

UNITED STATES PATENT OFFICE.

FRED H. DRAKE, OF OAKLAND, CALIFORNIA.

CAPSULE.

1,046,056.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, FRED H. DRAKE, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Capsules, of which the following is a specification.

The object of the present invention is to provide an improved capsule for administering liquid medicines.

The invention is particularly well adapted for administering medicines for throat and bronchial affections, which must be applied direct to the parts to be treated. Obviously the ordinary gelatin capsule, which is intended to be dissolved in the stomach, is unsuitable for this purpose. Liquid medicine administered by a capsule is much preferable to the ordinary cough drop, lozenge, troche, or the like, for the reason that not only can the contents of the capsule be administered directly to the affected part, an extremely important consideration in cases of bronchial or asthmatic affections or the like, but a capsule can contain a far greater quantity of the medicine in proportion to its size than a cough drop or lozenge. Moreover, the latter are formed by a process which involves cooking at a high temperature, during which the strength of the medicine is greatly reduced. With my improved capsule, as will hereinafter appear, the medicinal strength of the liquid is completely retained.

In preparing my improved capsule I mix a liquid medicine prepared according to any desired formula with sugar, and powdered acacia or gum arabic, in the proportions of 50 lbs. of syrup, 50 oz. of the liquid medicine and 4 oz. of acacia. Such a medicine which I have used is one composed of the following ingredients:—collinsonia 4 oz.; phytolacca 4 oz.; benzoin 8 oz.; menthol 1½ oz.; capsicum 2 oz.; wintergreen 5 oz.; eucalyptus 24 oz.; turpentine 1½ oz. The sugar is first cooked to a syrup, and then the medicine and acacia are added. The acacia serves to keep the oils of the liquid medicine thoroughly mixed in the syrup; otherwise the oils would rise to the top of the syrup and not be equally distributed throughout. The mixture is then poured

into starch molds, whereupon that part of the liquid coming in contact with the starch, immediately hardens, forming a shell, which envelops the liquid which has not so come in contact, and therefore remains in a liquid condition. After drying 24 hours, syrup at a proper temperature is poured over the capsules, which syrup then crystallizes. The capsules are then dried again, and are placed in a revolving kettle, where they are panned in a mixture of sugar, liquid medicine and acacia or gum arabic. The last step above described of the process of forming the capsule is extremely important, as thereby the capsule is given a tough coating which is impervious to air and liquid, so that my improved capsules can remain for an indefinite period unaltered.

I am aware that candies known as cordials, or liquor drops, having the form of capsules containing liquid contents have been made by using a shell of crystallized sugar, but said candies do not have the coating of acacia and are not hermetically sealed and the contents will evaporate in a comparatively short time. Moreover, my invention differs therefrom in that not only the liquid contents, but the shell itself, contain the medicine to be administered.

As already intimated, the great value of this invention resides in the fact that medicines can thus be carried about in a liquid form for an indefinite period, and administered immediately to the parts to be treated, merely by crushing them in the mouth, and, further, that said capsules contain, in the same volume, a much greater quantity of medicinal substance than cough drops, lozenges, troches, or the like.

I claim:—

In combination with a liquid substance having medicinal properties, a capsule hermetically inclosing the same and composed of said substance and others in a solid form.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRED H. DRAKE.

Witnesses:

FRANCIS M. WRIGHT,
D. B. RICHARDS.