Patented June 24, 1924. 1,498,666

UNITED STATES PATENT OFFICE.

FRÉDÉRIC S. MASON, OF NEW YORK, N. Y.

TABLET.

No Drawing. Application filed August 19, 1922. Serial No. 583,028.

To all whom it may concern:

Be it known that I, FRÉDÉRIC S. MASON, a citizen of the United States, residing at New York city, county of New York, borough of Manhattan, and State of New York, have invented new and useful Improvements in Tablets, of which the following is a full, clear, and exact specification.

My invention relates to tablets and refers particularly to medicinal tablets and processes for producing the same.

One object of my invention is a non-friable tablet.

Another object of my invention is a tablet comprising a friable material enclosed within a liquid pervious cover of such structural strength as to preserve the tablet in a non-disintegrable condition under normal conditions.

Many medicinal compounds, because of their physical condition, their hygroscopic properties, or for other reasons, are incapable of being formed, or compressed, into tablet, pill, or similar forms with any considerable degree of permanency.

They, therefore, gradually crumble, or disintegrate, making it impossible to obtain the required dosage quantity.

It is evident that any covering, or coating, for medicinal tablets of this character must be of such material or in such physical condition as to allow of the ready and positive breaking down of the tablet when taken internally, in order to obtain the full efficiency of the contained medicinal products.

Great difficulty has been experienced in accomplishing these desired results with medicinal products which are hygroscopic or which are deleteriously affected by water, alcohol or other solvents necessary in dissolving the coating material for purposes of application to the tablet.

For the above reasons, it has been found impossible to effectively coat, or cover, many medicinal products, and hence, their use has been limited to their powder form, with all of the evident disadvantages of powders over definitely quantitative tablets.

I have discovered a means whereby products which are friable, hygroscopic and sensitive to liquids may be formed into tablets which are stable in construction and in which the contents are not affected by ordinary atmospheric conditions and which have full efficiency of contents.

I have found that compressed tablets of materials having the above described properties may be covered with a coating of certain waxes and similar products with the formation of a product which is pervious to aqueous liquid, resulting in a breaking down of the tablet for efficiency of physiological action, but which will remain intact without injury to the contents under normal conditions.

While I do not limit myself to the use of paraffin, I have found that that product is particularly adaptable for the process of my invention.

As an example of the following of my process, I take tablets of agar-lac, which is friable, hygroscopic and not compressible into permanent tablets, and immerse them for about two seconds in a bath of melted paraffin at a temperature of about 60° C., remove them therefrom and allow them to dry, or solidify, producing thereby a coating of such structural strength as to maintain the tablet in permanent form, free from disintegration under normal conditions, but which is pervious to aqueous liquids, thus allowing the tablet to break down and disintegrate when brought into contact with an aqueous liquid.

By agar-lac in the above example, I refer to tablets containing agar-agar with cultures of lactic ferments and phenolphthalein.

An examination of the tablets produced by the process of my invention seems to indicate that during the immersion of the tablet mass within the molten paraffin, the latter penetrates the mass in irregular manner producing a structural formation that might be called a skeleton support for the tablet mass, the valuable effect of which is further augmented by a thin and usually irregular and broken paraffin covering over the exterior surface of the tablet. This paraffin formation acts to support the mass and to protect it from ordinary atmospheric condition, but allows it to be readily broken down in the presence of a liquid and especially a liquid of the temperature of the stomach and intestines.

My process, therefore, allows of the production of tablets of great usefulness and value, particularly those containing medicinal products.

I do not limit myself to the particular products or steps of process mentioned, or described, as these are given simply as an

example for the clearer description of the process of my invention and the products produced thereby.

What I claim is:—

1. The process of increasing the non-friability of powder tablets which comprises treating a friable powder tablet with a liquid insoluble material forming a pervious coating thereon and an interior structural formation of the treating material, preventing disintegration of the tablet under normal conditions.

2. The process of increasing the non-friability of powder tablets which comprises treating a friable powder tablet with melted paraffin forming a pervious paraffin coating thereon and an interior structural formation of paraffin preventing disintegration of the tablet under normal conditions.

3. The process of increasing the non-friability of agar-lac which comprises treating agar-lac tablet with melted paraffin forming a pervious paraffin coating thereon and an interior structural formation of paraffin preventing disintegration of the tablet under normal conditions.

4. A tablet comprising a compressed mass of powder material having a pervious coating of liquid insoluble material and an interior structural formation of the coating material preventing the disintegration of the tablet under normal condition.

5. A tablet comprising a compressed mass of powder material having a pervious coating of paraffin and an interior structural formation of paraffin preventing the disintegration of the tablet under normal condition.

6. A tablet comprising a compressed mass of agar-lac having a pervious coating of paraffin and an interior structural formation of paraffin preventing the disintegration of the tablet under normal condition.

Signed at New York city, in the county of New York and State of New York, this 16th day of August, 1922.

FRÉDÉRIC S. MASON.