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(54) **MOP AND MOP PAD**

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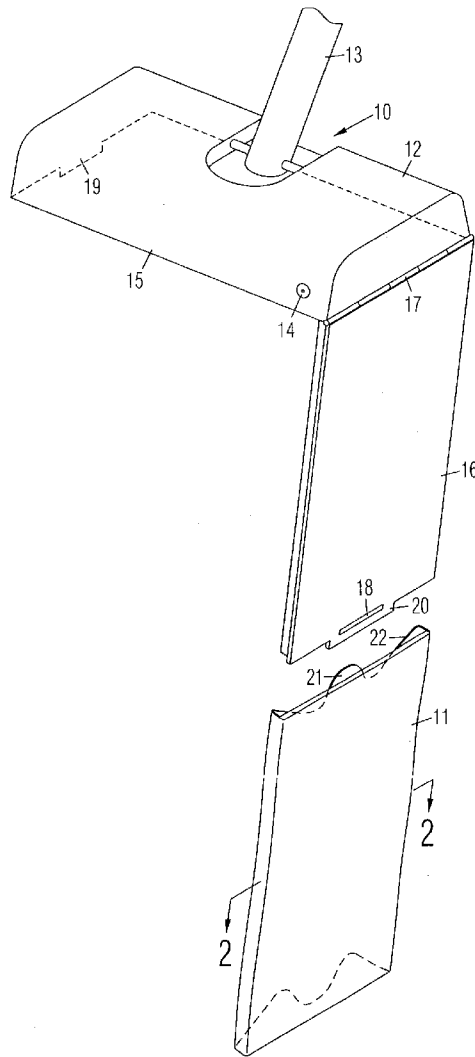
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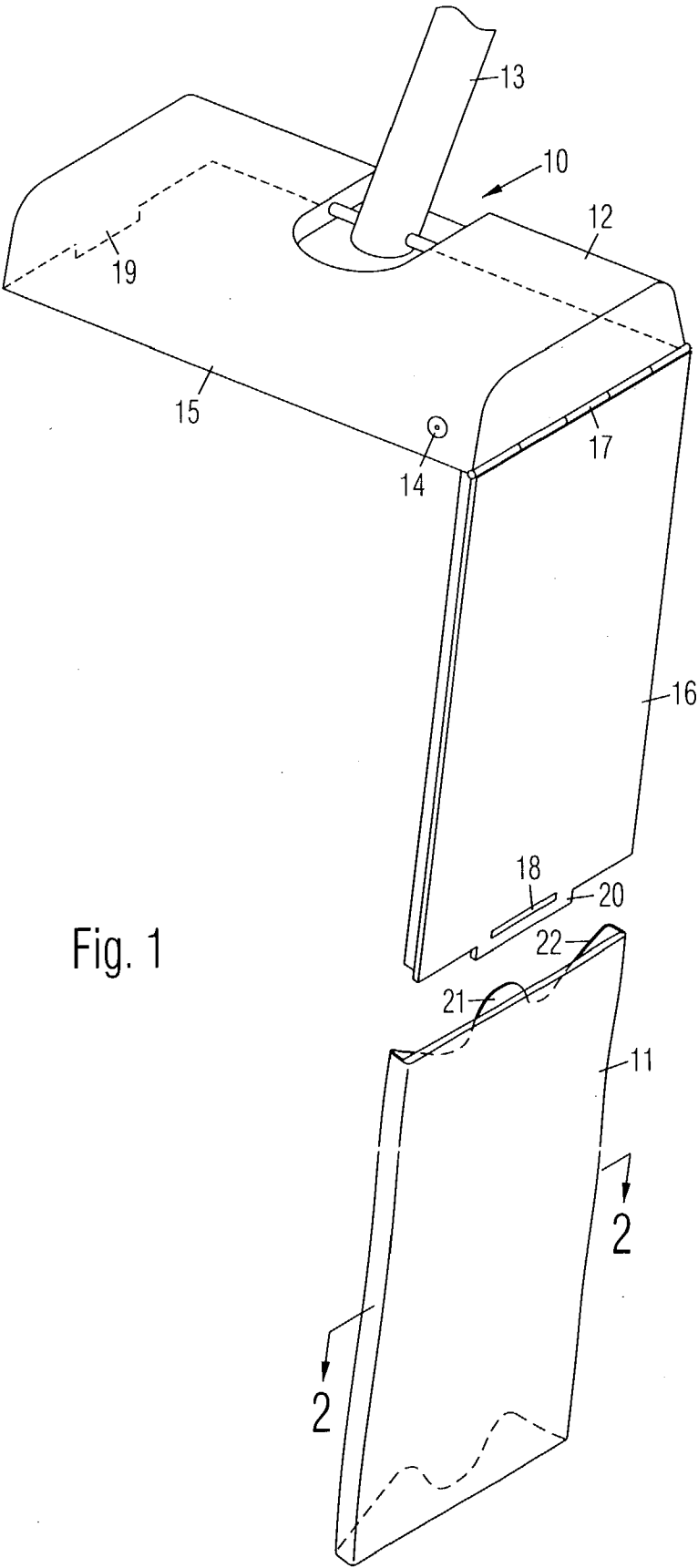
Related U.S. Application Data

