

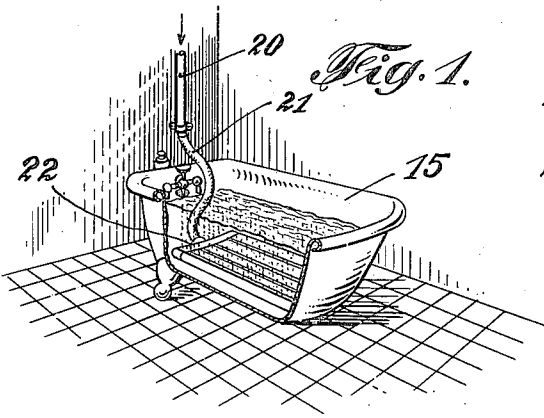
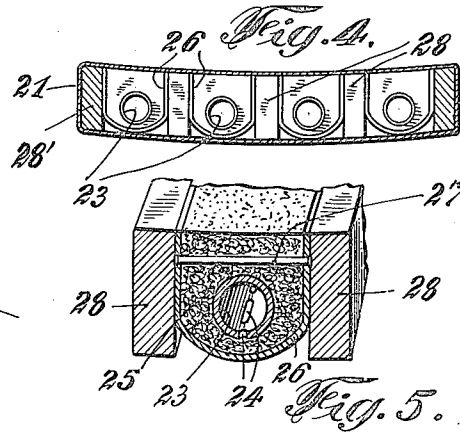
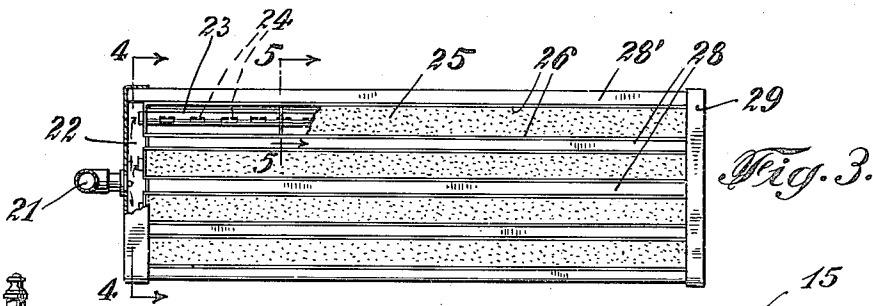
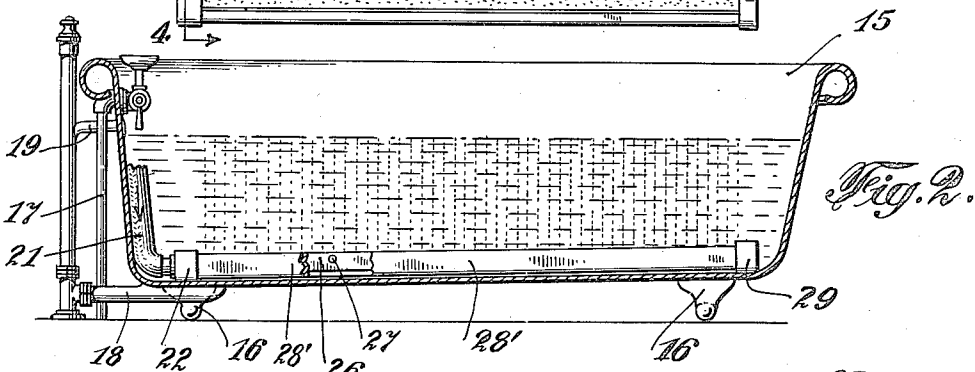
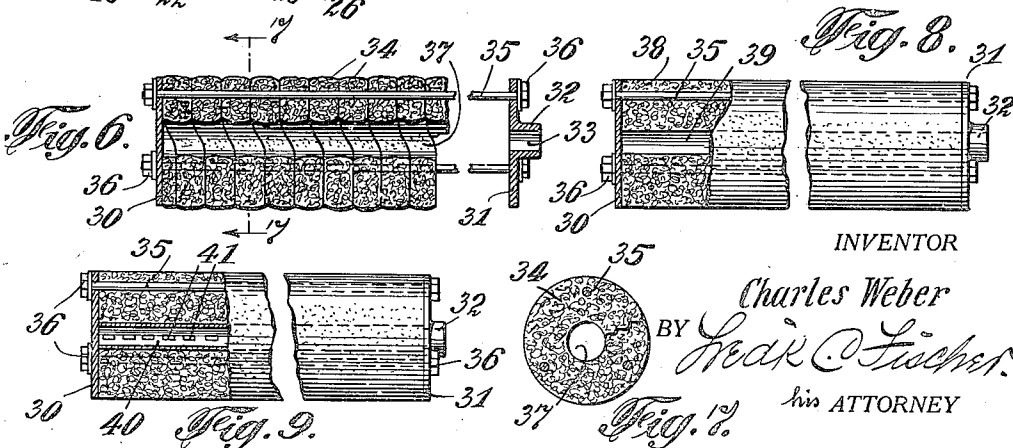
Dec. 30, 1924.

