Sept. 11, 1951 M. HEBER 2,567,708

MOP WRINGER

Filed March 29, 1948

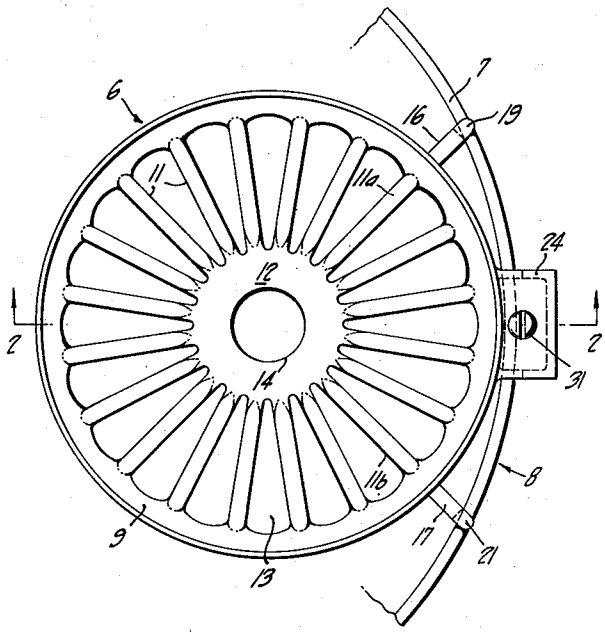



FIG_1_

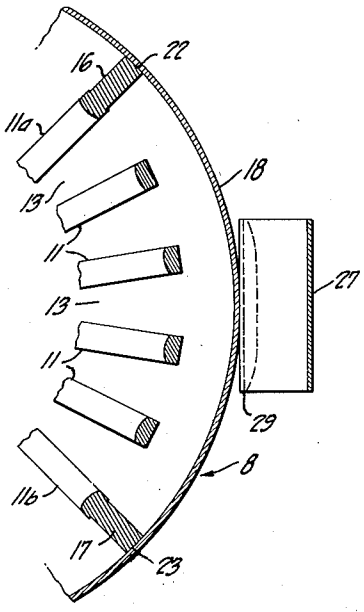



FIG_3_

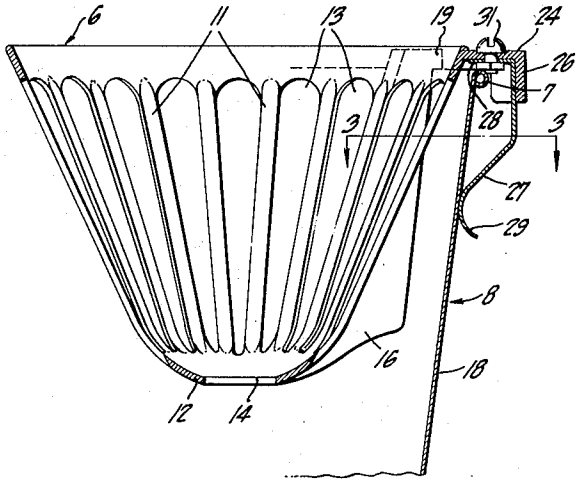



FIG_2_

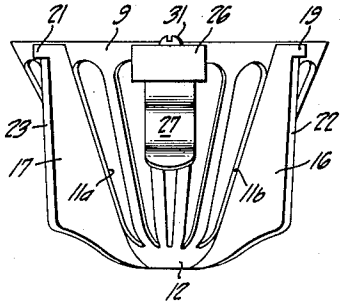



FIG_4_

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2,567,708

## MOP WRINGER

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3 Claims. (Cl. 15—263)

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The invention relates to devices for wringing wet mops and more particularly to the type of device generally characterized as a conically shaped perforated receptacle mounted on the inside of a pail and into which the mop is lowered, rotated and compressed so as to wring water therefrom.

An object of the invention is to provide a device of the character described wherein the receptacle perforations are formed in such a manner as to coact with and to increase the intensity of the compression and wring actions above noted in addition to their function as water escape openings, whereby the device will produce a dryer mop with less manual effort than heretofore.

Another object of the invention is to provide a mop wringing device of the character above which may be easily and quickly attached and detached from the rim of any standard mop pail and which when attached will be rigidly anchored to the pail and capable of receiving the full force of the mop compression and rotation without slipping, loosening, or falling relative to the pail.

