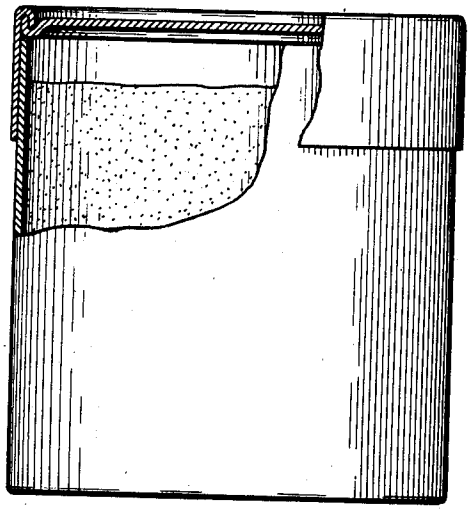
G. W. HOWLETT.

CONTAINER FOR ALKALINE SUBSTANCES.

APPLICATION FILED JULY 10, 1919.

1,355,976.

Patented Oct. 19, 1920.



INVENTOR

Grayled W. Howlett,

By Owen Owen & Crampton

His attys.

UNITED STATES PATENT OFFICE.

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CONTAINER FOR ALKALINE SUBSTANCES.

1,355,976. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed July 10, 1919. Serial No. 309,955.

To all whom it may concern:

Be it known that I, GRAYLE W. HOWLETT, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Container for Alkaline Substances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fiber containers or packages, and has particularly for its object the provision of a paper container coated with a solution of such a character as to render it impervious to the action of alkalis, whereby it is especially adapted for the packing or containing of soft soaps and other pastes and compounds carrying an excess of alkalinity and enables them to be poured hot into the container. The coating is also impervious of acids.

A container embodying the invention and containing an alkaline paste is illustrated in the accompanying drawing with a part thereof in central vertical section.

The container 1 is preferably composed of paper or paper board of a stiffness adapting it to stand up as is customary in containers of this character and may be of any shape or style, being shown in the present instance as cylindrical in form and having a removable cap-like cover 2.

The container is coated with a solution produced by dissolving a cellulose ester in any of its solvents, and it is preferable to employ a cellulose nitrate as the ester and to use as a solvent therefor light acetone oil, ethyl methyl ketone, or amyl acetate either alone or mixed with a suitable proportion of nonsolvent, such as benzene, benzin or denatured alcohol. The nonsolvent is added to lower the cost of the solution. If the cellulose ester employed is a cellulose acetate the solvent preferably used is chloroform, tetrachloroethane, or ethyl acetate and alcohol. These solutions may be used either alone or mixed with gums, oils, or resins, and may be applied in any suitable manner to either the inside, outside or both surfaces of the container to be coated, after which the coated container is dried at such temperature and for such time as is necessary to remove the last traces of the solvent therefrom, leaving the container with a tough, clear, film-like coating uniformly spread over the surface thereof and free from cracks and imperfections.

In practice I preferably use a cellulose nitrate suitably prepared in the proportion of approximately eight ounces of cellulose nitrate to one gallon of solvent containing substantially equal parts by volume of ethyl methyl ketone and benzene to which may be added an oil or a gum substantially equal to the weight of cellulose nitrate used to make the coating less brittle. The solution thus prepared is applied to the surfaces to be treated by dipping, spraying, or in any other suitable manner, and the container is then dried at say from eighty to one hundred degrees centigrade until the last traces of the solvent are expelled, when the container is ready for use.

If it is desired to use cellulose acetate in the solution, the coating mixture is made by dissolving approximately twelve ounces of the acetate, so prepared as to be soluble, in approximately one gallon of a mixture of alcohol and ethyl acetate in substantially equal proportions and applying and treating as above described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is,—

1. A container consisting of a paper receptacle interiorly coated with a cellulose ester solution of a character to resist the action of moist alkalis, said receptacle having an alkaline paste compound therein in contact with its coated surface.

2. A container consisting of a paper receptacle coated with a solution of cellulose ester dissolved in any of its solvents, which solution is of a character to resist the action of moist alkalis, said container having a moist alkaline compound therein in contact with the coated wall of the container.

3. A container consisting of a fiber receptacle coated with a solution of cellulose ester dissolved in any of its solvents and mixed with a nonsolvent, which solution is of a character to resist the action of moist alkalis, said container having therein a moist alkaline compound in contact with its coated wall.

4. A container consisting of a fiber receptacle coated with a solution of cellulose ester dissolved in any of its solvents and mixed with a nonsolvent and with a material to

render the coating when dried less brittle, whereby the coated surface of the container is rendered impervious to the action of moist alkalis, said container having a moist alkaline compound therein in contact with the wall of the container.

5. A container consisting of a paper receptacle coated with a solution consisting of a cellulose nitrate and a solvent therefor to render the container impervious to the action of moist alkalis, said container having an alkaline paste compound therein in contact with the coated walls thereof.

6. A container consisting of a paper receptacle coated with a solution consisting of a cellulose nitrate and a solvent therefor mixed with a nonsolvent to render the container impervious to the action of moist alkalis, said container having a moist alkaline compound therein in contact with its coated wall.

7. A container consisting of a fiber receptacle coated with a solution consisting of a cellulose nitrate and a solvent therefor containing ethyl methyl ketone mixed with a nonsolvent to render the container impervious to the action of moist alkalis, said container having a moist alkaline compound therein in contact with its coated walls.

8. A container consisting of a fiber receptacle coated with a solution consisting of a cellulose nitrate solvent therefor and a material added thereto to render the coating less brittle when dried, whereby the container is rendered impervious to the action of moist alkalis, said container having a moist alkaline compound therein in contact with its coated walls.

In witness whereof I have hereunto signed my name to this specification.

GRAYLE W. HOWLETT.