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RIM TO COLLECT FIBER AND PREVENT MIXING
WITH JUICE OF JUICE EXTRACTORS
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The present invention relates particularly to means for extracting juices from fruits, vegetables and meals and an improved screen construction and screen housing rim to collect fiber after leaving centrifuge and preventing fiber from mixing with the juice.

In the extraction of juices from various materials indicated, it is common practice to grind the material to a pulp and then subject the pulp to pressure to release the juice therefrom. This method has not given the desired results because the means used in the top or coverplate of the machines used does not prevent the fiber from mixing with the juice, or provide a recess to collect fiber after leaving centrifuge.

It is an object of my invention to provide a machine of the character indicated to provide a machine having a coverplate or top and centrifuge and screen housing rim that will collect the fiber after leaving the centrifuge and prevent said fiber from mixing with the juice.

In the drawings:

Fig. 1 is a cross section view of an electric juice extractor showing improved screen construction rim and coverplate preventing centrifugal force from impelling juice out of container through pulp outlet.

Fig. 2 is an isometric view of centrifuge and screen housing rim.

Fig. 3 is an enlargement of centrifuge screen rim and screen housing.

Referring to the drawings, the numeral 1 designates an inverted frustoconically shaped centrifugal screen for separating the juice from the pulp, and for centrifugally forcing the pulp upwardly. The upper end of the screen is provided with an annular ring 5 having on its outer side, spaced from its upper edge, an outwardly extending annular flange 5. The numeral 5 designates the outer periphery of said flange 5. The screen, at its lower end, is provided with a plate 13 and downwardly extending sleeve 11 rotatably mounted in an anti-frictional bearing 14. Sleeve 11 receives the drive shaft 12 of an electric motor 9. Electric motor 9 is housed in a base 6 adapted to rest on a support or floor, and supports at its upper end the juice collecting bowl 24.

Base 6 is detachably secured to the lower end of the bowl 24 by tie bolts 7. The motor 9 is provided with a conventional form of removable end held in place by the screws 8.

It will be noted that the upper end of the collecting bowl 24 terminates adjacent, or close to the plane of the lower end of the screen 1.

The numeral 5a designates a cover plate 17, which plate extends upwardly and is reduced in diameter at its upper end, thereby forming a horizontally disposed annular flange 17a overlying the flange 5 and having its inner periphery 19a substantially in engagement with the outer periphery of the ring 5b above the flange 5.

The reduced portion of the upper end of the cover plate has its interior of greater diameter than the diameter of the inner periphery 19a, therefore it will be seen that an annular pulp collecting channel 19 is provided for the collection of pulp as it leaves the upper end of the screen 1, incident to centrifugal force. The pulp, as it is collected in the channel 19, passes through the discharge opening 3 and discharges to the outside of the machine, as clearly shown in Figure 1. The upper side of the cover plate 17 is dished downwardly into the upper end of screen 1 and is provided with an air intake port 18 so a vacuum will be formed in the collecting channel during the pulp discharging operation.

In the dished upper portion of the cover plate, a spout 15 is disposed to one side of the axis of the screen and through which spout vegetables, or other articles, to be ground and juiced are forced. Spout 15 can be adjusted upwardly or downwardly and can be held in adjusted position by means of the threaded sleeve 22 threaded on the spout, and cooperating with the upper side of the cover plate. The vegetables are abraded and grated by the grating plate 20, carried in the lower end of the screen, as the plate and screen are rotated. The cover plate, to the outside of the discharge opening 3, is provided with an outwardly and downwardly extending deflecting member 21 so the pulp will be deflected outwardly and downwardly to the outside of the machine. The juice collecting bowl 24 is provided with a downwardly and outwardly extending discharge spout 4 through which juice may be discharged into containers.

In machines of this kind, as at present constructed, fiber piles up with a brushing effect, however by providing the overlapping flanges 5 and 19a the centrifugal rim or ring at the upper end of the screen forces the fiber into the annular chamber 19 and around the chamber and out through the outlet 3, and at the same time there is no possibility of the pulp passing between the flanges formed on the cover plate and the annular ring flange and thence downwardly into the juice collecting bowl.

I claim:

1. The combination with a centrifugal juice...
extractor, said extractor comprising a juice collecting bowl, a centrifugal frustoconically inverted screen above the bowl and extending downwardly into the bowl, an annular ring carried by the upper end of the screen, a cover plate for said screen, said cover plate being disposed above the screen, said cover plate having a downwardly extending flange registering with and anchored to the upper end of the juice collecting bowl, an annular flange carried by the screen ring and spaced downwardly from the upper side thereof and extending outwardly, an inwardly extending annular flange carried by the cover and engaging the annular flange of the ring and the outer periphery of the ring above the annular flange of the ring, thereby forming an annular pulp discharging channel above the screen and of greater diameter than the width of the upper end of the screen ring and a discharge opening for pulp in the wall of the annular pulp collecting chamber and forming means whereby pulp will be discharged to the outside of the cover and to the outside of the bowl.

2. A device as set forth in claim 1 wherein the upper end of the cover is downwardly dished thereby forming a chamber and annular wall and an air intake port in said wall in communication with the annular pulp discharging channel.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,886,032</td>
<td>Graham</td>
<td>Nov. 1, 1932</td>
</tr>
<tr>
<td>2,180,877</td>
<td>Lorenzen</td>
<td>Nov. 21, 1939</td>
</tr>
<tr>
<td>2,206,204</td>
<td>Richil</td>
<td>July 2, 1940</td>
</tr>
<tr>
<td>2,311,379</td>
<td>Gillander</td>
<td>Feb. 16, 1943</td>
</tr>
<tr>
<td>2,387,975</td>
<td>Bennett</td>
<td>Oct. 30, 1945</td>
</tr>
</tbody>
</table>