(60) Provisional application No. 60/384,696, filed on May
31, 2002.

(57) **ABSTRACT**

A mop is comprised of a mop head pivoted to the lower end of a stem. The mop head is comprised of a hollow housing, and a bottom plate with one end hinged to the housing, and another end secured to the housing with a latch. A mop pad is comprised of a flattened tubular sleeve for sliding around the bottom plate. The mop pad is comprised of a tubular base layer, and a dry layer attached to the bottom of the base layer. A relatively thick absorbent layer is attached to the interior of the bottom panel of the base layer to absorb water for wet mopping. The absorbent layer is secured inside the base layer by a bind layer which has opposite edges attached to the interior of the base layer.





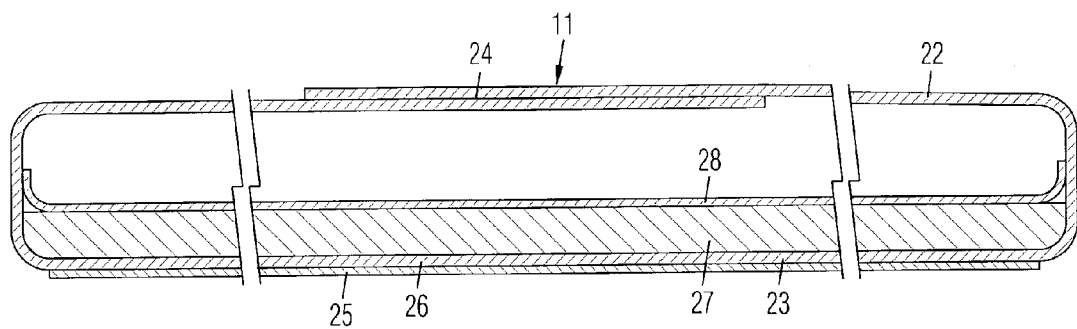


Fig. 2

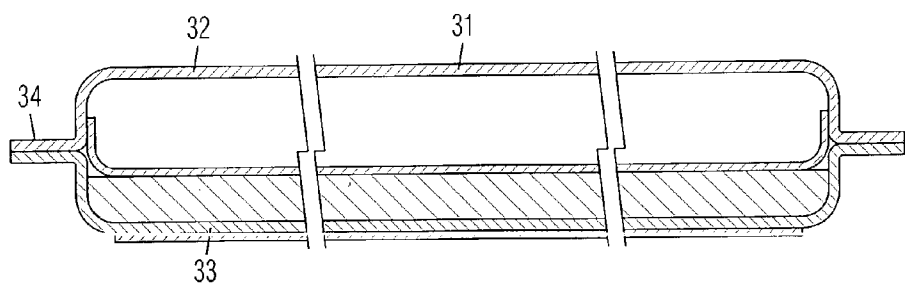


Fig. 3

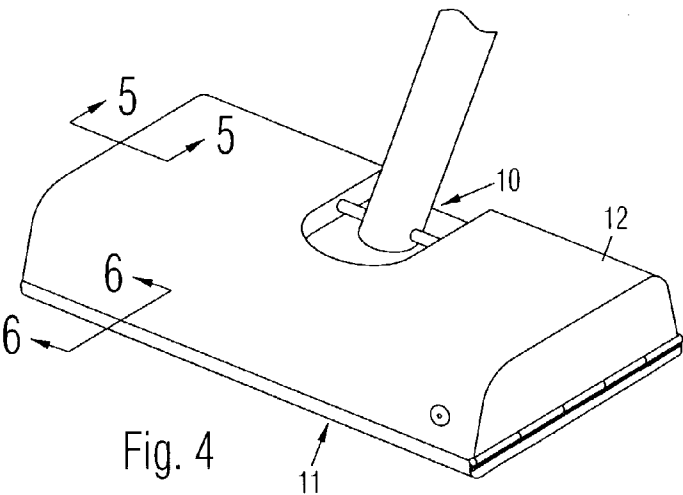


Fig. 4

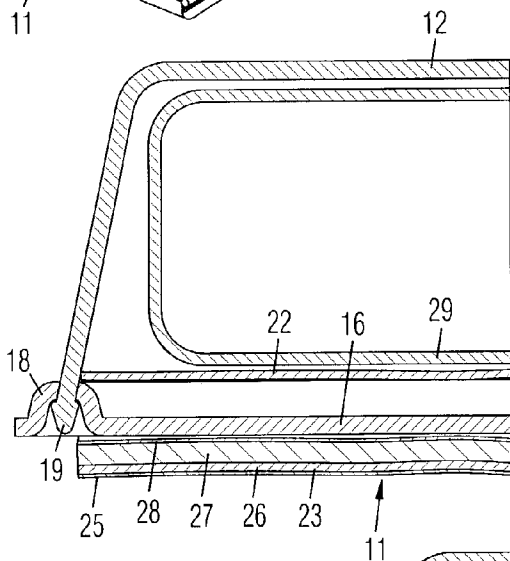


Fig. 5

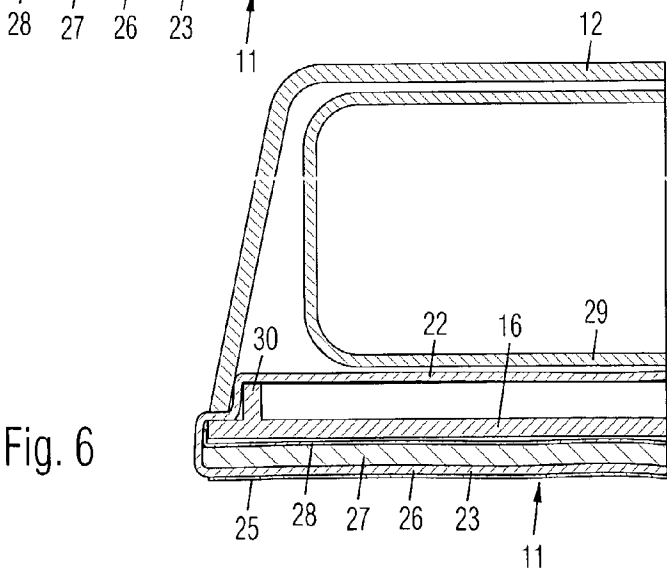


Fig. 6

MOP AND MOP PAD**CROSS REFERENCE TO RELATED APPLICATION**

[0001] We claim the benefit of U.S. provisional application No. 60/384,696 filed on May 31, 2002.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The invention broadly relates to mops with replaceable pads.

