

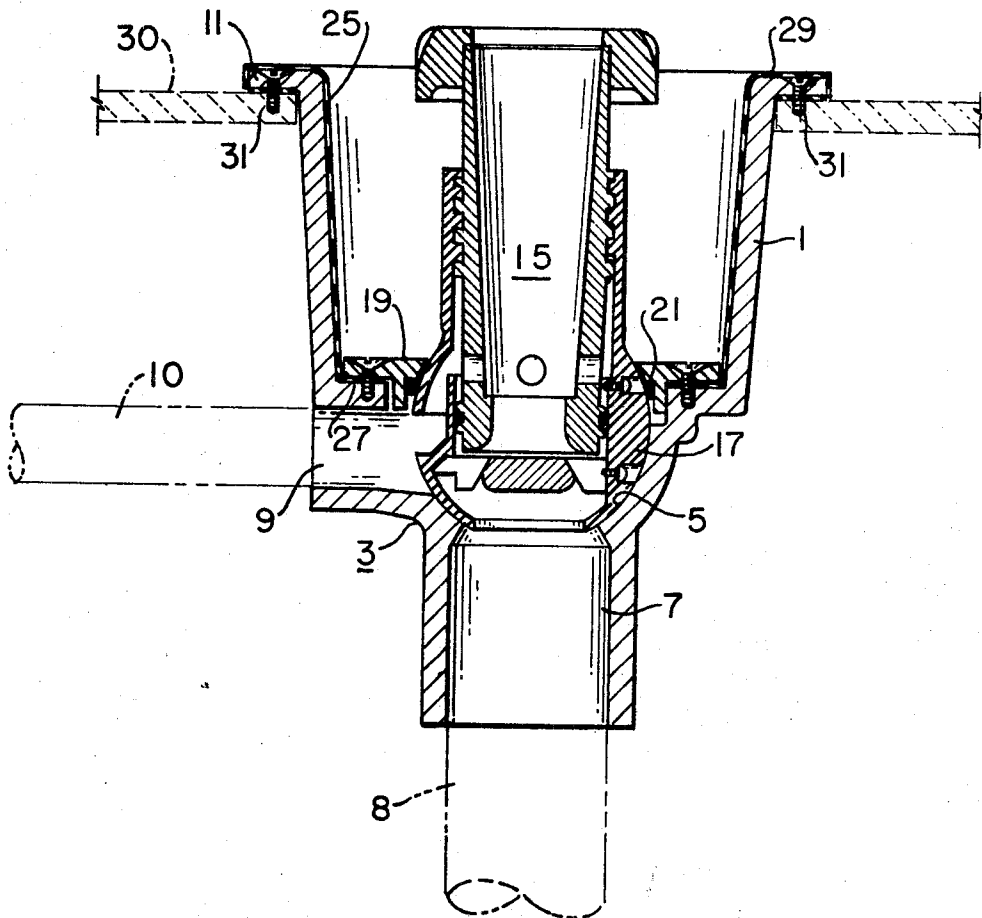
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 [73] Assignee **Jacuzzi Research Inc.**
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[56] **References Cited**
UNITED STATES PATENTS
 3,297,025 1/1967 Jacuzzi 128/66
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[54] **HYDRO-AIR JET HEAD ASSEMBLY**
7 Claims, 2 Drawing Figs.

[52] U.S. Cl. **128/66,**
4/180
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 [50] Field of Search. **128/24.1,**
24.2, 66; 4/178, 180

ABSTRACT: A hydroair jet head assembly for installation in a tank wall for hydromassage purposes, involves a recessed housing, the exposed inner wall surface of which is covered by a replaceable lining which is installable through the open end of the recessed housing, to economically enable replacement of a decorative surface, if and when such surface is adversely affected by chemicals in the water with which it comes in contact or by frequent cleaning and polishing.



