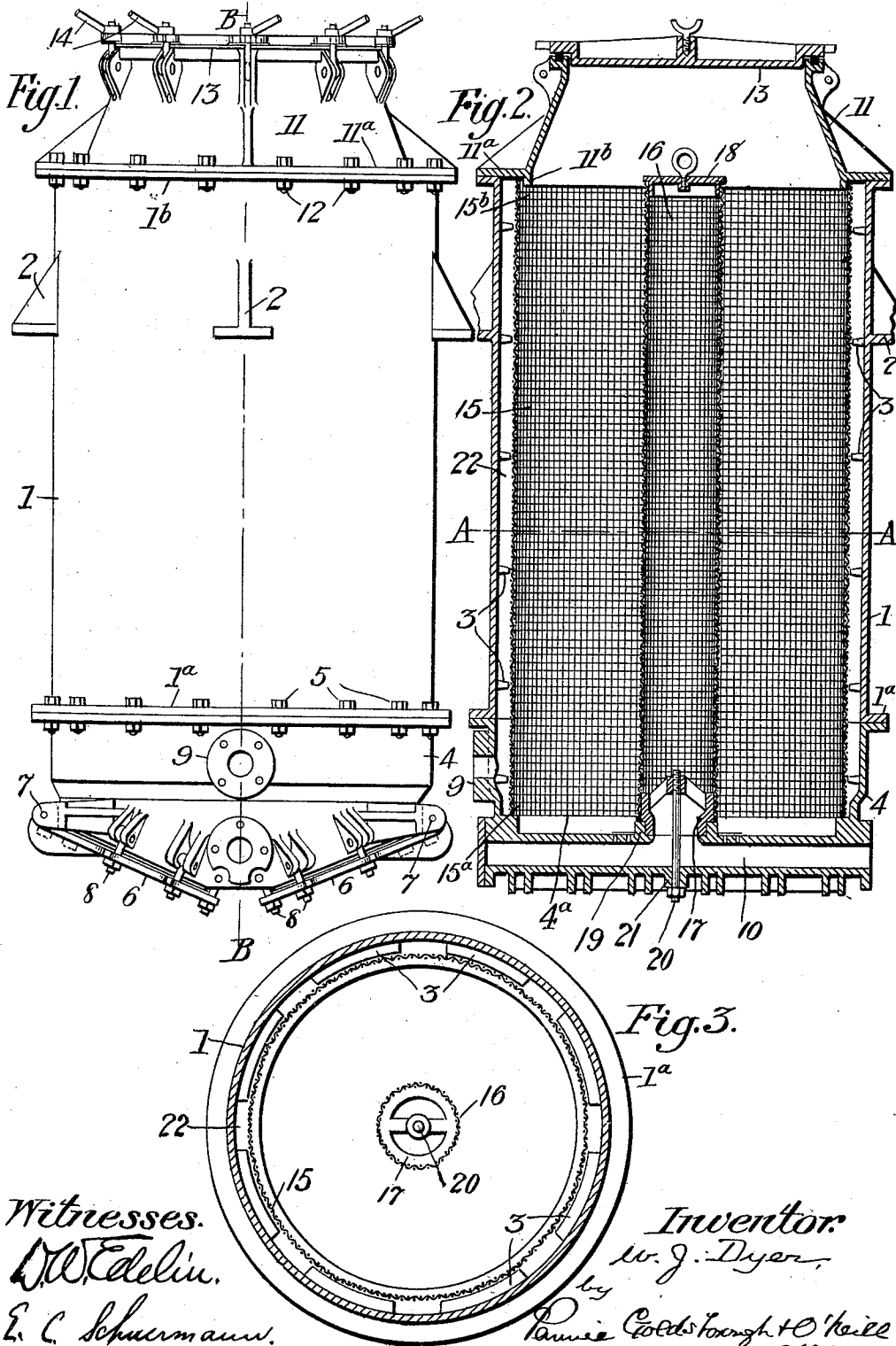


W. J. DYER.  
JUICE FILTER.  
APPLICATION FILED NOV. 27, 1909.

1,005,944.

