

L. VON ORTH.

MEANS FOR INTRODUCING GASES INTO BATH FLUIDS.

APPLICATION FILED DEC. 9, 1901.

NO MODEL.

Fig. 1.

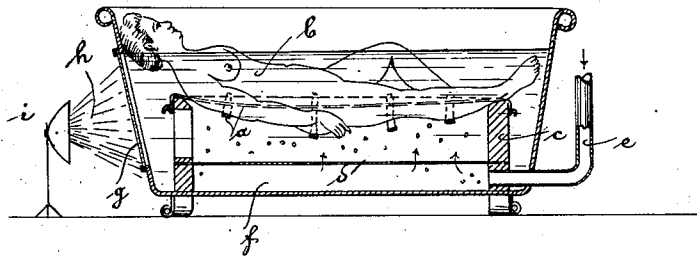
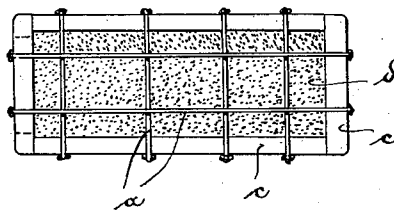
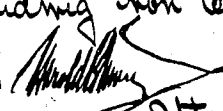


Fig. 2.



Witnesses.
Henry S. Morton.
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UNITED STATES PATENT OFFICE.

LUDWIG VON ORTH, OF BERLIN, GERMANY.

MEANS FOR INTRODUCING GASES INTO BATH FLUIDS.

SPECIFICATION forming part of Letters Patent No. 743,025, dated November 3, 1903.

Application filed December 9, 1901. Serial No. 85,227. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG VON ORTH, philosophiæ doctor, a citizen of the German Empire, residing at Ludwigs-kirchstrasse 9, Berlin W., Germany, have invented a new and useful Improvement in Means for Introducing Gases into Bath Fluids, of which the following is a specification.

My invention relates to means for introducing air and other gases in a finely-divided form into bathing fluids; and the subject of my invention is to provide a substitute for baths of that kind where gases are produced in the bath fluid or where fluids which are impregnated with gases are used as bath fluids.

If desired, I may combine the new device for introducing gases into a bath fluid with means for projecting rays of light or other suitable ethereal vibrations—as, for instance, the X-ray—into the bath fluid laden with the small bubbles of gases. When doing so, the rays of light, &c., are reflected by the small gas-bubbles, so that the bath fluid contains a very great number of luminous points, which irradiate the body of the person who rests in the bath.

I will describe a device embodying my invention and then point out the novel features thereof in claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a bathing-tub with the new device for introducing gases into the fluid. Fig. 2 is a plan view of the device.

Similar letters of reference designate corresponding parts in both figures.

a represents a hammock for supporting the person *b* in the bath fluid. This hammock is fastened to a suitable frame *c*.

d is a tissue fixed in some distance below the hammock *a* to the frame *c*.

e is a tube opening into the chamber *f* below the tissue *d*.

g is a window in the wall of the bathing-tub.

h represents rays of light or other ethereal rays, as the X-ray, adapted to influence the person in the bathing-tub, and *i* is a reflector adapted to throw the rays radiated by a luminous point into the bath fluid.

The operation of the device is as follows: Suitable gases, such as atmospheric air or car-

bonic acid, are introduced with a certain pressure into the chamber *f* below the tissue *d* through the tube *e*. The gases pass through the meshes of the tissue and rise in very small bubbles, so as to pass the meshes of the hammock and strike the body of the person *b*. At the same time the rays *h*, radiated by a luminous point, are reflected by the small gas-bubbles in the bath fluid, so that the downward part of the body of the person resting in the hammock is in all its parts irradiated in a very uniform manner, and the effect of the gas-bubbles on the body is combined with the effect of the ethereal vibrations.

Instead of the hammock some other suitable open-work, such as a grate, may be employed as a support for the person *b*. The tissue *d* is preferably formed of vegetable or animal fibers, but, if desired, may consist of wire-gauze. Instead of a tissue I may employ any surface with small holes, especially a plate of porous clay or some other porous substance. The gases may be produced and compressed in any suitable manner.

An essential feature of my invention consists in the introduction of gases into the bath fluid in a very finely-divided form through very small openings distributed over a nearly horizontal surface. By introducing the gases in the form of separated large bubbles, which stir up the water, it would not be possible to obtain the same results, because the nerves would be shocked by the violent irritation.

In those cases where rays of light, &c., are projected into the bath fluid laden with gas-bubbles, as illustrated and described, every suitable kind of ethereal vibrations may be employed, and the window *g* may be of any suitable color and material. However, I may entirely dispense with the projecting of rays into the bath fluid, as already stated, or I may employ some intermittingly.

Having now particularly described and ascertained the nature of my invention and in what manner the same is performed, I declare what I claim is—

1. In a bathing apparatus, the combination of a vessel adapted to contain the bath liquid and having a transparent portion, an interstitial diaphragm in the lower part of said vessel, means for supplying the gases under pressure to the vessel below the diaphragm

whereby said gases are forced into the liquid above the diaphragm in a finely-divided condition, and means for projecting light vibrations into the bath liquid charged with gas.

5 2. In a bathing apparatus, the combination of a vessel adapted to contain the bath liquid and having a transparent portion, an interstitial diaphragm in the lower part of said vessel, means for supplying the gases under
10 pressure to the vessel below the diaphragm whereby said gases are forced into the liquid above the diaphragm in a finely-divided condition, means for projecting light vibrations into the bath liquid charged with gas, and a
15 separate reticulated support for the person of the bather above the diaphragm and submerged in the charged liquid.

3. In a bathing apparatus, the combination of a vessel adapted to contain the bath liquid;
20 an interstitial diaphragm located near the bottom of the vessel, means for supplying

gases under pressure below the diaphragm and for forcing the same into the liquid above the diaphragm in a finely-divided condition, and means for projecting light vibrations into
25 the bath liquid which is charged with comminuted gases.

4. In a bathing apparatus, the combination of a vessel adapted to contain the bath liquid and having a transparent portion, means for
30 introducing gas in a finely-divided condition into the lower part of said vessel, and means for projecting light vibrations through said transparent portion of the vessel into the bath liquid charged with gas-bubbles.
35

Signed this 23d day of November, 1901, at Berlin.

LUDWIG VON ORTH.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.