

E. M. BAJON.
 LIQUID TIGHT DOSING DEVICE.
 APPLICATION FILED MAY 4, 1909.

941,905.

Patented Nov. 30, 1909.

2 SHEETS—SHEET 1.

Fig.1.

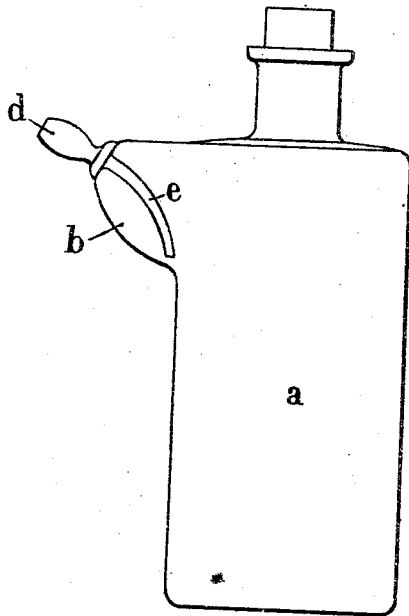


Fig.2.

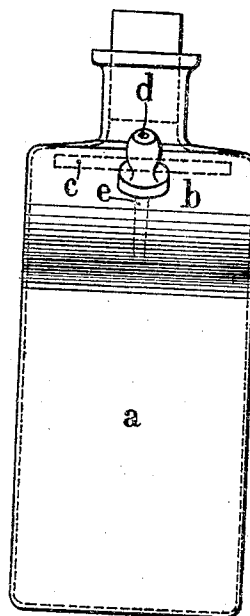


Fig.3.

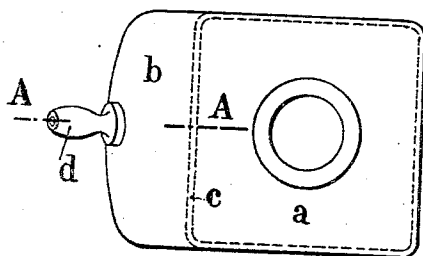


Fig.9.

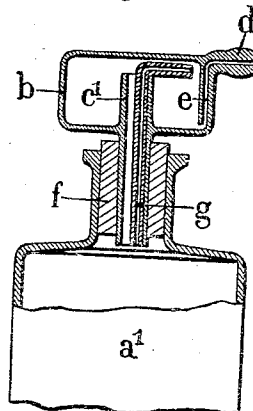
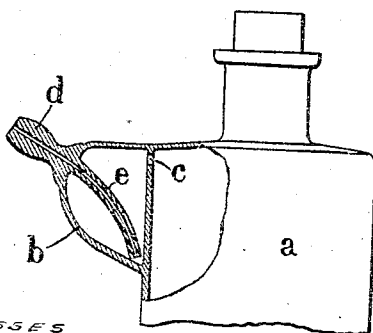


Fig.4.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

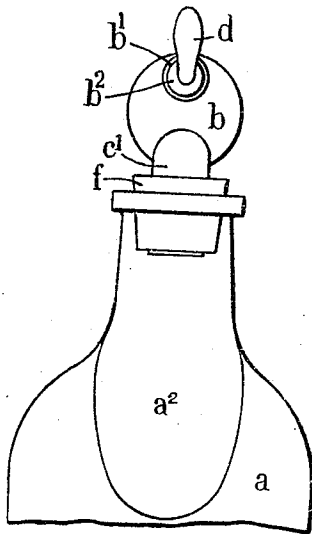


Fig. 5.

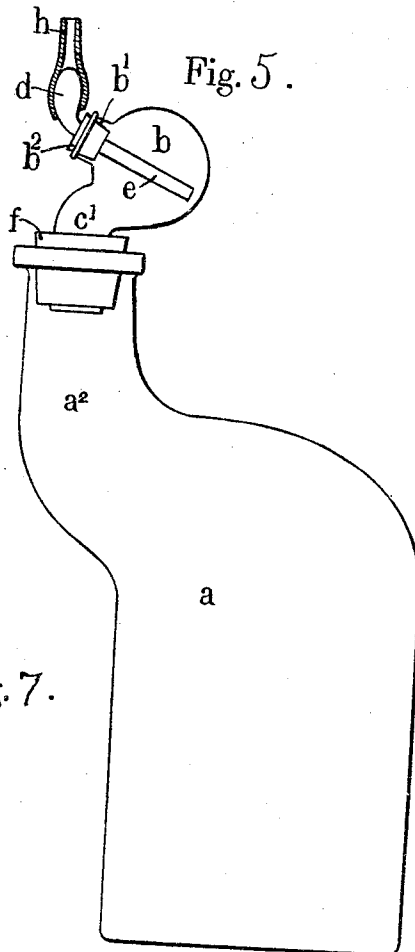


Fig. 7.

