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(71) Applicant: **Little, Richard Lionel**
37 Maisemore Gardens Emsworth
Havant Hampshire PO10 7JX(GB)

(71) Applicant: **Jackson, Arthur Jacob**
4 Harsfold Close
Rustington W. Sussex(GB)

(72) Inventor: **Little, Richard Lionel**
37 Maisemore Gardens Emsworth
Havant Hampshire PO10 7JX(GB)

(74) Representative: **Moore, Anthony John et al,**
Gee & Co. Chancery House Chancery Lane
London WC2A 1QU(GB)

(54) **Hair rinsing devices.**

(57) A hair rinsing device comprises a basin (10) having four pivotally-mounted, rectangular-form hoop ducts (38) extending thereacross, each being supplied with water through duct (32). On each side arm (44) and bridging portion (58) of each duct (38) a jet head (46) is slidably and rotatably mounted. A weir (20) with a central discontinuity extends across the floor of the basin (10) to form a swirlpool.

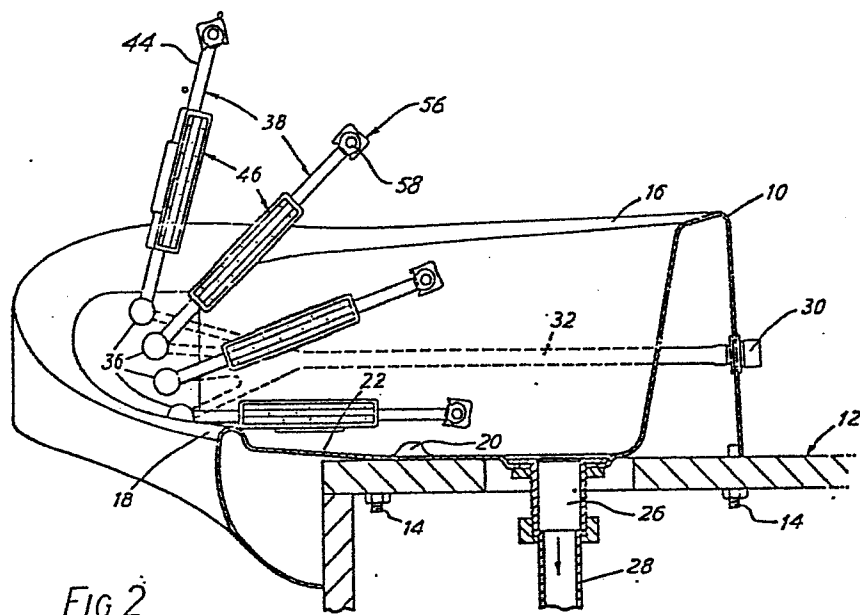


FIG. 2

HAIR RINSING DEVICES

This invention relates to hair rinsing devices, the term "rinsing" being used in this specification to include
5 hair washing and applying to hair a treatment agent such as a solution of neutralising agent. The hair rinsing devices according to the invention find particular, but not exclusive use, in the field of permanent waving.

10 Permanent waving is quite a complicated procedure which comprises the following steps:

- 1) Washing the hair
- 2) Rolling the hair in curlers
- 3) Applying chemical solution A
- 15 4) Allowing solution A to take effect
- 5) Rinsing the hair thoroughly
- 6) Applying chemical solution B
- 7) Allowing chemical solution B to take effect
- 8) Removing the curlers
- 20 9) Rinsing the hair
- 19) Drying the hair

The rinsing step 5) is critical as, if solution A is not completely rinsed away, the waving will fail and the
25 whole procedure have to be repeated. As complete rinsing is so important a rinsing time of ten minutes is recommended and the hairdresser must ensure that the most dense portions of hair receive most attention. Clearly the rinsing step is tedious to perform, tending
30 to lead to lapses of concentration on the part of the hairdresser with the consequence that patches of hair may not be completely rinsed and the waving fails.

Numerous devices have been proposed to reduce the labour
35 involved in permanent waving and in performing other hair

treatments. These devices require the use of pumps, motors or complicated mechanical movements in order to achieve the desired result; and in most cases the use of guards or total enclosures for the head are necessary
5 to prevent splashing and fluid loss, in particular from fluid directed upwardly at the back of the user's head.

According to the invention described in UK Patent Application No. 2 133 283 A these problems were largely
10 overcome by the provision of a hair rinsing device comprising a basin for receiving the head of a person whose hair is to be rinsed, spray means for forming a spray constituted by a plurality of individual streams of water and comprising a number of ducts, each provided
15 with a series of nozzles and each arranged to be independently adjustable to a fixed position such that the whole area of hair unobstructed by the floor of the basin is, in use, simultaneously exposed to said spray.

20 Although this arrangement is generally satisfactory it has been found that with certain head shapes and when using certain recent, very thick perm solutions, reliance could not be placed on the hair itself to transmit rinsing water and thus rinse areas of hair between the individual
25 streams.