[0004] 2. Prior Art

[0005] Mops for washing, hard floors have two general types of mop heads. One type is comprised of a bundle of absorbent fiber cords for heavy duty washing and drying. The other type is comprised of a flat support plate, and an absorbent mop pad wrapped around the support plate for light duty washing or dusting. The mop pad is comprised of a flat sheet which is positioned under the support plate, and the ends are wrapped around the top of the support plate. The ends of the sheet are secured to the support plate by several clips or other retainers. The clips are generally inconvenient to use.

BRIEF SUMMARY OF THE INVENTION

[0006] The objects of the present invention are to provide:

[0007] a mop head which easily secures a mop pad;

[0008] a mop pad which is easily replaceable;

[0009] a mop pad which is easy to grab during removal;

[0010] a mop pad with a dry layer for light dusting;

[0011] a mop pad with a dry layer which is easily detachable from the rest of the mop pad after use; and

[0012] a mop pad with a absorbent layer for wet mopping.

[0013] A mop is comprised of a mop head pivoted to the lower end of a stem. The mop head is comprised of a hollow housing, and a bottom plate with one end hinged to the housing, and another end secured to the housing with a latch. A mop pad is comprised of a flattened tubular sleeve for sliding around the bottom plate. The mop pad is comprised of a tubular base layer, and a dry layer attached to the bottom of the base layer. A relatively thick absorbent layer is attached to the interior of the bottom panel of the base layer to absorb water for wet mopping. The absorbent layer is secured inside the base layer by a bind layer which has opposite edges attached to the interior of the base layer.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0014] FIG. 1 is a front perspective exploded view of the present mop and mop pad.

[0015] FIG. 2 is a sectional view of the mop pad, taken along line 2-2 in FIG. 1.

[0016] FIG. 3 is a sectional view of an alternative embodiment of the mop pad.

[0017] FIG. 4 is a front perspective view of the mop pad mounted on the mop.

[0018] FIG. 5 is a sectional view of the mop and mop pad, taken along line 5-5 in FIG. 4.

[0019] FIG. 6 is a sectional view of the mop and mop pad, taken along line 6-6 in FIG. 4.

DRAWING REFERENCE NUMERALS

[0020]

10.	Mop
11.	Mop Pad
12.	Mop Head
13.	Stem
14.	Nozzle
15.	Housing
16.	Bottom Plate
17.	Hinge
18.	First Latch Member
19.	Second Latch Member
20.	Tab
21.	Tab
22.	Top Panel
23.	Base Layer
24.	Overlapping Joint
25.	Dry Layer
26.	Bottom Panel
27.	Absorbent layer
28.	Bind Layer
29.	Container
30.	Lip
31.	Base Layer
32.	Top Panel
33.	Bottom Panel
34.	Flange

DETAILED DESCRIPTION OF THE INVENTION

[0021] FIG. 1:

[0022] A preferred embodiment of the invention is shown in a front perspective exploded view in FIG. 1. It includes a mop 10 and a replaceable tubular mop pad 11. Mop 10 comprised of a mop head 12 attached to the lower end of a stem 13. A valve or sprayer nozzle 14 is arranged on a front end of mop head 12 for spraying a cleaning liquid on the floor ahead of mop head 12. Mop head 12 includes a rigid hollow housing 15, and a rigid bottom plate 16 movably attached to housing 15. Bottom plate 16 is preferably connected to housing 15 with a hinge 17, but it may be connected by another mechanism, such as latches at either end.

[0023] A first latch member 18 is arranged on a distal end of bottom plate 16 for mating with a second latch member 19 on housing 15. In this example, first latch member 18 is comprised of a female receptacle, and second latch member 19 is comprised of a male member. A tab 20 is arranged adjacent first latch member 18 for opening bottom plate 16 when bottom plate 16 is closed. Alternatively, instead of being hinged at one end, bottom plate may be completely detachable, and may be attached to the housing with another mechanism, such as latches, snap-fit tabs, etc.

[0024] Mop pad 11 is comprised of a flattened tubular sleeve for sliding around bottom plate 16. The tubular shape

of mop pad 11 makes it easier to install and remove than a conventional flat pad which must be folded over the top of bottom plate 16. Mop pad 11 includes tabs 21 on opposite ends of a top panel 22 for being gripped during removal.