1,521,143

C. WEBER

AERATING BUBBLER

Filed June 15, 1923



INVENTOR

Charles Weber

BY *Heck C. Fischer*

his ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES WEBER, OF NEWARK, NEW JERSEY, ASSIGNOR TO WEBER PEARL BATH COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

AERATING BUBBLER.

Application filed June 15, 1923. Serial No. 645,487.

To all whom it may concern:

Be it known that I, CHARLES WEBER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Aerating Bubblers, of which the following is a specification.

This invention relates to improvements in devices for aerating and oxygenizing a body of water as contained in a tank by causing an infinite number of minute bubbles to pass from the bottom upward through the water.

One of the objects is to provide a means for accomplishing the breaking up and dispersal of air or gas, under pressure, into small globules, the same to be entered into a body of liquid in which they rise, by the difference in specific gravity, in the form of a continuous succession of bubbles, thoroughly aerating the same.

The uses of such devices are many, among which may be mentioned, the enlightened treatment, of certain diseases, as nervous ailments and the like, and-for obtaining pleasant and invigorating sensations during a bath.

These objects are accomplished by the novel construction and combination of parts and use of certain well known principles of physics, hereinafter described and illustrated in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a perspective view of a conventional bath tub having its walls partially broken in order to disclose one application of the invention.

Figure 2 is an enlarged longitudinal sectional view taken through the same.

Figure 3 is a plan view of the device as used therein, parts being in section to show the construction.

Figure 4 is an enlarged transverse sectional view taken on line 4—4 of Figure 3.

Figure 5 is a further enlarged similar sectional view taken on line 5—5 of Figure 3.

Figure 6 is a partial longitudinal sectional view showing a modified type of air dispensing unit.

Figure 7 is a transverse sectional view taken on line 7—7 of Figure 6.

Figure 8 is a partial side, partial sectional view showing another form of dispenser construction.

Figure 9 is a view similar to Figure 8 illustrating a further modification in construction.

Although the illustrations appertain largely to embodiments indicative of applications for bathing purposes, it is to be clearly understood at the outset that the invention is far from being confined to this specific purpose, it being but one of the many fields of its usefulness.

In Figure 1, the corner of a bathroom of common type is shown, in which is disposed a conventional type of bath tub resting upon feet 16 in such manner that the tub will be drained by gravity, the same being supplied with water through the pipe or pipes 17 and drained by the outlet pipe 18, connecting with the sewer inlet, the tub being provided with an overflow 19 also communicating with the sewer.

A pipe 20 leads from any supply source of compressed air and may have, at its lower part, a flexible portion 21, enabling the apparatus to be removed for the purpose of more thoroughly draining and also for cleansing the tub.