According to the present invention this drawback is overcome by the provision of nozzles which are adjustable with respect to the ducts.

30 Preferably the ducts are constituted by rectangular-form hoops and are pivotally mounted on the basin. Preferably again the nozzles are grouped in jet heads which are linearly and/or rotationally adjustable with respect to
35 the ducts.

In a preferred embodiment a weir extends across the bottom of the basin to form a swirl-pool in which hair at the back of the head may lie for prolonged contact with rinsing water.

5

With the use of the device according to the present invention all hair rinsing operations may be performed within the basin and with the most efficient use of the available water or solution.

10

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings in which

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Figure 1 is a plan of the basin of a hair rinsing device according to the invention;

Figure 2 is a section on the line II-II in Fig. 1;

Figure 3 is an elevation of a duct, on an enlarged scale and in partial section; and,

20

Figure 4 is a detail of a duct, being an enlarged fragmentary section on the line IV-IV in Fig. 1.

The hair rinsing device shown in the drawings consists essentially of a basin 10 moulded from plastics material, and spray means (to be described later) mounted thereon.

25

The basin 10 is secured to a work surface 12 by bolts 14 and has an integral double wall 16. At the projecting front end portion of the basin 10 the wall 16 is recessed and lowered to provide a neck support 18. Across the central portion of the floor two transverse ridges 20 extend inwardly to form at the front end portion of the basin 10 a swirl-pool area 22 from which water may flow through the run-away 24 defined by the inner ends of the ridges 20 to an outlet 26 projecting through the work surface 12 and connected to a drain tube 28.

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A water supply inlet connection 30 is mounted in the outer rear wall 16 and connected by a branched primary duct 32 to four fixed hollow spigots 34 projecting through the inner side wall of the basin 10, each of which rotatably receives a boss 36. Each boss 36 has an radial bore for receiving one end of a rectangular form hoop duct 38 spanning the basin 10 and an axial bore to allow fluid communication between the spigot 34 and the radial bore. The other end of each hoop duct 38 is blanked off by being located in a similar, but solid, boss 40 and spigot 42 mounted on the opposite inner wall 16 of the basin 10.

On each of the radially-extending side portions 44 of each hoop duct 38 is slidably and rotatably received a generally square-section jet head 46 having a hollow rubber body 48 which is in fluid communication with the interior of the duct 38 through a flow window 50. Inset into one face of the body 48 is a jet panel 52 having three convexly-disposed longitudinal faces, each of which is apertured to form a line of nozzles 54 therealong; the panels 52 are detachable for descaling. A similar, but longer, jet head 56 is mounted on the intermediate portion 58 of each hoop duct 38 bridging the two side portions 44.

For use the inlet connector 30 of the hair-rinsing device is connected to an adjustable-temperature supply of water. The head of the user whose hair is to be washed is then placed face upwards in the basin 10 with the neck resting on the neck support 18 and with the hoop ducts 38 all positioned horizontally. After the water supply has been turned on the hoop ducts 38 are pivoted upwardly roughly to the positions shown in Fig. 2 and the jet heads 46 are slid along the respective portions of the hoop ducts 38 and rotated until the spray

formed by the streams of water issuing through the
nozzles 54 gives complete coverage of the exposed hair,
depending on the head shape and hair style. The saddle-
form thickening 48a of each jet head body 48 facilitates
5 the positioning of the jet head by providing a finger
grip and also a positive indication of the orientation
of the jets before the water is turned on. The head is
allowed to remain in position for the recommended rinse
time, at the end of which the hair will be completely
10 rinsed and free of any previously applied chemical
solution.

Rinsing water accumulating in the swirlpool area 22
provides a pool in which hair at the back of the head
15 can lie for continuous immersion: it will be appreciated
that the run-away 24 controls the flow of water through
the swirlpool area 22 and promotes a positive rinsing
flow therethrough. The height of the wall 16 effectively
confines the water within the basin 10 and obviates the
20 need for enclosing the head within a hood.

The device may be modified by fitting process timers
and/or an indicator to indicate the state of neutralisa-
tion or cleanliness of the water draining from the hair.
25 Provision may also be made for the introduction of a
neutralising agent into the water inlet.