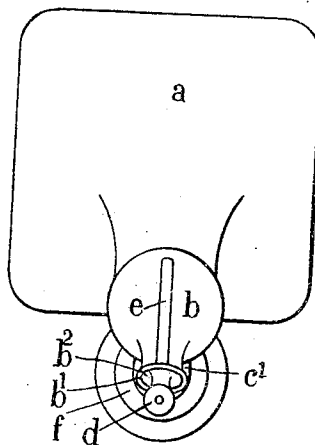
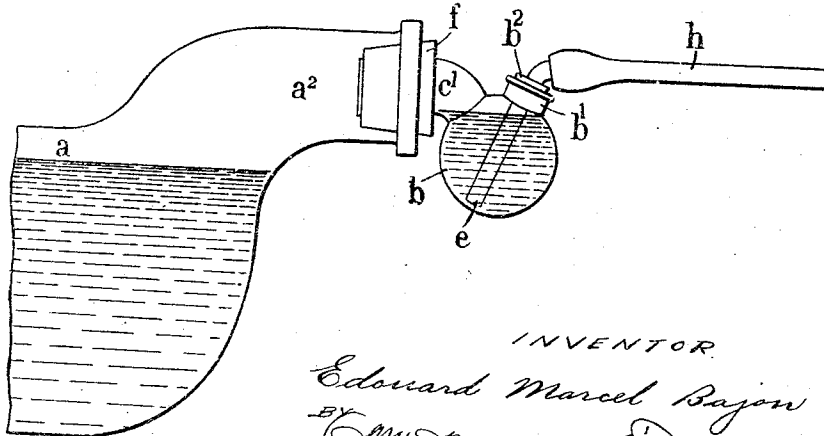


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDOUARD MARCEL BAJON, OF PARIS, FRANCE.

LIQUID-TIGHT DOSING DEVICE.

941,905.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed May 4, 1909. Serial No. 493,862.

To all whom it may concern:

Be it known that I, EDOUARD MARCEL BAJON, of 28 Rue de Créville, in the city of Paris, Republic of France, doctor of medicine, have invented a Liquid-Tight Dosing Device for Administering Liquid Medicines Having a Disagreeable Odor, of which the following is a full, clear, and exact description.

The present invention has for its object a liquid tight device for the automatic dosing and administration without decantation of liquid medicines having a very disagreeable and marked odor without this odor being perceptible either to the patient or to any person or persons in proximity at the time the medicine is being taken or administered.

This device consists broadly of an auxiliary chamber the volume of which corresponds to the dose that is to be administered which is provided with a pipette which descends to its bottom. This auxiliary chamber is arranged at the upper part of the vessel containing the medicine and communicates with this vessel at its upper part in such a manner that when the vessel is inclined it will become filled and remain filled when the vessel is again placed upright into its normal position. Externally the pipette may receive an india-rubber nipple which at the same time serves as an obturating member for this pipette.

The dosing device in accordance with my present invention may either be blown in the glass on the side of the vessel or mounted upon the stopper of the vessel.

One form of the improved device in accordance with my invention is illustrated by way of example in the accompanying drawing in which:

Figure 1 is an elevation of a bottle provided with the dosing device the latter being shown in side elevation. Fig. 2 is another view showing this device in front elevation. Fig. 3 is a plan view corresponding to Fig. 1. Fig. 4 is a vertical section on the line A—A in Fig. 3. Figs. 5 to 8 represent the device constructed in such a manner that it may be mounted upon the stopper of the bottle. Fig. 5 shows in elevation the bottle in its normal position and provided with its

dosing device. Figs. 6 and 7 show the bottle in end view and plan view. Fig. 8 shows the bottle in the position it must occupy during the administration of the medicine. Fig. 9 shows a modification of this dosing device constructed in such a manner as to be used on ordinary bottles with a narrow orifice.

In the form of the invention represented in Figs. 1 to 4, the bottle *a* comprises an auxiliary chamber *b* blown with the bottle, the volume of this chamber corresponding to the dose of medicine that is to be administered, this volume being for example five cubic cm. approximately equal to a teaspoonful or 15 cubic cm. approximately equal to a tablespoonful. This auxiliary chamber *b* communicates with the interior of the bottle through an orifice *c* formed on the upper part of the bottle and is provided with a nipple *d* prolonged by a tube *e* to the bottom of this chamber. This nipple *d* may be provided with an indiarubber teat similar to those used in feeding bottles, this teat likewise serving for sucking the liquid and for normally obturating the nipple *d*. In order to administer the desired dose of the medicine contained in the bottle *a* the latter is inclined so as to cause the liquid to enter the chamber *b* whereupon the bottle may again be arranged vertically; the excess contained in this auxiliary chamber flows back into the bottle through the orifice *c* until the level of the liquid in the chamber *b* is flush with the lower edge of the orifice *c*; it then only remains to suck the liquid by means of the nipple *d* as in a feeding bottle.

This device enables the medicine to be administered without any decantation and without an communication between the medicine and the atmosphere; consequently in the case of medicines which are highly diffusible and every disagreeable odor, such as valerianate of ammonia, sulfurous syrup, cod liver oil, etc., no unpleasant smell is emitted in the room and the patient takes the medicine much more readily without any repugnance as he no longer perceives its disagreeable odor.

