

Directions for preparing aerated medicinal waters, by means of the improved glass machines made at Leith Glass-Works.

Contributors

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D I R E C T I O N S

FOR PREPARING

AERATED MEDICINAL

W A T E R S,

BY MEANS OF THE

IMPROVED GLASS MACHINES

M A D E A T

LEITH GLASS-WORKS.

E D I N B U R G H

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DIRECTION

FOR THE

USE OF THE

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DIRECTIONS
FOR MAKING
SIMPLE AERATED
WATER.

I. **S**ET the middle glass of the machine, separated from the rest, on its wooden pedestal, and fill it with pure water.

II. Hold the bottom glass in the position represented in Fig. 1. and putting the
wide

wide glass funnel into the mouth of it, throw in as many half ounces Troy of pounded chalk or marble, as there are English quarts of water in the middle glass ; the chalk will fall into one side of the bottom, and should be collected close together into that side, by shaking and striking the glass properly for that purpose.

III. Take out the funnel, and set the bottom glass a little inclined towards the contrary side, as in Fig. 2. that side in which the chalk lies being a little raised and supported by a firm prop, or by two wedges ; then pour into the lower side, and, without disturbing the chalk, a quantity of the strong vitriolic acid, equal in weight to the chalk, and afterwards add as many English pints of water as there are ounces of the chalk, which water must also be poured in slowly and cautiously, without disturbing the chalk.

IV.

IV. Let the bottom glass remain in the same position, in which it must be secured from slipping down, and care taken that it be not disturbed, but join to it immediately the other pieces of the machine ; the whole of which will lean to one side, in consequence of the inclination of the bottom-glass, as in Fig. 3. ; then taking hold of the top-glass, without lifting the machine, pull the top a few inches [more towards that side to which it inclines, and then let it go back again. This being repeated, will disturb a little of the chalk, and occasion air to rise into the middle glass, and water into the top-glass. Whenever you perceive that, by repeated gentle shakes, so much has arisen, that the middle glass cannot retain any more air, and that a part begins to escape through the crooked pipe into the top-glass, you must leave the machine in perfect rest, and in the same inclined position six hours.

V. At the end of the six hours, loosen and raise the top-glass a little from the middle one, without taking them asunder, but so far that the end of the crooked pipe be raised a little above the water ; thus the water will run down from the top into the middle glass, and fill it quite full as at first, then fix the top-glass again, and shake the machine gently, in the same manner as in Article IV. until the air begin to escape into the upper glass ; after which the machine must be left again at rest six hours, and then the water let down again from the top-glass into the middle one, as above directed.

This shaking of the machine, and subsequent rest, and letting down of the water from the top-piece into the middle one, is to be repeated every six hours, or, if the water is wanted sooner, every four hours, until the whole air is expelled from the chalk, which will require more effectual shaking and stirring up of the chalk, in the
end

be shaken too often, or too much, the air will be discharged too fast, and will pass through the water, and escape without acting sufficiently on it.

There is, however, a manner of shaking the machine, which greatly promotes the action of the air on the water; but it should not be practised until after the first or second six hours. This manner of shaking is performed by quick and short jerks, which dash and mingle the air and water together.

To avoid a risk of cracking the glass, the vitriolic acid employed in each operation may be mixed with an equal measure of water in a China vessel some hours before it is used; thus we avoid exposing the glass to the great heat which this acid produces when first mixed with water.

TO MAKE

ALKALINE AERATED

W A T E R.

Dissolve one-half ounce Troy of Salt of Tatar, or pure alkali, in every English quart of the water, which is put into the middle piece of the machine. This may be done in a large decanter, a day or two before the water is prepared, that you may pour it into the machine, clear from a small sediment, which will settle to the bottom of the decanter. Then proceed to aerate this alkaline water, according to the foregoing directions; taking care only to put into the bottom piece one ounce of chalk, instead of each half-ounce above prescribed, and also a proportional excess in the quantity of the vitriolic acid.

T O M A K E

S E L T E R S W A T E R .

To every English quart of water, which is put into the middle glass of the machine, add the following ingredients.

Chalk, in fine powder, five grains.

Magnesia . . . ~~seven~~

Salt of Tartar . . . ~~seven~~

Common salt . . . thirty-four

Then proceed to aerate the water with these ingredients in it, precisely in the same manner as in preparing simple aerated water.

A N O T H E R W A Y .

In place of the above ingredients, add to each English quart of the water forty grains of salt of Tartar, and thirty-four of common salt, and proceed to aerate as above.

TO MAKE

PYRMONT WATER.

To every English quart of water, contained in the middle glass, add what follows :

Chalk, in fine powder,	6 grains.	
Magnesia	14	15
Vitriolated calcareous earth	12	
Epsom salt	8	
Common salt	2	

And one piece of iron wire, like a fine knitting needle.

Then proceed to aerate according to the first directions.

TO MAKE
SPA W W A T E R.

To every English quart of the water contained in the middle glass add these ingredients.

	Chalk finely powdered	2 $\frac{1}{2}$ grains.
$\frac{1}{2}$	Magnesia . . .	6
$\frac{1}{2}$	Salt of Tartar . . .	6
	Common salt . . .	1

And one piece of wire, like a fine knitting needle.

And proceed to aerate as in the first directions.

ADVER-

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