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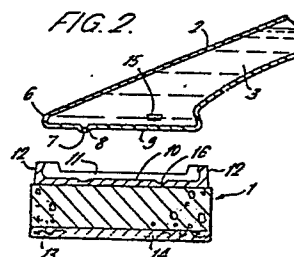
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54 Cleaning device.

57 A cleaning device comprises a work head (1) carried by a handle (2) which constitutes a reservoir for a liquid (3) to be dispensed by way of the work head (1), in which the work head (1) is movably mounted on the handle (2) such that a single discharge hole (7) in the handle (2) can selectively be brought into register with any one of the plurality of mutually different size entry holes (17) in the work head (1), whereby the rate of discharge of the liquid from the reservoir (2) can be set.



CLEANING DEVICE

This invention relates to a cleaning device and particularly to a cleaning device comprising a work head carried by a handle which incorporates a reservoir for a liquid to be dispensed by way of the work head during use of the device.

Such devices find use in the domestic environment where they are used to clean, for example, baths, the work head comprising a rigid base carrying a porous resilient material body formed, for example, of a plastics material sponge, having a working surface member formed by a porous plastics material member having the necessary abrasive cleaning properties, bonded thereto.

For use of such a device, a cleaning liquid such as a detergent solution, is introduced into the reservoir, and when the working surface member is engaged with an object being cleaned, cleaning liquid passes from the reservoir into the work head and thus onto the object being cleaned.

In known devices the reservoir is sealed

save for a discharge hole leading from the reservoir into the work head. Cleaning liquid cannot leave the reservoir through the discharge hole except when the device is in use, since normally air cannot enter the reservoir to displace liquid. However, in use of the device the work head is compressed against the object being cleaned, and on compression of the work head air is introduced into the reservoir through the discharge hole, which air displaces liquid from the reservoir through the discharge hole into the work head when the compression of the work head is released.

According to this invention there is provided a cleaning device comprising a work head carried by a handle which incorporates a reservoir for a liquid to be dispensed by way of the work head during use of the device, in which the work head is mounted on the handle such that it is movable thereon relative thereto, there being a single discharge hole in the reservoir, which discharge hole can selectively be brought into register with any one of a group of mutually different size liquid entry holes in the work head by appropriate movement of the work head relative to the handle.

The device of this invention has the advantages that it can be set to discharge liquid from

the reservoir to the work head at varying rates in dependence upon the size of the liquid entry hole in the work head aligned with the discharge hole in the reservoir, and that the size of liquid entry hole
5 used can be chosen in dependence upon the viscosity of the liquid contained in the reservoir.

A cleaning device according to this invention will now be described by way of example with reference to the drawing, in which:-

10 Figure 1 is a side view of the device;

 Figure 2 is an exploded sectional view on the line II-II in Figure 1; and

 Figure 3 is a plan view of the work head of the device.

15 The cleaning device comprises a work head 1 carried by a handle 2 which also constitutes a reservoir for a cleaning liquid 3 to be dispensed by the work head 1 during use of the device.

 The handle 2 is a hollow elongate transparent member moulded from high tensile polyvinyl-
20 chloride, having an open end 4 by which the liquid 3 can be introduced into the handle 2, the open end 4 being closed in air-tight manner after introduction of the liquid 3, by a cap 5 which is in screw-thread
25 engagement with the handle 2.

The other end 6 of the handle 2 terminates in an enlarged circular cross-section portion, and is closed apart from a small discharge hole 7 through a pimple 8 on a substantially flat closing end wall 9.

5 The work head 1 comprises a substantially rigid circular base member 10 having an upstanding flange 11 about its periphery sized to receive the end portion 6 of the handle 2 therein. At two diametrically opposed positions the flange 11 is of increased height to provide two securing members 12 by which the head 1
10 can be detachably secured to the handle 2 in a clip-on arrangement, the head 1 being rotatable relative to the handle 2 about the axis of the head 1, when mounted on the handle 2, as indicated by the arrow in Figure 1.

15 The end portion 6 of the handle 2 is formed with a pair of stops 15 which engage the ends of the increased height flange portions 12 on the head 1 to limit the rotation of the head 1 relative to the handle 2.

 The base member 10 of the head 1 has
20 bonded thereto a porous resilient plastics material sponge body 13 which in turn has a porous plastics material working surface member 14 bonded thereto.

