April 12, 1932. R. E. HALL 1,853,349

FORM FOR FELTING FIBROUS RECEPTACLES

Filed Feb. 16, 1931

Fig. 1.

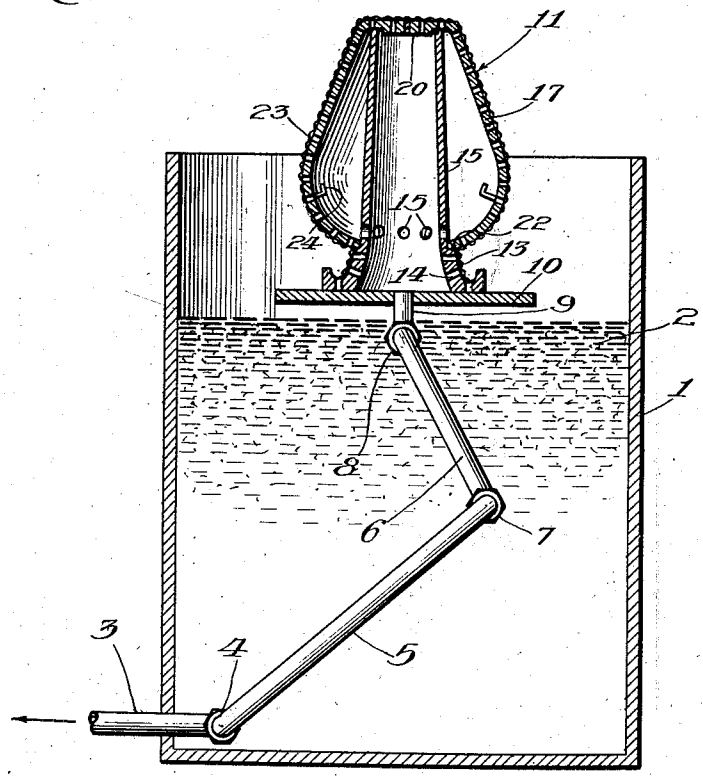


Fig. 2.

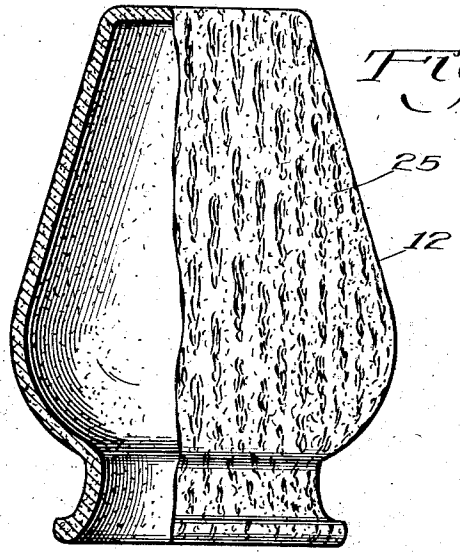
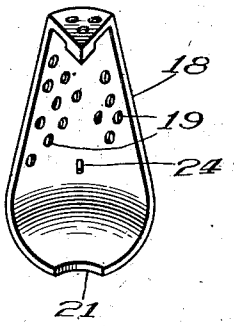


Fig. 3.



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Patented Apr. 12, 1932 1,853,349

UNITED STATES PATENT OFFICE

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FORM FOR FELTING FIBROUS RECEPTACLES

Application filed February 16, 1931. Serial No. 516,153.

This invention relates to improvements in forms for the felting of fibrous receptacles, and refers particularly to the provision of a form comprising a plurality of foraminated separable portions. A fibrous receptacle is adapted to be felted upon the outer surface of said form, and subsequent to the felting operation the portions comprising the form may be removed from the interior of the felted receptacle.

Utility, objects and advantages of the present invention will be apparent from the accompanying drawings and following detail description.

In the drawings, Fig. 1 is a sectional elevation of a felting vat into which the form comprising my invention may be immersed.

Fig. 2 is an elevational view, partly in section, illustrating the fibrous receptacle constructed by the use of my invention.

Fig. 3 is a lobe or section of the main body portion of the form.

Referring in detail to the drawings, 1 indicates an open top vat or tank which may be adapted to contain a quantity of fibrous pulp 2. A pipe 3 may pass through the lower wall of the vat 1 and may be connected within said vat by means of a swing or swivel coupling 4 to pipe 5. Pipe 5 may in turn be connected to pipe 6 by means of swing coupling 17. The opposite end of pipe 6 may be connected to swing coupling 8, which in turn connects pipe 6 with nipple 9 which may pass through platform 10 and support said platform.