CLAIMS

1. A hair rinsing device comprising a basin for receiving the head of a person whose hair is to be rinsed, spray means for forming a spray constituted by a plurality of individual streams of water and comprising a number of
5 ducts, each provided with a series of nozzles and each arranged to be independently adjustable to a fixed position, characterised in that the nozzles are adjustable with respect to the ducts.
- 10 2. A device as claimed in claim 1, in which the nozzles are grouped in jet heads which are linearly adjustable with respect to the ducts.
3. A device as claimed in claim 1 or 2, in which
15 the nozzles are grouped in jet heads which are rotationally adjustable with respect to the ducts.
4. A device as claimed in claim 2 or 3, in which each jet head comprises a jet panel having three convexly-
20 disposed longitudinal faces.
5. A device as claimed in any preceding claim, in which each duct is constituted by a hoop having two rectilinear side arms, each pivotally mounted at one end
25 on the basin, the radially outer ends being bridged by a rectilinear intermediate portion.
6. A device as claimed in any preceding claim, in which the bottom of the basin is provided with a weir
30 forming, in use, a swirl-pool.
7. A device as claimed in claim 6, in which the

weir is formed with a gap to provide positively controlled out-flow of water.

8. A device as claimed in any preceding claim, in
5 which a portion of the wall of the basin is formed with a U-shaped profile for receiving the neck of the user, the remaining wall portion being of sufficient height effectively to confine water within the basin.

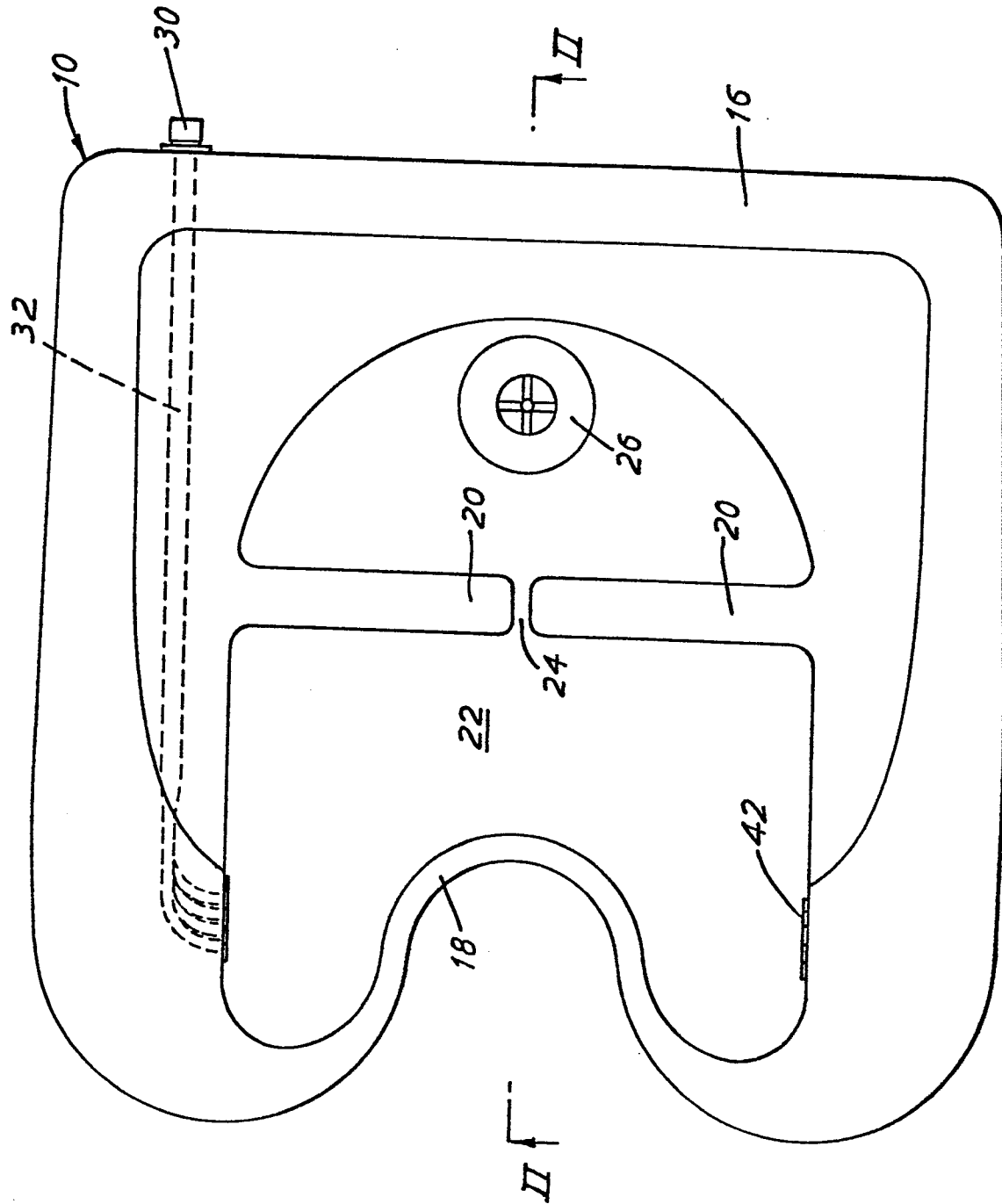


FIG. 1