The form of the auxiliary chamber may vary; the bottle may either be provided with

a single auxiliary chamber or with two such chambers of different volume. For example on one side a chamber of a volume equivalent to a teaspoon and on the other side a chamber having the volume of a tablespoon. The arrangement of the pipette may also be modified its tube *e* extending either to the middle of the chamber *b* as shown in Fig. 4 or it may pass along its wall.

For transportation the nipple may be obturated by an india-rubber cap or some other appropriate obturating means.

Owing to the arrangement in accordance with the present invention the medicine contained in the bottle is never in contact with the outer air even when the bottle is being drained so that it will keep for an indefinite time without risk of deterioration.

Figs. 5 to 8 represent a construction adapted to be mounted on the stopper of the bottle. In this modification, the dosing device comprises an auxiliary chamber *b* having two tubular sockets *b'*, *c'*; the tubular socket, *b'* is closed by a stopper *b²* through which passes a tube *e* extending up to the bottom of the chamber *b* and ending outwardly by a nipple *d*; the tubular socket *c'* is engaged in the stopper *f* of the bottle *a*. The bottle *a* has a neck *a²* placed eccentrically relatively to the body of the bottle, in such a manner that its orifice is above the level of the liquid contained in this bottle when the same is held in a horizontal position. When the bottle is not in use, the latter stands on its normal bottom, as shown in Fig. 5 and the neck is vertical. For the administration of the medicine, the bottle is inclined, as previously said, in order that the liquid should enter in the chamber *b*. When the latter is full, the bottle is held in the horizontal position shown in Fig. 8; in this position, the liquid admitted into the chamber *b* is separated from the liquid in the bottle, by reason of the special form of the neck *a²*; moreover, the nipple *d* presents itself conveniently for the administration of the medicine. When the medicine has been sucked by the nipple *d*, the bottle is then put up vertically in the position shown in Fig. 5; by reason of the rounded form of the chamber *b* and of the arrangement of the tubular socket *c'*, if some drops of liquid remain in the chamber *b*, this liquid falls back in the bottle; the chamber *b* cannot therefore keep any liquid; consequently if the bottle is exposed to heat and if the air contained therein expands, this air will go out through the tube *e*, but will never be able to project or carry away any liquid to the exterior. The dosing device *b* being removable, the bottle *a* can be closed, for sale and transportation, by any hermetic stopper and the dosing device will be mounted on

the bottle only at the moment of using the medicine. In order to prevent perceiving the disagreeable taste of the medicine, the nipple can be provided with an india rubber tube *h* having a length of about five centimeters (Fig. 8), so that the liquid may arrive directly in the pharynx.

Fig. 9 represents another modification constructed so that it may be mounted on ordinary bottles with a narrow orifice. In this modified construction the auxiliary chamber *b* provided in the manner explained with a nipple *d* and a tube *e* forming a pipette comprises a central tube *c'* opening at the upper part of the chamber *b* and traversing the stopper *f* of the bottle *a'* which may be of any kind. A small tube *g* may be connected with this central tube and it is preferably bent laterally of the nipple *d* as shown in the drawing; this tube *g* serves to permit air contained in the chamber *b* to pass into the bottle *a'* when this chamber *b* is filled. In administering the medicine the procedure described above is followed; the bottle *a'* is inclined in such a manner as to fill the dosing chamber *b* completely whereupon the bottle is again arranged vertically and the dose of medicine contained in this chamber *b* is drawn through the nipple *d*.

The form, dimensions, materials and constructional details of the dosing device forming the object of the present invention may be varied in accordance with its different applications.

Claims:

1. A dosing device for administering liquid medicines having a disagreeable odor, comprising an auxiliary chamber in communication by its upper part with the upper part of the bottle containing the medicine, a suction tube extending as far as the bottom of this auxiliary dosing chamber.

2. A liquid tight dosing device comprising an auxiliary dosing chamber having two tubular sockets, one of these tubular sockets being engaged in the neck of the bottle containing the medicine, a suction tube engaged in the other tubular socket and extending as far as the bottom of the auxiliary dosing chamber.

3. A liquid tight dosing device comprising an auxiliary dosing chamber having two tubular sockets, one of these tubular sockets being engaged in the neck of the bottle containing the medicine, a suction tube engaged in the other tubular socket and extending as far as the bottom of the auxiliary dosing chamber, a bottle having a neck placed eccentrically outside the body of the bottle in such a manner that its orifice should be above the level of the liquid when the bottle is held in a horizontal position.

4. A liquid tight dosing device compris-

ing an auxiliary dosing chamber in communication by its upper part with the upper part of the bottle containing the medicine, a suction tube extending as far as the bottom of this auxiliary dosing chamber, an india rubber tube on the outer end of this suction tube.

The foregoing specification of my liquid

tight dosing device for administering liquid medicines having a disagreeable odor signed by me this twenty-third day of April 1909. 10

EDOUARD MARCEL BAJON.

Witnesses:

DEAN B. MASON,
R. EHRIOT.