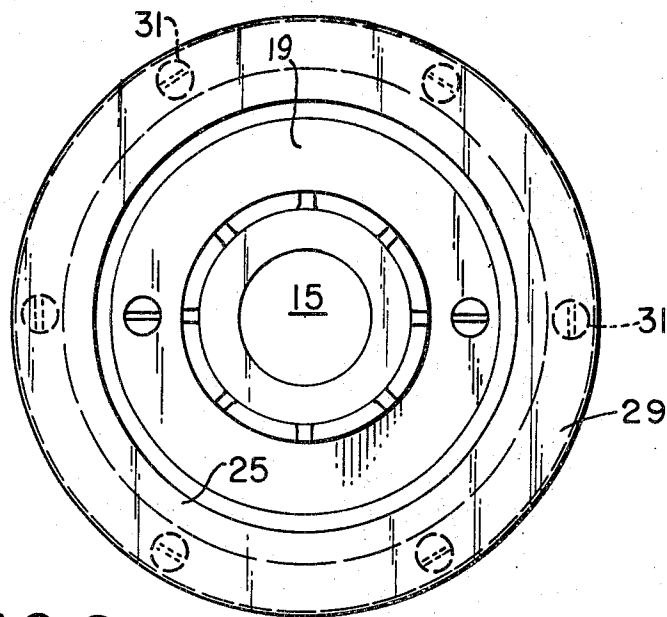


FIG. 2

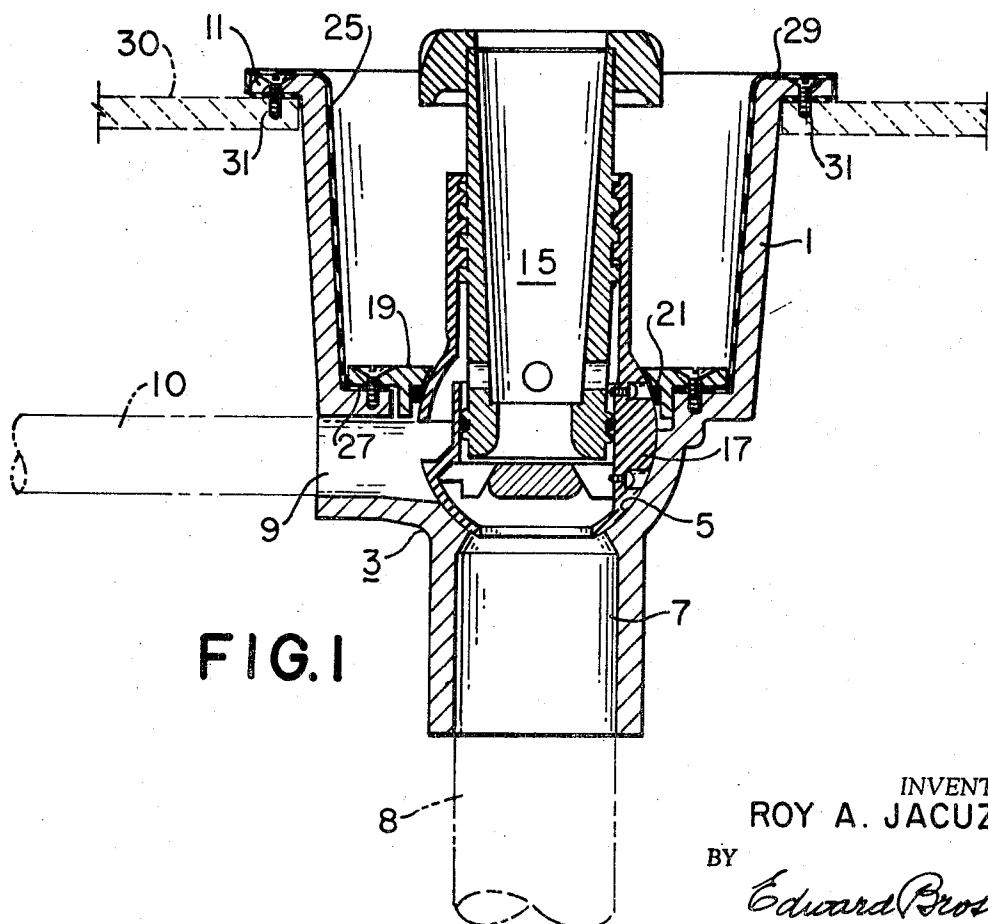


FIG. 1

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HYDRO-AIR JET HEAD ASSEMBLY

My invention relates to hydrotherapy equipment and more particularly to a hydroair jet head assembly for installation in the wall of a tank involved in such equipment.

Hydrotherapy equipment involving a tank or tub having a hydroair jet head assembly flush mounted in a wall of such tank is known in the prior art. An example of such type of equipment may be found in the patent to C. Jacuzzi for Hydrotherapy Tub, U.S. Pat. No. 3,297,025 of Jan. 10, 1967.

The hydroair jet head assembly employed in such installations in the past, involves recessed housing having an inner end terminating in a wall structure formed to provide a hemispherical socket, and a water flow passageway, in addition to an air flow passageway, both leading to the socket. A nozzle assembly in the recessed housing, having a ball end is installed with the ball end thereof in the socket, to permit angular adjustment of the nozzle. The component parts of such prior hydroair jet head assembly were such that, when once installed with all plumbing connections thereto, it became impractical to thereafter disassemble and remove such an installation.

From a functional standpoint, the removal of a hydroair jet head assembly should never be necessary. It so happens, however, that from the view point of appearance and beauty, the interior surface of the recessed housing is customarily chrome plated, and in deluxe installations, may even be gold plated. Such finishes when exposed to chemicals sometimes prevalent in city water, or when subjected to repeated cleaning and polishing, particularly with the use of cleansers, will become discolored or worn and require replating to restore the initial appearance.

With prior installations of the type referred to, this could not be done without dismantling the plumbing and the housing itself, and, more often than not, such plumbing was not readily accessible, being hidden behind walls or other construction.

Among the objects of my invention are

1. To provide a novel and improved hydroair jet head assembly;