 The base member 10 of the head 1 is formed in its outer surface with two diametrically opposed
25 groups of three dimples 16, the dimples 16 in each

group being arranged on an arc having a radius from the axis of rotation of the head 1 on the handle 2 equal to the distance of the pimple 8 on the end wall 9 of the portion 6 of the handle 2 from that axis. Thus, by
5 rotation of the head 1 relative to the handle 2 when mounted thereon, the pimple 8 can be brought into register with any one of the dimples 16 of a group thereof.

As clearly shown in Figure 3, one of the
10 dimples 16 in each group is blind, while the other two dimples of the group have mutually different size liquid entry holes 17 at their bottoms, which entry holes pass through the base member 10 of the head 1.

For use of the device the head 1 is
15 mounted on the handle 2 and turned to a position in which the pimple 8 on the handle is received in a blind dimple 16 on the head 1. A cleaning liquid 3 is then introduced into the handle/reservoir through the open end 4 thereof, and the cap 5 then fitted.

20 The head 1 is then rotated relative to the handle 2 until the pimple 8 is engaged in a dimple 16 having a liquid entry hole 17 at its bottom, thereby aligning the discharge hole 7 in the pimple 8 with that liquid entry hole 17

25 Thus, when the working surface member 14

of the head 1 is engaged with a surface to be cleaned, for example a bath, and the sponge member 13 of the head 1 is successively compresses and released, cleaning liquid 3 from the handle/reservoir 2 will pass through
5 the discharge hole 7 in the pimple 8 and the entry hole 17 in the dimple 16 in which the pimple is engaged, and impregnate the work head 1 as necessary.

When cleaning is completed the head 1 can be rotated on the handle 2 to a position in which the
10 pimple 8 is received in a blind dimple 16 thereby to prevent seepage of the cleaning liquid 3 from the device when not in use.

Two groups of dimples 16 are provided since with use of the device the work head 1 may become
15 unevenly worn, at which time the head 1 can be detached from the handle 2, rotated through 180° relative thereto, and then remounted on the handle 2, the pimple 8 thus being brought into co-operation with the second group of dimples 16 in the head 1 while the head 1
20 presents a new leading working surface in use.

The provision of holes 17 of different size in the dimples 16 of each group thereof enables the flow rate of the cleaning liquid 3, during use of the device, to be varied as required, for example in
25 dependence upon the viscosity of the cleaning liquid.

CLAIMS

1. A cleaning device comprising a work head
carried by a handle which incorporates a reservoir
5 for a liquid to be dispensed by way of the work head
during use of the device, characterised in that the
work head (1) is mounted on the handle (2) such that
it is movable thereon relative thereto, there being
a single discharge hole (7) in the reservoir (2),
10 which discharge hole (7) can selectively be brought
into register with any one of a group of mutually
different size liquid entry holes (17) in the work
head (1) by appropriate movement of the work head
(1) relative to the handle (2).
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2. A device as claimed in Claim 1,
characterised in that the work head (1) can be moved
relative to the handle (2) to a position in which
the discharge hole (7) in the reservoir (2) is closed
20 by the work head (1).

3. A device as claimed in Claim 1, or
Claim 2, characterised in that movement of the
work head (1) relative to the reservoir (2) is

rotary, the liquid entry holes (17) in the work head (1) being arranged on an arc traversed by the discharge hole (7) in the reservoir (2) relative to the work head (1) on movement of the work head
5 (1) relative to the reservoir (2).

4. A device as claimed in any preceding claim, characterised in that there are two of said groups of liquid entry holes (17) in the work head
10 (1), the work head (1) being detachably mountable on the handle (2) with the discharge hole (7) in the reservoir (2) located for co-operation with either of the groups of liquid entry holes (17) in the work head (1).

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5. A device as claimed in any preceding claim, characterised in that the work head (1) and handle (2) have co-operating stop members (12, 15) operative to limit movement of the work head (1)
20 relative to the handle (2).

6. A device as claimed in any preceding claim, characterised in that the work head (1) is detachably mounted on the handle (2) as a clip-on

arrangement.

7. A device as claimed in any preceding
claim, characterised in that the handle (2)
5 constitutes the reservoir.

8. A device as claimed in any preceding
claim, characterised in that the handle (2) and
reservoir are formed by a plastics material moulding.
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9. A device as claimed in any preceding
claim, characterised in that the reservoir (2) has a
filler hole (4) through which liquid (3) can be
introduced into the reservoir (2) and which can be
15 closed by a cap (5) in screw-thread engagement with
the reservoir (2).

10. A device as claimed in any preceding
claim, characterised in that the reservoir (2) is
20 transparent.

