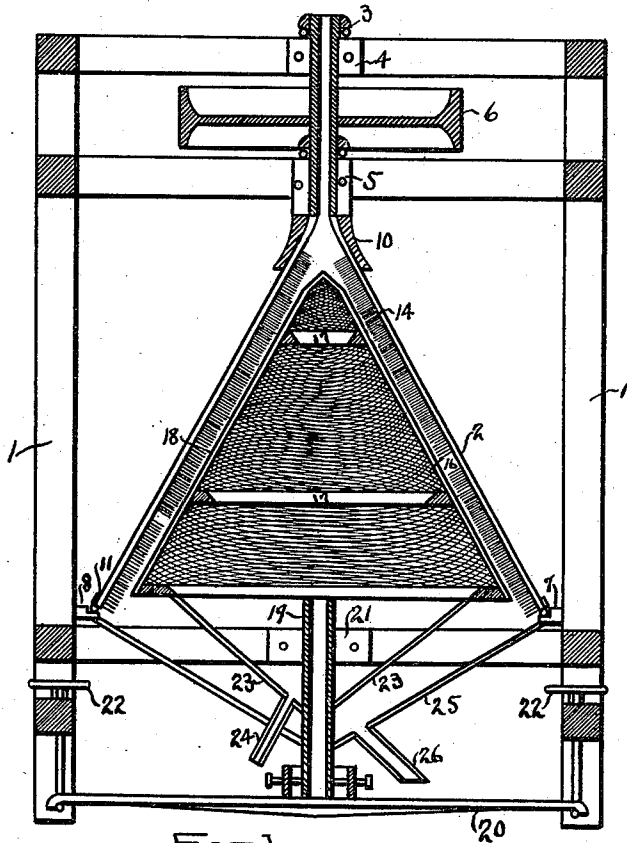


Fig. 1.



Fig. 19-4.

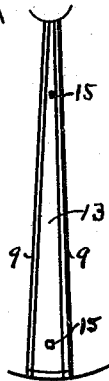


Fig. 19-2.

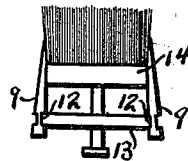


Fig. 19-3.

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ALBERT B. COUCH, OF HOUSTON, TEXAS.

GRAIN-POLISHER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT B. COUCH, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Grain-Polishers, of which the following is a specification.

My invention relates to new and useful improvements in grain polishers and more particularly to such machines as are adapted to polish rice and similar grains.

The object of the invention is to provide a device of the character described which will effectually remove all dust and other foreign matter from the grain.

Another feature resides in the novel construction and arrangement of the polishing brushes whereby the same may be freely adjusted and readily removed and replaced.

Other advantages and novel features of the machine will become apparent from the following specifications, which are illustrated by the accompanying drawings, made a part thereof, wherein:—

Figure 1 is a transverse, vertical, sectional view of the complete polisher. Fig. 2 is a plan view of one of the brushes showing the same secured between the ribs of the drum. Fig. 3 is an end view of the brush showing the adjusting means, and Fig. 4 is a similar view of the brush showing the small end thereof.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 designates the supporting frame of the polisher which is composed of suitable side, top and bottom members. Supported within this frame is a conical shaped drum 2. This drum depends from the top members of the supporting frame by means of a hollow or tubular shaft which is made integral with the apex of said drum and which has rotatable play in bearings 4 and 5 by means of which it is secured to the top members of the frame. The shaft 3 carries a drive wheel 6 which receives motion from a suitable motor (not shown) and transmits the same, to the drum, through said shaft. The lower or free edge of the drum is supported by a plurality, preferably four, of ball bearings two of which are shown, and numbered respectively 7 and 8. These bearings are supported by suitable braces which are carried by the side members of the supporting frame. The bearings

4 and 5 are also preferably ball bearings in order to secure an easy rotation for said drum.