2. To provide a novel and improved hydroair jet assembly which may be flush mounted in the wall of a tank while permitting restoration of the polished inner surface of the recessed housing, without necessitating a dismantling of the entire jet head assembly or the plumbing connected thereto.

Additional objects of my invention will be brought out in the following description of the preferred embodiment of the same, taken in conjunction with the accompanying drawings wherein

FIG. 1 is a view, in section, through a hydroair jet head assembly of the present invention, and

FIG. 2 is a frontal view of the same.

Broadly speaking, the hydroair jet head assembly of the present invention is so designed and constructed as to provide for the inclusion of a replaceable liner, which in turn will provide the inner surface of the jet head assembly. The provision of such a liner, in turn, enables radical changes in the construction and material employed in the fabrication of the entire hydroair jet head assembly.

Referring to the drawings for details of my invention in its preferred form, I provide a recessed housing 1 having an inner end terminating in a wall structure 3 formed to provide a hemispherical socket 5 with a water flow passageway 7 for a water line 8 and an air flow passageway 9 for an air intake tube 10, both passageways leading to the socket. Bordering the open end of the housing is an outwardly directed flange 11 having spaced screw holes for mounting purposes.

Installed in the recessed housing is a nozzle assembly 15 having a ball end 17 adapted to fit into the socket, in which it is retained by means of a retaining ring 19 removably affixed to the rear wall of the housing by screws. A seal 21 between the retaining ring and the ball end of the nozzle assembly will permit angular adjustment of the nozzle assembly while precluding leakage at this point.

The specific details of design of the nozzle assembly are not critical to the present invention, that illustrated in the drawings being similar to that depicted in the patent to C. Jacuzzi for Hydrotherapy Unit, U.S. Pat. No. 3,273,560 of Sept. 20, 1966, or such nozzle assembly could be along the lines of that illustrated in the aforementioned Jacuzzi U.S. Pat. No. 3,297,025.