Patented Oct. 17, 1911.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## JUICE-FILTER.

1,005,944

Specification of Letters Patent.

Patented Oct. 17, 1911.

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*To all whom it may concern:*

Be it known that I, WILLIAM JOHN DYER, a citizen of the United States, residing in the city and county of Honolulu, Territory of Hawaii, have invented certain new and useful Improvements in Juice-Filters; 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.

This invention relates to filters, and particularly to filters such as are used in the clarification of juices in sugar factories.

My invention contemplates a filter which shall be adapted to employ excelsior, bagasse, or the like, for the filtering medium, instead of sand which has heretofore been generally used for this purpose.

The invention consists of the novel construction, combination, and arrangement of parts, as hereinafter described.

In the accompanying drawings, forming a part of these specifications, Figure 1 is an elevation of a filter embodying my improvements. Fig. 2 is a sectional elevation on the line B—B of Fig. 1 showing a preferred form of the interior of the filter. Fig. 3 is a sectional view of the same on the line A—A of Fig. 2.

The cylindrical shell or body 1 is provided externally with the brackets 2 for supporting the filter, and internally with a plurality of segmental ribs or lugs 3. These ribs or lugs are preferably cast integral with the shell, as shown, and they are spaced apart at suitable distances throughout the height of said shell.

The bottom casting 4 is bolted to the flanged lower end 1<sup>a</sup> of the body 1 by the bolts 5, and is provided with one or more doors 6 hinged to same at 7, and fastened when closed by the swing-bolts 8. A nozzle 9 is provided at the side of the bottom casting 4, for admitting the juice to be filtered to the interior of the filter, through a pipe (not shown) secured to said nozzle 9.

Between the doors 6 in the bottom casting 4 is the passage 10 to provide an outlet for the filtered juice as hereinafter described. The passage 10 extends diametrically through the bottom casting, and at its intermediate portion it communicates with an opening in said casting that leads into the interior of the shell, as will presently appear.

The top casting 11 is removably secured to the flanged upper end 1<sup>b</sup> of the body 1 by the bolts 12, and a cover 13 is secured to the top of the casting 11 by the swing-bolts 14. A cylindrical screen 15, preferably of brass wire netting, is placed inside of the body 1 and fits loosely against the segmental lugs 3. The lower edge 15<sup>a</sup> of the screen 15 rests upon the ring 4<sup>a</sup> of the bottom casting 4, and its upper edge 15<sup>b</sup> abuts the underside of the flange 11<sup>a</sup> of the top casting 11 outside of the depending flange 11<sup>b</sup>. A smaller cylindrical screen 16, also preferably of brass, is provided at its lower end with a casting 17, and with a removable cover 18 at its upper end. The casting 17 is adapted to fit the seat 19 at the center of the bottom casting 4 and above the passage 10. A bolt 20, through a hole 21 in the center of the bottom casting 4, may clamp the casting 17 to seat 19 and secure the screen 16 in place, as shown, Fig. 2. The space between the screens 15 and 16 is filled with excelsior, bagasse, or the like.

It will now be noted, that the juice entering through the nozzle 9 rises in the annular space 22 between the body 1 and the screen 15, and that the segmental lugs 3 prevent the excelsior or other filtering medium from crowding the screen 15 against the body 1, thereby preserving the annular space 22.

In operation, the juice passes successively through the annular space 22, the screen 15, the excelsior or other filtering medium, the screen 16, the casting 17, the seat 19 and the passage 10. The excelsior may be easily removed for cleaning or renewal by opening the doors 6.

I claim:

In a juice filter, the combination of a body or shell, a bottom on said body or shell having a horizontal discharge passage with an intermediate opening communicating with the interior of the shell, a seat around said opening, a screen within the shell having a bottom casting seated in said seat, and a bolt passing through said opening from the exterior of the bottom and threaded into said casting to hold the screen detachably seated. 10

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

WILLIAM JOHN DYER.

Witnesses:

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P. H. BURNETTE.

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