[0025] FIG. 2.

[0026] A sectional view of tubular mop pad 11 is shown in **FIG. 2**. Mop pad 11 is comprised of a flattened tubular base layer 23 formed from a single folded sheet with opposite edges attached to each other in an overlapping joint 24, preferably by heat sealing. Alternatively, the opposite edges may be joined by another method, such as hot or cold gluing. Overlapping joint 24 may be made with fasteners activated by the user, or base layer 24 may be a seamless tube without a joint. Base layer 23 is preferably comprised of a non-woven cotton and polyester blend or similar material which is tear and stretch resistant, has a low coefficient of friction, allows fluids to pass through, and is printable.

[0027] A dry layer 25 is removably attached to the exterior of a bottom panel 26 of flattened tubular base layer 23 for dry mopping or dusting. Dry layer 25 is preferably comprised of a relatively thin, inexpensive strong fabric which is electrostatic, and tear and stretch resistant. Dry layer 25 is preferably lightly heat sealed to base layer 23 along its opposite edges so that dry layer 25 may be torn away from base layer 23 by the user after use. Additional dry layers may be stacked together and peeled off one at a time after each use. Alternatively, a single dry layer 25 may be permanently attached to base layer 23. Dry layer 25 also may be attached to the exterior of top panel 22 of base layer 23, in which case base layer 23 must be reversed to mop with dry layer 25.

[0028] A absorbent layer 27 is attached to the interior of bottom panel 26 of base layer 23 to absorb water for wet mopping. Absorbent layer 27 is preferably comprised of a relatively thick, highly absorbent cotton or similar fiber packs. Absorbent layer 27 is secured inside base layer 23 by a bind layer 28 which has opposite edges attached to the interior of base layer 23. Bind layer 28 is preferably a non-woven sheet, such as a plastic film which is tear resistant and has anti-slip properties. A space is provided between bind layer 28 and top panel 22 of tubular base layer 23 for receiving the bottom plate of the mop head. Mop pad 11 is preferably provided dry, but may be impregnated with a cleaning fluid or be scented.

[0029] FIG. 3:

[0030] Alternatively, a base layer 31 may be comprised of a top panel 32 attached to a separate bottom panel 33 at opposite ends along projecting flanges 34 that may be optionally formed into cut fringes.

[0031] FIG. 4:

[0032] Mop pad 11 is shown in **FIG. 4** after being slid onto the bottom plate (not shown), and after the bottom plate is closed against the bottom of housing 15. Mop 10 may be used for dry mopping or dusting without any fluid, or it may be soaked with water or a cleaning fluid for wet mopping.

[0033] FIG. 5:

[0034] In the sectional view shown in **FIG. 5**, first latch member 18 and second latch member 19 are mated together to secure bottom plate 16 against housing 15. Top panel 22

of base layer 23 is positioned on top of bottom plate 16, and bottom panel 26 of base layer 23 is positioned under bottom plate 16. A cleaning liquid container 29 is positioned within housing 12 for supplying a cleaning liquid to the valve or spray nozzle on the front of mop head 12.

[0035] FIG. 6:

[0036] In the sectional view shown in **FIG. 6**, a lip 30 projecting up from a top surface of bottom plate 16 is arranged to clamp top panel 22 of base layer 23 against an interior surface of the housing to help secure mop pad 11 in position and to take up the slack in mop pad 11. Also, bind layer 28 is preferably comprised of an anti-slip material to further help prevent slippage.

[0037] Scope

[0038] Although the above description is specific, they should not be considered as limitations on the scope of the invention, but only as examples of the embodiments. Many substitutes and variations are possible within the teachings of the invention. Therefore, the scope of the invention should be determined by the appended claims and their legal equivalents, not by the examples given.

