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H. B. PALMER

EFFERVESCENT SALT UNIT

Filed June 30, 1924

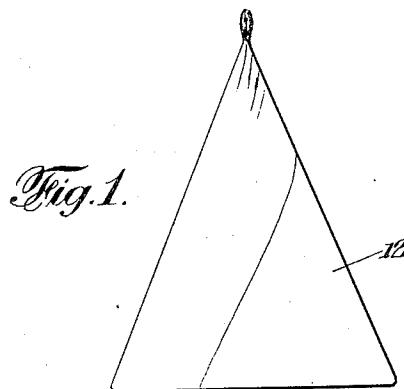


Fig. 1.

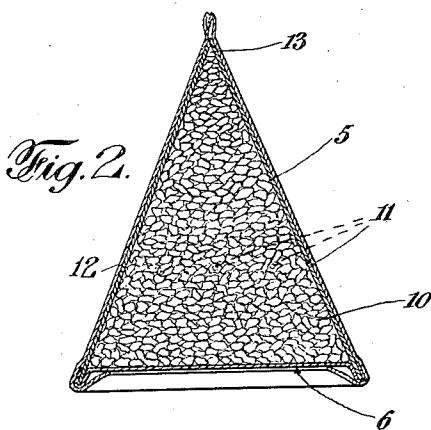


Fig. 2.

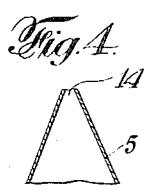


Fig. 4.

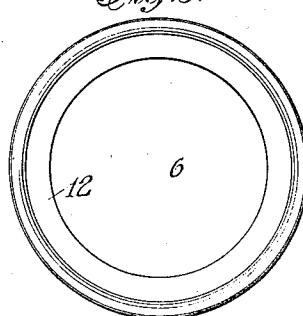


Fig. 3.

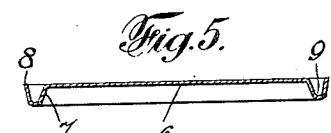


Fig. 5.

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## UNITED STATES PATENT OFFICE.

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## EFFERVESCENT-SALT UNIT.

Application filed June 30, 1924. Serial No. 723,406.

This invention relates to effervescent salt units.

An important object of the invention is to provide a simple and efficient means whereby the packaging of certain medicinal salts may be accomplished in such a way that the package may be utilized as a receptacle or container through the instrumentality of which the salt may be easily introduced into a bath and submerged to facilitate medicinal conditioning of the bath.

A further object of the invention is to provide in connection with the device an effective means adapted to exclude moisture from the package content during storage and shipment, and yet capable of being readily removed immediately prior to the introduction of the package into the bath in order to permit the ingress of water to facilitate activating effervescence of the package content.

Another object of the invention is to provide a container so constructed as to direct the gas accumulated within the same upon the entrance of water, to a given restricted outlet opening in such a way as to facilitate further ingress of water.

Other objects and certain advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings in which—

Figure 1 is a view in elevation of the article wrapped in a moisture-excluding wrapper.

Figure 2 is a central vertical sectional view through the container.

Figure 3 is a bottom view of the container or package.

Figure 4 is a fragmentary sectional view showing on an enlarged scale the upper portion of the container with the tip removed to provide an outlet opening for the accumulated gases.

Figure 5 is a central sectional view through the receptacle cap or closure prior to its application.

In the drawings wherein for the purpose of illustration is shown what I at present consider the preferred form of my invention, the numeral 5 indicates a cone shaped container preferably constructed from paper, cardboard, or other similar material. This container is normally closed at its upper end and is provided at its lower or enlarged end with a closure indicated as a whole by the numeral 6. This closure is

preferably constructed from metal so stamped or shaped as to provide, relatively near its peripheral edge, a depending flange 7 bent upwardly to provide a peripheral flange 8 forming with the depending flange 7 a groove 9 adapted for the reception of the lower or enlarged end of the container 5. The closure 6 when applied to the container 5 is locked in position thereupon by forcing the depending and peripheral flanges 7 and 8, respectively, into impinging engagement with the container 5, as shown in Figure 2.

The container 5 is adapted for the reception of a quantity of crystalline material 10 composed of bicarbonate of soda and acid sodium sulphate with which is mixed a quantity of radium-barium chloride in the manner hereinafter more particularly described. A satisfactory quantity of bicarbonate of soda and acid sodium sulphate has been found to be ten grams, there being two parts by weight of bicarbonate of soda to one part by weight of acid sodium sulphate. The amount of radium-barium chloride employed is relatively small: nine micrograms of barium chloride and one microgram of radium have been found satisfactory when used with each container carrying bicarbonate of soda and acid sodium sulphate to the amount and in the proportions named.

When packaging the material the bicarbonate of soda and the acid sodium sulphate both in crystalline form are mixed together and introduced into the container. The radium-barium chloride dissolved in a suitable amount of alcohol may be incorporated with the bicarbonate of soda and acid sodium sulphate by adding it at this time. The alcoholic solution of radium-barium chloride upon being added to the bicarbonate of soda and acid sodium sulphate is distributed throughout the material after which the alcohol evaporates leaving the radium-barium chloride distributed throughout the bicarbonate of soda and acid sodium sulphate. After introducing the material into the container in the manner above described the closure 6 is applied thus sealing the container. If desired a suitable perfume may be added to the alcohol or alcoholic solution prior to incorporation of the radium-barium chloride with the other materials.

Since the article is intended to be submerged in a bath in order to properly con-

dition the bath the container is provided with a series of relatively small perforations 11 adapted to permit ingress of water to effect reaction of the bicarbonate of soda and acid sodium sulphate causing effervescence by reason of which the radium emanation is distributed throughout the bath as hereinafter more particularly described.

In order to effectively seal the container 10 against moisture during storage and shipping I have provided the same with a wrapper 12 preferably of such a moisture excluding material as tinfoil. This wrapper, although serving to effectively seal the container 15 to the exclusion of moisture during storage and shipment, is nevertheless adapted to be readily removed when it is desired to place the article in use.

Before placing the article in use the 20 wrapper 12 is removed from the container after which the upper end or point 13 thereof is torn or otherwise removed to provide a vent or opening 14. The article is then introduced into the bath and submerged 25 whereupon the water entering the container 5 through the several openings 11 dissolves the bicarbonate of soda and acid sodium sulphate so that they react producing carbon dioxide which passes up through the 30 material contained within the container and escapes through the opening 14 provided therein by removing the upper or pointed end as described. The gas escaping through the opening 14, once the effervescing has begun, creates a current through the container 35 and thus facilitates entrance of the water

through the openings 11 while the effervescing action, as will be readily appreciated, serves to distribute the radium emanation through the bath.

Having thus described my invention I claim:

1. An effervescent salt unit comprising a perforated container carrying bicarbonate of soda, acid sodium sulphate, radium-barium chloride, and a removable moisture-excluding wrapper carried by said container, and sealing the perforations thereof against the ingress of moisture.

2. An effervescent salt unit comprising a container having perforations and carrying crystalline bicarbonate of soda, crystalline acid sodium sulphate, and radium-barium chloride, and a moisture-excluding wrapper carried by said container and sealing the perforations thereof against the ingress of moisture.

3. A salt unit adapted to be placed in a bath to effect effervescence and distribution of an activating material comprising a container provided with perforations and having a portion adapted to be removed to provide an exit opening, crystalline bicarbonate of soda carried within said container, crystalline acid sodium sulphate mixed with said bicarbonate of soda, and radium-barium chloride mixed with said acid sodium sulphate.

In testimony whereof, I have affixed my signature to this specification.

HARRY B. PALMER.