The drum is composed of a plurality of ribs 9 secured together at their apex by means of collar 10 and diverging conically therefrom. At their outer ends these ribs are secured to a suitable circular band 11. These ribs are wedge shaped, as shown in Fig. 3, and are provided with grooves 12 near their back for the reception of a brush support 13. This support is a flat wedge shaped member designed to slide into grooves 12 and is arranged to support brushes 14. The plan contour of these brushes is the same as that of their respective supports, and they are adjustably secured thereto by means of adjusting screws 15. These screws pass through supports 13 and are secured to the backs of the brushes in such a manner that the internal surface of the drum may be enlarged or contracted at will. These brushes are preferably made from the fiber of palmetto roots, or some similar fibrous material, but any other kind of brushes may be used if desired. Secured to the bottom members of the framework and projecting upwardly within said drum is a conical shaped screen 16. This screen is constructed of a suitable framework 17 covered by wire gauze 18 or some other suitable screen covering and is supported by means of shaft 19. This supporting shaft rests on cross brace 20 and has a vertical play through bearing 21. The supporting cross brace 20 is secured at either end to hand screws 22, which are secured to the side members of the supporting frame, and by turning said screws the screen 16 may be vertically adjusted at will. This screen has the same general contour as its surrounding drum and the space therebetween may be regulated by the vertical adjustment of said screen.

The grain to be screened is admitted to the polisher through the hollow drive shaft 3 and the entering stream thereof is divided by the apex of the screen and distributed therearound. At the same time the drum is rapidly revolving and the grain is gradually crowded along between the periphery of the screen and the brushes 14 of the drum and at the same time is relieved of all dust and foreign matter, which is sifted through the wire gauze of the screen and falls into hopper 23, communicating with said screen,

as shown, and is drawn by suction therefrom through outlet 24. The grain gradually travels along the screen surface and after being thoroughly polished is discharged into
5 hopper 25, and therefrom through discharge spout 26.

By reason of the lateral adjustment of the brushes in the drum, as well as by reason of the vertical adjustment of the screen, the
10 size of the passage way for the grain, between said screen and brushes may be regulated at will and the feed of the grain thereby accelerated or retarded.

A grain polisher constructed in accordance with the foregoing description and the drawings accompanying the same and made a part thereof will be found to be very simple in construction and operation and will also be very effective in accomplishing
15 the object for which it was intended.

What I claim is:

1. In a grain polisher, a supporting frame, a rotatable drum carried thereby, a screen embraced by said drum, a friction surface
25 carried by the drum and projecting against said screen and means for rotating the drum.

2. In a grain polisher a supporting frame, a drum carried thereby, a screen embraced by said drum and so disposed as to cooperate therewith and provide a conical shaped
30 passageway between said screen and drum, a friction surface carried by the drum and projecting toward the screen and means for causing the rotation of said drum relative to said screen.

3. In a device of the character described the combination with a supporting frame, of a rotatable drum carried thereby, inwardly projecting friction members carried by said
40 drum, a screen shaped similarly to said drum and embraced thereby, receptacles so disposed as to receive from said screen and drum respectively, and means for rotating the drum.

45 4. In a device of the character described the combination with a supporting frame, of a rotatable drum carried thereby, a vertically adjustable screen similar in shape to

said drum and embraced thereby, means for vertically adjusting said screen, means for
50 laterally adjusting said drum, receptacles for receiving from said drum and screen respectively, and means for rotating the drum.

5. In a device of the character described, a supporting frame; a conical shaped drum
55 carried thereby and provided with a hollow supporting shaft; a screen member designed to cooperate with said drum, said screen and drum being so disposed as to allow a passage way for grain therebetween; means for ad-
60 justment of said members so as to regulate the size of said passage way and means for causing the relative rotation of said members.

6. In a device of the character described, a
65 friction member and a screen member designed to cooperate therewith, said members being so shaped and disposed as to allow a conical shaped passage way for grain there-
70 between; means for adjustment of said members so as to regulate the size of said passage way and means for causing the relative rotation of said members; a feed inlet discharg-
75 ing at the apex of said passage way; receptacles for receiving from said passage way and screen respectively, and outlets carried by said receptacles.

7. In a device of the character described; a friction member; a screen member de-
80 signed to cooperate therewith and operate within said friction member; said members being so shaped and so disposed as to allow an adjustable passageway therebetween; means for causing the relative rotation of
85 said member; a feed inlet discharging into said passageway; receptacles for receiving from said passageway and screen respectively and means for laterally adjusting the said screen within the said friction member.

In testimony whereof I have hereto set my
90 hand this the 29th day of June, A. D. 1909.

ALBERT B. COUCH.

In the presence of—

E. C. GUY,

WM. A. CATHEY.