We claim:

1. A mop, comprising:
 - an elongated stem;
 - a housing attached to a lower end of said stem;
 - a bottom plate connected to said housing; and
 - a mop pad comprised of a flattened tubular sleeve slid around said bottom plate.
2. The mop of claim 1, wherein said tubular sleeve is comprised of:
 - a flattened tubular base layer comprised of a folded tubular sheet;
 - a dry layer attached to an exterior of a bottom panel of said base layer for dry mopping;
 - an absorbent layer positioned against an interior of said bottom panel of said base layer for absorbing liquid for wet mopping;
 - a bind layer with opposite edges attached to said interior of said base layer, wherein said absorbent layer is secured between said bind layer and said base layer; and
 - a space between said bind layer and a top panel of said base layer, wherein said bottom plate is received in said space.
3. The mop of claim 2, further including additional dry layers stacked on said dry layer for being peeled off individually after each use.
4. The mop of claim 2, wherein said dry layer is removably attached to said base layer along opposite edges of said dry layer to enable said dry layer to be torn away from said base layer after use.
5. The mop of claim 2, further including tabs on opposite ends of said top panel of said base layer for being gripped during removal.
6. The mop of claim 2, wherein said base layer is comprised of a material for allowing said liquid to pass through to said absorbent layer.

7. The mop of claim 2, wherein said absorbent layer is comprised of an absorbent material.

8. The mop of claim 2, wherein said bind layer is comprised of a non-woven sheet with which is tear resistant and anti-slip.

9. The mop of claim 2, further including a lip projecting up from said bottom plate, wherein said lip is arranged to clamp said top panel of said base layer against an interior surface of said housing to secure said mop pad in position and to stretch taut said mop pad.

10. A mop, comprising:

an elongated stem;

a housing attached to a lower end of said stem;

a bottom plate with a proximal end hinged to said housing;

a lip projecting up from said bottom plate;

a first latch member on a movable end of said bottom plate;

a second latch member on said housing and arranged to mate with said first latch member on said a mop pad comprising a flattened tubular sleeve slid around said bottom plate, wherein said tubular sleeve is comprised of:

a flattened tubular base layer;

a dry layer attached to an exterior of a bottom panel of said base layer for dry mopping;

an absorbent layer attached to an interior of said bottom panel of said base layer for absorbing liquid for wet mopping;

a bind layer with opposite edges attached to said interior of said base layer, wherein said wet layer is secured between said bind layer and said base layer; and

a space between said bind layer and a top panel of said base layer, wherein said bottom plate is received in said space;

wherein said top panel of said base layer is clamped between bottom plate and said housing, and said mop pad is stretched taut by said lip on said bottom plate.

11. The mop of claim 10, wherein said bind layer is comprised of a non-woven sheet which is tear resistant and anti-slip.

12. The mop of claim 10, wherein said absorbent layer is comprised of an absorbent material.

13. The mop of claim 10, wherein said base layer is comprised of a material for allowing said liquid to pass through to said absorbent layer.

14. The mop of claim 10, wherein said dry layer is comprised of a fabric which is electrostatic, and tear and stretch resistant.

15. The mop of claim 10, wherein said dry layer is removably attached to said base layer along opposite edges of said dry layer to enable said dry layer to be torn away from said base layer after use.

16. The mop of claim 10 further including additional dry layers stacked on said dry layer for being peeled off individually after each use.

17. The mop of claim 10, further including tabs on opposite ends of said top panel for being gripped during removal.

18. A mop pad, comprising:

a flattened tubular sleeve for being slid around a rigid mop head.

19. The mop pad of claim 18, wherein said tubular sleeve is comprised of:

a flattened tubular base layer;

a dry layer attached to an exterior of a bottom panel of said base layer for dry mopping;

an absorbent layer attached to an interior of said bottom panel of said base layer for absorbing liquid for wet mopping;

a bind layer with opposite edges attached to said interior of said base layer, wherein said absorbent layer is secured between said bind layer and said base layer;

a space between said bind layer and a top panel of said base layer for receiving said mop head.

20. The mop of claim 18, further including tabs on opposite ends of said tubular sleeve for being gripped during removal.

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