A form 11 utilized in the felting of a fibrous receptacle such as that shown at 12 in Fig. 2 may be positioned upon platform 10 and may comprise an annular neck forming portion 13 provided with a plurality of transverse apertures 14. The neck forming portion 13 may terminate at its upper end in a cylindrical member 15 which may be open at its upper end, said cylindrical member being provided with a plurality of apertures 16. The body portion 17 of the form 11 may comprise a plurality of lobes or segments 18 provided with apertures 19. The upper inner surface of each of the lobes 18 may have a projecting segmental member 19 formed thereon which, when the segments 18 have been disposed in operative position, form a downwardly projecting boss 20.

The body portion 17 comprising the lobes 18 is adapted to be mounted upon the annular neck forming portion 13 and the cylinder 15, and the boss 20 is adapted to be disposed within the upper portion of said cylinder. In this manner the cylinder provides a support for the lobes 18, and by the provision of the boss 20 said lobes are maintained in desired position. The lower edges 21 of the lobes 18 may be adapted to be mounted upon offset shoulder 22 formed upon the upper portion of the neck forming member 13.

In utilizing my invention a suitable quantity of fibrous pulp 2 may be maintained within the vat 1. The consistency or concentration of the pulp solution will be dependent upon the type of receptacle desired to be constructed. The level of the pulp maintained in the vat 1 may be such that when the form and the supporting platform are in the approximate position shown in Fig. 1 the platform is adjacent the surface of the pulp. The opposite end of the pipe 3 (not shown) may be connected to a vacuum pump or the like which may be adapted to create a suction action within the pipes 9, 6, 5 and 3.

The form 11 may be disposed upon platform 10 in inverted position, that is, with the neck forming portion 13 in contact with the platform 10. In this manner air or other fluid contained within the body portion of the form 11 may be withdrawn through the above mentioned pipes.

The arrangement is such that simultaneously with the establishing of a condition of vacuum within the form 11 the platform 10 will be lowered into the body of the pulp 2. It can readily be seen that the water comprising the carrier for the fibrous material constituting the pulp will be drawn through the apertures 19 and 14, respectively, in the lobes 18 and the annular neck forming member 13. As the water is drawn through said apertures the fibers carried by said water will be deposited upon the outer surface of the form. A screen 23 may be disposed upon the outer surface of the lobes 18. By the

provision of this screen the finished product, as shown at 12, will have a relatively smooth interior surface. In addition, the screen facilitates the subsequent removal of the form from the interior of the felted receptacle.

After the platform 10 and the form 11 carried thereon has been immersed in the pulp solution 2 a sufficiently long time to deposit a desired thickness of fiber upon the outer surface of said form, the platform 10 may be raised.

The form 11 with the deposited fibers thereon may then be removed from the platform 10, and inasmuch as the neck forming member 13 and the cylinder 15 taper slightly toward the interior of the receptacle elements 13 and 15 may readily be removed from the interior of said receptacle. By the removal of said elements the lobes 18 remain unsupported within the receptacle. Lugs 24 may be embedded in the inner surface of each of the lobes 18 and may serve as grips or handholds for the removal of the lobes 18 through the mouth of the receptacle. The body portion 17 of the form may be divided into a sufficient number of lobes so as to provide the lobes of sufficient dimensions to be removed through the mouth of the receptacle. The receptacle may then be dried.

It is to be understood, of course, that my invention is not to be limited to the particular shape shown in the drawings inasmuch as it is adaptable to the formation of substantially any shape vase, and is particularly adaptable to the formation of vases, the area of the mouths of which are less than the area of the intermediate portions thereof.

I claim as my invention:

1. In combination, a form for felting fibrous receptaeles which comprises, an annular perforated neck forming member, a cylindrical extension carried by said member, and a plurality of perforated body forming lobes co-operatively disposed with respect to the neck forming member and cylindrical extension.

2. In combination, a form for felting fibrous receptacles which comprises, a foraminated neck forming member, having a central opening, a cylindrical extension carried by said member provided with a plurality of apertures and a plurality of foraminated body forming lobes co-operatively disposed with respect to the neck forming member and cylindrical extension, the major transverse dimension of said lobes being less than the major distance between defining edges of said central opening in the neck forming member.

3. In combination, a form for felting fibrous receptacles which comprises, a foraminated neck forming member adapted to be disposed upon a platform in inverted position, a cylindrical extension carried by said member, said extension being provided with a plurality of apertures, a plurality of foraminated lobes disposed upon said neck forming member and said cylindrical extention and enclosing said extension and means for establishing a condition of vacuum within said form.

4. In combination, a form for felting fibrous receptacles which comprises, a perforated neck forming member, an extension carried by said member, and a plurality of perforated body forming lobes cooperatively disposed with respect to the neck forming member and extension.

In testimony whereof I affix my signature.

RICHARD E. HALL.