Covering the inner surface of the recessed housing is a liner 25, formed at its inner end with an intumed flange 27 adapted to abut the rear end wall of the housing, and at its outer end, the liner is provided with an outwardly directed flange 29 conforming to and enclosing the mounting flange 11 of the housing.

Such liner is formed as an independent component, of metal or any other suitable material which can present a lustrous or highly polished surface, and will be installed prior to the application of the retaining ring, whereby the liner will be anchored to the rear end wall of the recessed housing by the retaining ring. Thus, by the simple act of removing the retainer ring, the liner itself may be removed either for replacement or for refinishing the surface thereof, should such surface become worn or discolored and call for a change.

When installing the hydrojet air head assembly, the housing is inserted from within the tank, through an opening provided therefor in a wall 30 of the tank, the housing being retained therein by screws 31 through the holes provided in the housing flange, and the water line 8 and the air intake tube 10 may then be connected at the rear of the housing in the passages provided therefor. Upon insertion of the nozzle assembly in the socket, the liner may be added and the head assembly installation completed by the application of the retaining ring.

The utilization of an independent replaceable liner for the purpose indicated, permits of molding the entire housing including the rear end wall structure, in one piece and of material as plastic, thereby enabling a considerable reduction in cost, both in material and labor. The utilization of plastic as the material for the housing offers the additional advantage of facilitating the use of plastic piping and plastic air intake tube, both of which may readily be plastic welded in the passageways provided for them.

From the foregoing description of my invention in its preferred form, it will be apparent that the same fulfills all the objects of my invention and while I have illustrated and described the same in considerable detail, the same is subject to alteration and modification without departing from the underlying principles involved, and I accordingly do not desire to be limited in my protection to the specific details illustrated and described except as may be necessitated by the appended claims.

I claim:

1. A hydroair jet head assembly comprising a recessed housing having an inner end terminating in a wall structure formed to provide a hemispherical socket in part of the wall structure leaving a portion of the wall structure exposed, said hemispherical socket being provided with a water flow passageway and an air flow passageway leading to said socket, a nozzle assembly in said recessed housing and having a ball end fitting said socket, means for retaining said nozzle in said recessed housing with its ball end in said socket, and a replaceable liner fitting the exposed interior wall surface of said recessed housing and installable through the open end of said housing.

2. A hydroair jet head assembly in accordance with claim 1, characterized by said recessed housing having a flange about its open end for mounting of said head assembly in the wall of a tank with the open end of said housing facing inwardly of said tank, and said replaceable liner having a corresponding flange at its proximate end, adapted to overlay said housing flange.

3. A hydroair jet head assembly in accordance with claim 2, characterized by said means for retaining said nozzle assembly in said recessed housing, including a ring affixed to said housing about the ball end of said nozzle assembly and having a friction seal bearing on said ball end, and further charac-

terized by said replaceable liner having an inturned flange at its inner end, extending behind said ring and removably secured in its installed position by said ring.

4. A hydroair jet head assembly in accordance with claim 1, characterized by said means for retaining said nozzle assembly in said recessed housing being installable through the open end of said housing and including means for retaining said replaceable liner in said housing.

5. A hydroair jet head assembly in accordance with claim 1, characterized by said housing being of plastic and said replaceable liner being of metal having a prepared surface.

6. A hydroair jet head assembly in accordance with claim 1, characterized by said means for retaining said nozzle assembly in said recessed housing, including a ring affixed to said housing about the ball end of said nozzle assembly and having a friction seal bearing on said ball end.

7. A hydroair jet head assembly in accordance with claim 6, characterized by said replaceable liner having an inturned flange at its inner end, extending behind said ring in the installed position of said liner and removably secured in its installed position by said ring.

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