W. A. WALTKE.

PROCESS OF MAKING DISINFECTANT SOAP.

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1,083,571. Patented Jan. 6, 1914.

Fig. I.

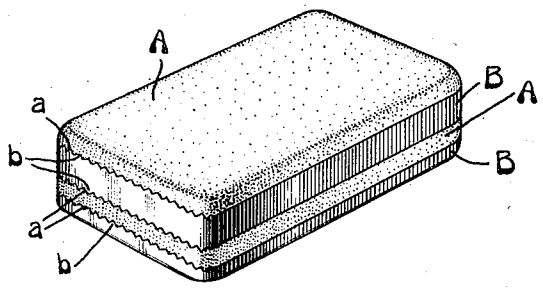
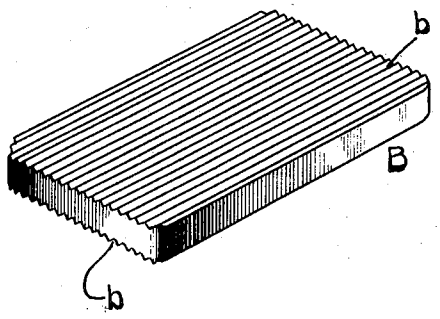


Fig. II.



Attest

A. J. McCauley

E. B. Hinz.

Inventor:

W. A. Waltke

by Knight & Cook

Att'ys.

UNITED STATES PATENT OFFICE.

WILLIAM A. WALTKE, OF ST. LOUIS, MISSOURI.

PROCESS OF MAKING DISINFECTANT SOAP.

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To all whom it may concern:

Be it known that I, WILLIAM A. WALTKE, a citizen of the United States of America, and a resident of the city of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Processes of Making Disinfectant Soap, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a process of making disinfectant soap, one of the objects of the invention being to produce a soap of this kind containing a mercuric salt so held in the soap as to be soluble and with its disinfecting property preserved for performance of its office as a disinfectant in the use of the soap.

A further object of my invention is to so make a disinfectant soap as to render it symbolical of its disinfectant property, due to the inclusion in the soap of a soap body, independent of the soap body containing mercuric salt, containing coloring matter recognized as indicative of a disinfectant, the soap body containing the coloring matter being separate from the soap body containing the mercuric salt to prevent chemical decomposition of the coloring matter by said salt.

A further object of my invention is to produce a soap comprising separate bodies, one of which contains a mercuric salt, and the other of which contains coloring matter symbolizing a disinfectant, with the two bodies peculiarly formed at their contacting faces, for the purpose of causing them to cohere tenaciously with each other.

In the drawings: Figure I is a perspective view of a cake of soap, made by following my process. Fig. II is a perspective view of one of the layers of the cake of soap shown in Fig. 1.

In carrying out my process of making disinfectant soap, I first produce a sodium soap made from fatty stock, saponified with caustic soda, the soap in its manufacture being rendered entirely free of the glycerin, which would, by its presence in the soap, be detrimental to the mercuric salt, which is added to the soap at a point in the carrying out of the process, as will hereinafter fully appear. The fatty stock I prefer to use in the production of the sodium soap comprises tallow and cocoanut oil, and these may be used in the proportions of sixty to one hundred pounds of tallow and ten to forty pounds of cocoanut oil. The fatty stock comprising these ingredients may be saponified with caustic soda by using from fifty to sixty pounds of the latter to each one hundred pounds of fatty stock.

Sodium soap produced as I have described is dried after its production, and is then crushed or reduced to particles in a soap mill, or other apparatus, preparatory to the following step in the process: I next place with the finely divided dry soap a mercury salt, such, for example, as mercuric cyanid, or mercuric bichlorid, and albumin, using preferably one per cent. (1%) of mercuric salt and two per cent. (2%) of albumin. The sodium soap, with the mercuric salt and albumin, are then thoroughly mixed, preferably by passing the mass through a mill or other apparatus, the mixing operation being continued to a sufficient degree to effectually distribute the mercuric salt and albumin throughout the soap.

The mercuric salt, which is incorporated by the carrying out of my process with the sodium soap is a highly valuable disinfectant, but if such soap were incorporated with the soap without the use of albumin, or its equivalent, the mercuric salt would combine with the sodium soap, with a resultant chemical change of the salt to render it insoluble. The albumin is, therefore, included to overcome any tendency of the mercuric salt to combine with the sodium soap, to cause a combination of the mercuric salt and albumin, which is soluble in water. Furthermore, the albumin, by being present with the mercuric salt, serves to hold said salt in a disinfectant state until the moisture is dried from the soap after its preparation.

Soap, having the disinfectant mercuric salt in it and produced in accordance with the steps so far described, is eventually incorporated into a cake, such as that shown in Fig. I, and this soap is that present in the layers A. The cake of soap also includes two additional layers B, which are associated with the layers A in such manner as to render the cake of soap of composite form.

The layers of soap differ from the layers A in that they contain a disinfectant agent, they being included in the cake of soap for a purpose which will hereinafter appear. The layers B are of sodium soap similar, for

example, to that herein first described, and they are colored symbolical of the disinfectant, mercuric salt, present in the layers A. This coloring is preferably provided by mixing with the soap in the layers B during its preparation, suitable coloring matter, such, for example, as purple anilin, which, as is well known, is generally understood to symbolize a substance having disinfectant property.

It is well to here note that, while it would be possible to incorporate the coloring matter included in the soap layers B in the soap contained in the layers A, it is impractical to do this and preserve the coloring matter, for the reason that the mercuric salt would attack and destroy the coloring matter by chemical decomposition thereof. Hence, the necessity for the layers B, in which the coloring matter is present, in addition to the layers containing mercuric salt, in order that both the disinfectant property and the chemical symbol in a cake of soap may be preserved.

When the soaps which are to enter into the layers A and B of a cake of soap have been produced,—one with the inclusion of mercuric salt and albumin therein, and the other with a coloring matter therein,—said soaps are pressed into strips and subjected to the action of dies, for the purpose of providing corrugations *a* and *b* upon the faces of the layers which are to contact with each other. The strips of soap thus produced are then placed in an air tight box to sweat, so that there will be a slight moisture at the corrugated faces of the strips of soap which are to be placed in contact with each other. The strips of soap are then removed from such air tight box and presented to each other, so that the corrugations of one strip will match into the corrugations of an adjacent strip, the strips being laid together in this manner until the entire number of strips from which the layers A and B entering into the cake of soap are assembled. Then by the application of pressure in any suitable manner, the corrugated or roughened faces of the strips of soap are forced into firm contact and the great expanse of contacting area between the layers furnished by the corrugations *a* and *b*, or their equivalents, causes the different bodies of soap to cohere tenaciously with each other in a manner quite different to that which would result if the contacting faces of soap bodies were not corrugated or unroughened. After the remaining strips of soap have been placed in assembled relation in the manner described, they may be cut into cakes of suitable size and, if desired, the cakes may be introduced into a soap press to form the cakes according to the desire or fancy of the manufacturer.

I claim:—

1. The herein described process of making a cake of soap, which consists in mixing saponaceous matter and a disinfectant to produce one homogeneous body in which the disinfectant is evenly distributed throughout the saponaceous matter, producing a second body of soap colored to symbolize the disinfectant in the first mentioned body, and uniting the two bodies to form a composite cake.

2. A composite cake of soap, comprising a body of saponaceous matter and a disinfectant evenly distributed throughout said saponaceous matter, and a second body of saponaceous matter and coloring matter, the coloring matter being symbolical of the disinfectant in the first mentioned body.

W. A. WALTKE.

In the presence of—
E. CLARK,
E. B. LINN.