A further object of the invention is to provide a device of the character described, which is ruggedly constructed to withstand hard usage for a very long period of time, yet designed with a minimum amount of relatively light weight material and of a form adaptable to mass inexpensive production.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawings and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a plan view of a mop-wringer incorporating the present invention.

Figure 2 is a cross sectional view of the mop-wringer taken substantially on the plane of line 2—2 of Figure 1.

Figure 3 is a fragmentary cross sectional view taken substantially on the plane of line 3—3 of Figure 2.

Figure 4 is a side elevation of the device.

The mop wringer of the present invention and as depicted in the accompanying drawing comprises, an open topped receptacle 6 adapted for

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mounting on the rim 7 of a mop pail 8 so as to lie within the pail for receipt of a wet mop which is lowered into the receptacle and rotated and compressed therein to wring out the water content of the mop. As will be seen from the drawing the receptacle 6 is composed of a ring like top portion 9, preferably of circular form as here shown, and a plurality of circumferentially spaced ribs 11 which are formed integrally with the top portion and depend therefrom to a disc shaped bottom 12, also preferably integrally formed with the ribs and the top ring portion.

As an important feature of the present invention, the bottom 12 is of smaller diameter than the top ring 9 and generally axially aligned therewith, and the ribs 11 converge relative to each other and to the axis in a downward direction from the top to the bottom of the receptacle. In this manner the side wall enclosure for the receptacle defined by the spaced ribs is of conical shape, tapering toward the bottom, so as to confine and compress the mop as it is pressed downwardly into the receptacle. The water thus squeezed from the mop escapes through the side openings 13 defined between the ribs and through a bottom opening 14 provided centrally in the bottom disc 12 for discharge into the pail 8. Also in this construction and as a particularly important feature thereof, the openings 13 defined between the ribs are vertically elongated and extend for substantially the full heighth of the receptacle and are wedge shaped, tapering approximately uniformly toward the bottom. In this manner portions of the mop entering the openings 13 adjacent their enlarged upper ends are compressed tightly together as such portions are forced downwardly in the tapered openings as the mop is pressed into the receptacle. Preferably the mop is rotated as it is pressed into the receptacle so that the free water at the center of the mop is wrung or squeezed outwardly to the peripheral portions of the mop which are further wrung or squeezed in the tapered openings as above described. In this manner a very effective and double wringing action is obtained. Of importance also is the full continuity of the openings from the top to the bottom of the receptacle so that a progressive wedging of the mop portions entering the openings is obtained over the full heighth of the receptacle. In this manner the operator can control the wringing action by the extent of insertion of the mop into the receptacle and at the selection of the operator a relatively wet or a relatively dry mop can be produced.

Preferably the bottom 12 of the receptacle is dish shaped and arranged with its concave surface upward and is joined to the lower ends of the ribs 11 in a smooth curved configuration. To accomplish this smooth curved joinder of the ribs and the bottom, the ribs are preferably curved inwardly adjacent their lower ends so as to merge smoothly into the shaped dish bottom. In this manner the mop inserted into the receptacle is fully compressed at the bottom of the receptacle and there are no square corners at the receptacle bottom into which the lower end of the mop might escape compression action. Desirably the opening 14 provided centrally of the base 12 is of substantial size so as to effectively drain off the water deposited on the bottom 12, and the dish shape of the bottom insures a running off of the water into the escape opening 14.

As a means for correctly positioning the device within a standard mop pail, ribs 11*a* and 11*b* which are spaced circumferentially a substantial distance from each other are formed with integral radially outwardly extending webs 16 and 17 which are arranged to engage the inside surface of the pail side wall 18. The upper ends of the web 16 and 17 are formed with lateral projections 19 and 21 which are formed to engage over the top rim 7 of the pail and the outer edges 22 and 23 of the webs depending from the projection 19 and 21 are tapered slightly with respect to the central axis of the receptacle in general conformance with the taper provided on the side wall 18 of the standard mop pail. As will be seen from the drawing the outer edges 22 and 23 of the webs extend in straight lines over the majority of the heighth of the receptacle so as to provide a full bearing support of the receptacle against the side wall of the pail. Due to the tapered form of the webs 16 and 17, the receptacle is properly supported in upright position that is with its central axis vertically disposed when the receptacle is mounted in a standard mop pail as here shown having a tapered side wall 18.

