June 24, 1958 J. C. BACH 2,840,277

POWDER DEVICES

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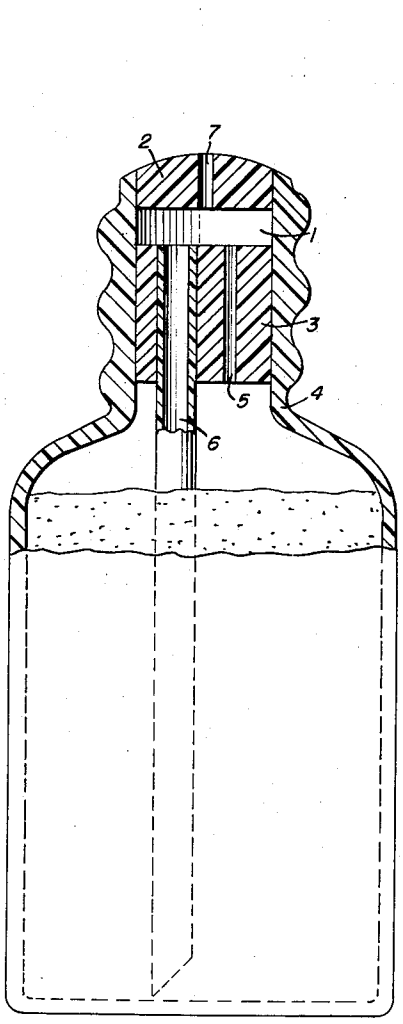


FIG. 1

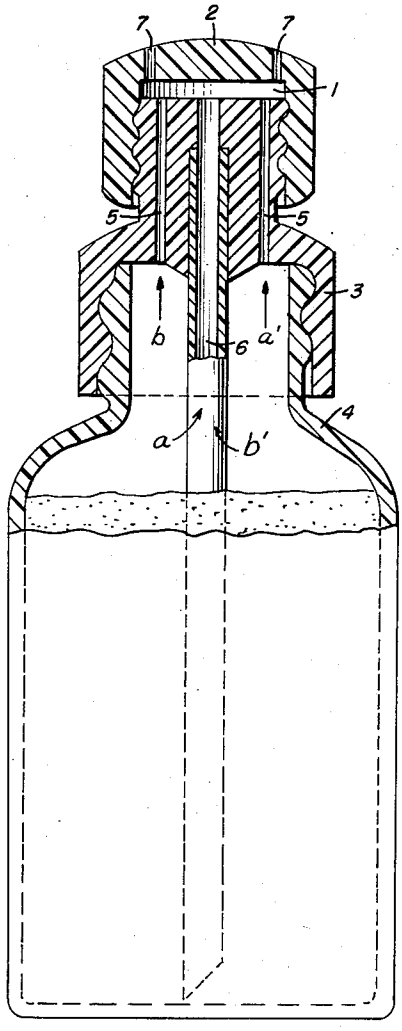


FIG. 2

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POWDER DEVICES

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3 Claims. (Cl. 222—193)

The present invention relates to a system and device for powdering, and it is characterised by the fact that the mixing of the powder and the necessary air required for its complete dispersion is effected inside a chamber, the air and the powder arriving in the said chamber by different passages, one of which terminates at its other end in the upper part of the interior and the other in the lower part of the interior of the resilient container containing the powder, each of the said passages being able to serve for the passage of the air or the powder according to the position of the elastic container.

According to the invention, the mixing chamber mentioned may be obtained by providing, inside the neck part of the elastic or resilient container, two plugs suitably spaced from each other so as to form the chamber, the two passages being provided in the plug which is closest to the interior of the container, the other plug, namely the one nearer to the mouth of the container, being provided with an outlet to the outside for the mixture of air and powder effected in the chamber formed between the two plugs.

Reference will be had to the accompanying drawing in which illustrative forms of the invention are shown and in which:

Fig. 1 is a vertical sectional view of a container embodying the inventive concept, and

Fig. 2 is a view similar to Fig. 1 of a modification thereof.

In Figure 1, 1 is a chamber formed by two plugs 2 and 3 disposed inside the neck of a flexible container 4. From the said chamber 1 extend two ducts or passages 5 and 6 formed in or carried by the plug 3, and terminating at their other ends, respectively in the upper inside part and the lower inside part of the resilient container 4. In the upper plug 2 is formed a passage 7 connecting the chamber 1 with the outside.

Figure 2 shows the chamber 1, plugs 2 and 3, with the latter in two parts, arranged on the mouth of the container 4, and ducts 5 and 6. The plug member 3, which is in one or two parts, is fixed to the neck of the container 4, and the plug member 2 may be screwed for example on to the projecting part formed on the plug member 3, the chamber 1, being formed by unscrewing the plug 2, this chamber communicating with the outside through the passage or passages 7. When the plug 2 is screwed right down the passages 5 are shut off, so that the powdering device is then closed.

It will be evident that if the powder is assumed to be at a certain level inside the container, the plug 2 being partly unscrewed (see Figure 2), when the flexible container is deformed the powder will rise through the duct 6 until it reaches the chamber 1, as shown by the arrow *a*. The air enclosed in the upper part of the container 4 also arrives, when the container is deformed, in the chamber 1, through the passage or passages 5 (Figure 2). The powder and the air are mixed in the chamber 1, and emerge to the outside in a completely

dispersed condition through the passage or passages 7 (Figure 2).

If the container 4 is assumed to be inverted, so as to have its neck downwards, the air will arrive inside the chamber 1 through the duct 6 as shown by the arrow *b'* and the powder through the passage or passages 5 (Figure 2).

From the foregoing it will be clear that either of the ducts may be used for the passage of the air or the powder depending on the position the container is in. Between the extreme positions mentioned, in which the container has its mouth at the top or the bottom, there are other intermediate positions, such that, depending on the inclination of the container and the level of the powder inside it, the duct 6 will serve for the passage of the powder or the air and passage 5 for the passage of powder or air enclosed in the container. According to the invention, therefore, the powder passes to the outside in a completely dispered state through the passage 7 of the plug 2 (Figure 2) when the flexible container is deformed, in whatever position the device may be situated, a feature which has not been achieved hitherto.

The details of the invention may be varied. For instance, the chamber 1 may be obtained by means of two bodies or plugs placed some distance apart or by a recess in one body or plug, the plug or plugs forming the mixing chamber being of any desired shape and being fixed as desired to the neck or mouth part of the flexible container, the ducts 5 of the plug or member 3 being obtained by making the said plug or member in two parts which are coupled together, one of them having a milled portion, the duct 6, which fits into the member 3, being for instance striated externally. The device may be made of any material or materials considered suitable.

I claim:

1. A powder dispensing device comprising a flexible container having a neck, a first plug in said neck, said first plug being provided with a first passage therethrough connected to a tube extending to the end of said container remote from said plug and being provided with at least one additional passage through said plug parallel to said first passage, and a second plug mounted in said neck spaced from said first plug, said second plug being provided with at least one opening, said opening being out of alignment with said passage in said first plug.

2. A powder dispensing device comprising a flexible container having a neck, a primary closure for said neck, a primary passage through said closure connected within said container to a tube extending to the end of said container remote from said neck, at least one auxiliary passage through said primary closure parallel to said primary passage, and a secondary closure mounted above said primary closure, said secondary closure being provided with at least one dispensing passage therethrough out of alignment with the passages in said primary closure.

3. The dispensing device of claim 2, in which said secondary closure is threadedly mounted over said primary closure whereby upon rotation said secondary closure may be moved toward or away from said primary closure.

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