Jan. 12, 1937. A. E. STOCKTON 2,067,800

HYDROEXTRACTOR

Filed June 13, 1935

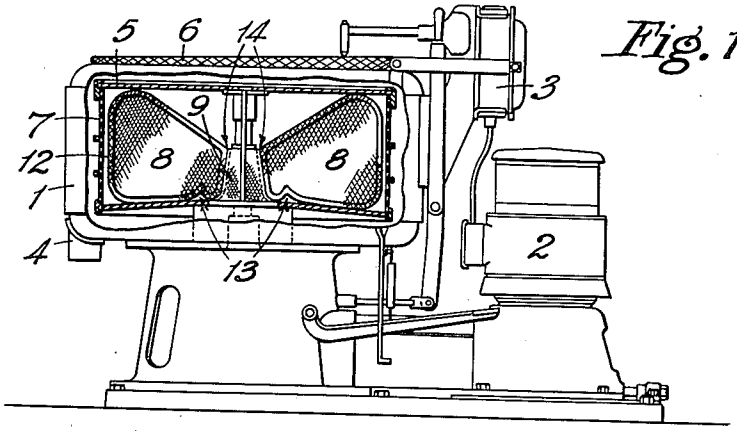


Fig. 1.

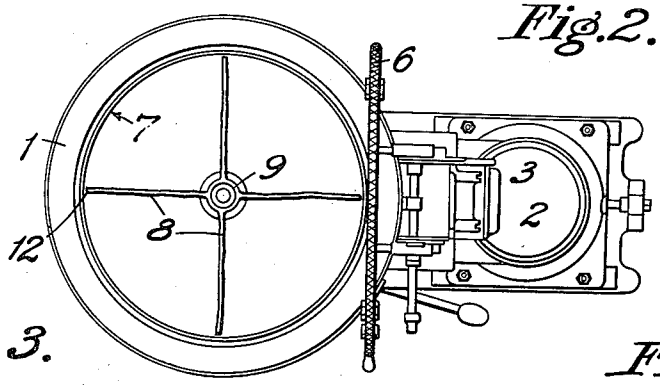


Fig. 2.

Fig. 3.

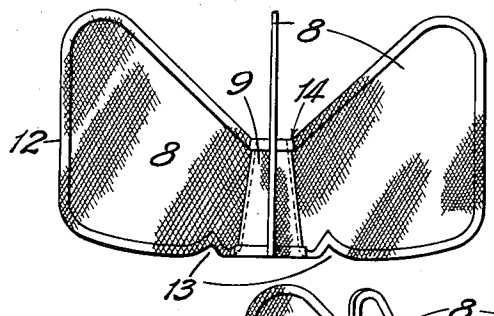


Fig. 4.

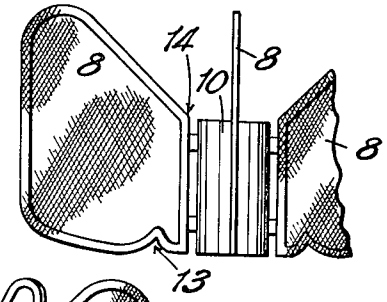
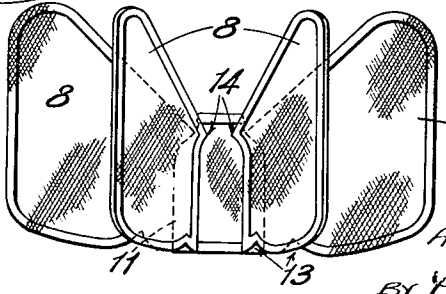


Fig. 5.



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Patented Jan. 12, 1937 2,067,800

UNITED STATES PATENT OFFICE

2,067,800

HYDROEXTRACTOR

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Application June 13, 1935, Serial No. 26,511
In Great Britain April 16, 1935

7 Claims. (Cl. 210—63)

This invention has reference to centrifugal hydro-extractors for laundry use and has for its object to provide a simple divider device to facilitate loading and unloading and one which can be left in place during running for separating and evenly distributing the clothes or other articles, ensuring a more perfect balance and smoother rotation. As this divider is always in place during running it permits articles of different colour to be treated by the extractor in a single batch without the risk of "marking off" between the separate articles, a disadvantage with existing machines, especially when silk goods are being treated. It will be seen also that the invention prevents entanglement of the goods, because for example shirt sleeves, garment legs and elongated articles cannot fly across the hydro-extractor container; thus one of the chief causes for tearing articles during washing is eliminated. The divider may be constructed so that it may be employed in any type of extractor, such for instance as the various forms of suspended or bottom-drive machines.

Metal and other rigid dividing plate devices are known, but generally for the sole purpose of facilitating loading, being removed before starting the operation. The fact that they are non-yielding and make no provision to allow for free passage of the whirling air currents, causes them to set up too great a resistance to the high-speed rotational movement of the extractor cage, with the consequence that they buckle and fracture, besides imposing an undue strain on the electric motor or other source of power.