To securely fasten the receptacle to the mop pail, there is provided at the top 9, and preferably integrally formed therewith, approximately midway between ribs 16 and 17, a lateral projection 24 adapted for positioning upon the top rim 7 of the pail and being preferably formed, as here shown, with a depending outer flange 26. A leaf spring 27 is secured at one end 28 thereof to the underside of the projection 24 and within the depending flange 26. The opposite end portion 29 of the spring is formed to resiliently engage the exterior surface of the side wall 18 of the pail to thus draw the webs 16 and 17 tightly against the inside surface of the pail side wall. The spring end 28 may be secured to the projection 24 in any suitable manner such as by means of the nut and bolt 31 mounted through the projection 24 and the inturned end 28 of the spring. The fastening of the spring in this manner leaves the exterior surface of the depending flange 26 entirely free from any obstructions and with only the bolt head showing above the projection 24.

As will be understood the receptacle may be simply and quickly applied to a standard mop pail by inserting the receptacle into the open top of the pail with the webs 16 and 17 against the inside surface of the pail side wall, and by deflecting the spring 27 radially outward to engage the outside surface of the pail side wall.



The receptacle may then be pressed downwardly into the pail until the lateral projections 19 and 21 on the webs and projection 24 on the top ring of the receptacle seat firmly upon the rim 7 of the pail. In this position the pail side wall is strongly gripped between the spring and the webs and the receptacle is thus firmly anchored in place and prevented from slipping, loosening, twisting, or otherwise moving relative to the pail when the mop is pressed into the receptacle for wringing, or when the bucket is handled for refilling, carrying about, or emptying.

Preferably the entire receptacle including the top portion 9, ribs 11, bottom 12, webs 16 and 17, and the projection and flange 24 and 26 are formed of a single unitary material as by casting. Any strong and lasting material adaptable for die-casting such as aluminum, or copper-zinc alloy may be used. The unitary construction of the design above described affords an extremely rugged device capable of withstanding hard usage over a substantially unlimited period of time, and yet due to the open design of the unit, it is relatively light in weight and easily handled and applied to the mop pail.

What is claimed is:

1. A mop wringing receptacle comprising, an open top portion adapted for receipt of a mop and a plurality of depending circumferentially spaced ribs converging away from said top to define a side having a plurality of circumferentially spaced vertically elongated wedge shaped openings, means projecting radially from said top portion to overlie the top rim of a pail, a pair of said ribs spaced on opposite sides of said means each being formed with integral webs extending substantially radially outwardly thereof, said webs extending from said ring shaped top portion downwardly on the back portions of said ribs, said receptacle having a dish shaped bottom and said webs having their lower portions integrally connected to said dish shaped bottom, the outer edge of said webs being arranged for engagement with the side wall of said pail so as to support said receptacle on said pail.

2. A mop wringing receptacle comprising, a ring shaped top portion and a plurality of depending circumferentially spaced ribs converging away from said top portion towards the axis thereof, a pair of said ribs being formed with integral webs extending radially outwardly therefrom to engage the inside surface of the side wall of a pail, a lateral projection formed at the top of each said webs to overlie and rest upon the top rim of a pail, and a projection having a down-turned flange extending from said ring shaped portion, a leaf spring having a lower free end for engagement of a pail, said spring having an upper end having an angled portion, the upper end and angled portion of said spring closely fitting within said projection and its flange so as to be fully braced thereby, and means for securing said spring to said projection.

3. A mop wringing receptacle comprising a ring shaped top portion, a bottom having an opening, a plurality of depending circumferentially spaced ribs converging away from the top towards the axis thereof and connected to said bottom, a pair of said ribs having integral webs extending radially outwardly therefrom to engage the inside surface of the side wall of a pail, said webs being integrally connected to and extending from said ring shaped top portion downwardly on the back portion of said ribs, said webs having their lower portions integrally con-

nected to said bottom, a lateral projection formed at the top of each of said webs to overlie and rest upon the top rim of a pail, and means located between said webs projecting from said ring shaped top portion for engaging over the top and sides of a pail.

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*Executrix of the Last Will and Testament of Michael Heber, Deceased.*


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