The pipe 21 preferably enters a header 22 in which are connected tubes 23 extending to any desired length within the tub and are provided with a plurality of short and narrow elongated slots 24 in the lower portion of the wall so that the issuing air is directed downwardly.

Surrounding the tubes 23 is a mass of foraminous, hair-like material 25 packed tightly within a U-shaped envelope 26, the same being open at the top and its sides confined by bolts or rods 27 to prevent spreading, these rods passing through the material, tending to hold the same in place, but it is to be understood that this felted hair-like material is not so firmly compacted as to prevent the air rising through its interstices and pass upward into and thru the water in the form of a succession of small independent bubbles.

Between the open envelopes or partial casings 26 may be interposed wooden slats 28, similar but longer slats 28' being arranged at the sides, these outer slats being

secured at their ends to the header 22 at one end and a similar header 29 at the foot, forming a suitable structure upon which a person may recline in comfort.

5 The structure described is not however to be regarded as strictly essential, the invention being rather in the structure of the air dispensing units than in their particular disposition, one of these units having been
10 shown in Figure 5.

Another unit, as shown in Figure 6, is made with a disc 30 at one end and a similar disc or washer 31 at the other, the latter element having a hub 32 containing an opening 33 to which an air attachment may be made.

A coiled skein of compressed hair-like material 34 is held between these washers which are drawn firmly against the ends of the coil
20 by rods 35 threaded at their ends and provided with nuts 36, these rods passing through the several convolutions of the fibrous material, holding them from displacement and assuring a clear central space or
25 core 37 in register with the opening 33.

A similar disposition of like parts is seen in Figure 8, but in this case the material is shaped in the form of a hollow cylinder 38 having a central core 39, the rods and end
30 clamping devices being the same.

In both the types shown in Figures 6 and 8 the air is delivered directly into the core or central opening and escapes in all directions through the material, which is obviously submerged in the liquid at the bottom of the
35 tank containing the same.

In Figure 9 a device identical with that illustrated in Figure 8 is shown with the additional element of an interior tube 40
40 having perforations, preferably short, narrow slots 41, in its lower wall.

Although the foregoing is generally descriptive of the construction of embodiments of unitary types of the bubbler units, it is
45 apparent that many minor modifications can be made therein without departing from the scope and tenor of the invention as defined in the claims hereto appended.

Having thus described my invention and
50 set forth the manner of its construction and

use, what I claim as new and desire to secure by Letters Patent, is:—

1. A device for distributing gases in liquids comprising in combination, end elements, compressed hair-like material disposed between said end elements, its entire
55 outer surface in contact with the liquid to allow a free distribution of the gas in all directions, and means for securing said end elements and compressed material together. 60

2. A device for distributing gases in liquids comprising in combination, end elements, compressed hair-like material disposed between said end elements, its entire
65 outer surface in contact with the liquid to allow a free distribution of the gas in all directions, and means passing through said end elements and said hair-like material for uniformly compressing said material between said end elements. 70

3. A device for distributing gases in liquids comprising in combination, end elements, compressed hair-like material disposed between said end elements, its entire
75 outer surface in contact with the liquid to allow a free distribution of the gas in all directions, means for securing said end elements and material in compression, and a perforate tube formed longitudinally in said material, said tube being accessible through
80 one of said end elements.

4. A device for distributing gases in liquids comprising in combination, end elements, one being a disc and the other a washer having a hollow hub, compressed
85 hair-like material disposed between said disc and washer, its entire outer surface in contact with the liquid to allow a free distribution of the gas in all directions, a tube passing longitudinally through said compressed
90 material, said tube having perforations in its wall and being disposed in register with the opening in said hub.

This specification signed and witnessed this 23rd day of May, 1923.

CHARLES WEBER.

Witnesses:

FRED'K C. FISCHER,
FERDINAND NOLL.