According to the invention the bowl-like cylindrical, or other shaped container of the extractor is divided into a plurality of compartments, substantially of sector-shape, by means of a partition member consisting of a suitable number of flexible and substantially non-resilient wings radiating from a common central axis. For example, four wings is a suitable number, but this number may be varied if desired.

The partition member is preferably made of stiff textile material, e. g. strong canvas, suitably bound at its edges, and reinforced at the edges or elsewhere, if desired, with rustless steel or other suitable supports. Such a material is sufficiently porous to permit the passage of water and air therethrough. The wings may be attached to a tubular centre piece in a manner to prevent the formation of air pockets. With extractors having no central sleeve carried by the cage a rigid spindle may be inserted in the central tubular piece of the divider, and this may be a loose fit therein, but it is to be understood that the adoption of such a spindle is optional. Generally, however, the central tubular body of the divider is fitted around the central hub or equivalent of the cage, and is consequently fashioned to a requisite shape. The wings may be formed with rounded corners at the top and bottom exterior points, and also at the bottom interior points where they join the common central tube to provide a free passage for air spin. Other features will be apparent from the following description of an embodiment.

In order that the said invention may be clearly understood, some embodiments will be described, by way of example, with reference to the accompanying drawing, wherein:—

Figure 1 is a diagrammatic view of a typical hydro-extractor partly in section to show the divider device in position;

Figure 2 is a plan view thereof, the cover being in the opened position;

Figures 3, 4 and 5 are views of various forms of divider devices according to the invention and described later.

Referring to the drawing the hydro-extractor in indicated by the reference numeral **1**. Various other features with which the invention is not concerned are the electric motor **2**, the interlocking switch mechanism **3**, drain-off union **4**, the cage lid **5**, the cover **6** and so forth. As is well known the cage **7** is rotated at a high speed (varying from 1000 revolutions per minute to 1700 and over) and the water is extracted centrifugally from the washing which has been previously placed in the cage.

The cage **7** is divided into a suitable number of compartments by the divider consisting of flexible wings **8** attached to a central sleeve **9**. The latter is mounted on the central hub **10** or other element of the extractor when such an element is present. The divider device of Figures 1 and 2 is shown separately to a larger scale in Figure 3, the central sleeve part **9** being conical in this case to fit the correspondingly shaped hub of the cage **7**. Figure 4 illustrates the use of flexible wings **8** hinged to a rigid tube **10**, whilst Figure 5 shows an example of a six-winged divider having a bell-shaped central tube **11**.

It will be seen from Figures 1 and 2 that the radial width of the wings **8** is such that the respective outer edges **12** have a clearance from the vertical wall of the cage **7**. In addition the bottom edge is formed with a cut-away recess **13** near the centre of the divider, and the top edge

is sloped down from the top inwardly to the point 14 to give as large an uninterrupted air space as possible. By adopting these devices, in conjunction with the flexible nature of the wings, and especially when of porous material, it is possible to operate the extractor without removing the divider, and without the disadvantages hereinbefore indicated in connection with metallic or other rigid divider plates. It is possible, however, to detach the divider when necessary.

I claim:—

1. In combination with the rotatable cage of a centrifugal hydro-extractor a plurality of wings within said cage dividing the same into separate compartments, each wing comprising a supporting frame and a web of stiff canvas supported thereby and having sufficient porosity to permit the passage of air and water therethrough.

2. A device for dividing the rotatable cage of a centrifugal hydro-extractor into compartments, comprising a plurality of wings each comprising a supporting frame and a web supported thereby, the webs being formed of material which is sufficiently porous to permit the passage of air and water therethrough, and the bottom edges of the wings being recessed to permit circulation of the whirling air in the cage.

3. A device for dividing the rotatable cage of a centrifugal hydro-extractor into compartments, comprising a plurality of wings each comprising a supporting frame and a web supported thereby, the webs being formed of material which is sufficiently porous to permit the passage of air and water therethrough, and the top edges of the wings sloping downwardly and inwardly.

4. In combination with the rotatable cage of a centrifugal hydro-extractor, a plurality of wings within said cage dividing the same into separate compartments, each wing comprising a supporting frame and a web of soft and pliant material supported thereby.

5. In combination with a rotatable cage of a centrifugal hydro-extractor, a plurality of wings within said cage dividing the same into separate compartments, each wing comprising a supporting frame and a web of soft and pliant textile material supported thereby.

6. A device for dividing the rotatable cage of a centrifugal hydro-extractor into compartments comprising a plurality of wings connected together and extending substantially radially outward from a common center, said wings each comprising a frame and a web supported thereby, the webs being formed of woven fabric sufficiently porous to permit the passage of air and water therethrough.

7. A device for dividing the rotatable cage of a centrifugal hydro-extractor into compartments comprising a plurality of wings connected together and extending substantially radially outward from a common center, said wings each comprising a frame and a web supported thereby, the webs being formed of woven fabric sufficiently porous to permit the passage of air and water therethrough, the upper edge of each wing sloping downwardly and inwardly and each wing having a recess opening through the bottom edge thereof.

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