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K. M. MACKENZIE

TOILET PREPARATION

Filed March 12, 1926

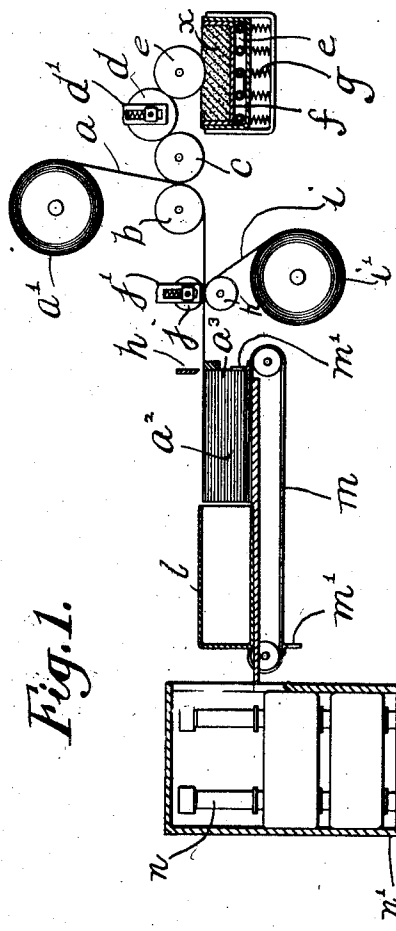

Fig. 1.

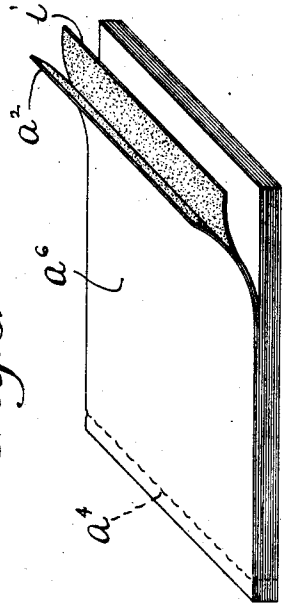

Fig. 3.

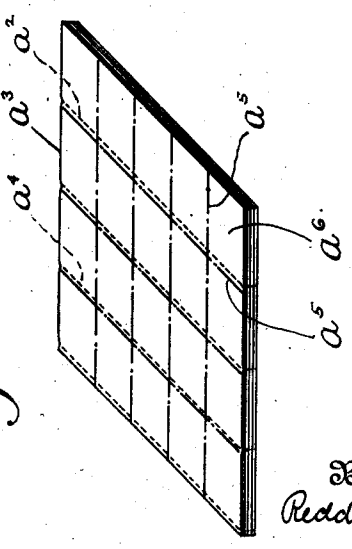

Fig. 2.

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UNITED STATES PATENT OFFICE.

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TOILET PREPARATION.

Application filed March 12, 1926. Serial No. 94,236.

This application is a continuation in part of United States Ser. No. 22,759, filed April 13, 1925. The invention forming the subject matter thereof relates to a composition of matter and has for one of its objects a convenient and portable form of a normally plastic medium used for toilet or medical purposes. By the term plastic medium throughout the following description and claims it is intended to represent any sort of an ointment, emollient, salve or a cleansing or healing instrumentality of normally pasty, oily or greasy nature. Probably one of the most useful applications of the invention will be in connection with cold cream and as such it will be hereinafter described. According to the invention a fibrous material is impregnated throughout with a normally plastic medium, the fibrous material serving as a vehicle therefor and the plastic medium being so retained within the material as to be liberated by the warmth of the skin when the composition of matter is rubbed thereover. Various types of fibrous material may be availed of, such as fabric or tissue or crepe paper. More particularly the invention comprises a sheet of crepe paper of convenient size for handling with which cold cream is normally permanently combined. A peculiarity of cold cream, however, is the tendency of some of its principal ingredients to volatilize upon exposure to the air. Consequently a sheet of paper treated with cold cream in the obvious manner such as has been resorted to in the application of rouge to tissue is unavailing because of the time necessarily elapsing between the manufacture of the toilet preparation and its use, during which period the cold cream has been found to have entirely evaporated from the paper.

A further object of the present invention is a method of manufacturing fibrous material treated with a normally plastic medium, such as cold cream, so as to assure the retention of the plastic medium in association with the material irrespective of the time element. To this end a plastic medium of a particular constituency and maintained at a predetermined temperature is distributed over the surface of a sheet of fibrous material simultaneously with the application of pressure to the sheet. Subsequently the sheets are treated in a seasoning process and further periods of pressure to produce a composition of matter which may be defined as a homogeneous article of fibrous material and a normally plastic medium, the plastic medium being incorporated within the very fibres of the sheet in such manner as not to volatilize or escape therefrom although the surface of the sheets may contain practically no oily matter which would render them inconvenient in handling. More particularly the method comprises applying the plastic medium evenly from a solidified cake thereof over a sheet of fibrous material by an instrumentality to which the sheet is applied with the simultaneous application of pressure. Thereafter a plurality of such sheets may be stacked in bundles, sealed in impervious envelopes and subjected to a seasoning process for a predetermined period dependent upon the quality of the fibrous material and the particular characteristics of the plastic medium at the time of its application to the fibrous material. After the seasoning operation the bundles are again subjected to a predetermined pressure again dependent upon the factors hereinbefore referred to. For the convenience of the users the sheets may be incorporated in a pad or booklet to be readily removed therefrom. To this end the bundles may be stitched and cut to the desired size to form pads.

The invention also resides in the instrumentality by which the method hereinbefore described may be carried out.

These and other objects of the invention and the means for their attainment will be more apparent from the following detailed description of preferred embodiments thereof which are illustrated in the accompanying drawings and in which:

Figure 1 is a view illustrating somewhat schematically one completed form of apparatus by which the method according to the present invention may be carried out in the manufacture of the composition of matter.

Figure 2 is a view in perspective showing a stack of sheets of the composition of matter, suitably stitched, and indicating by dot and dash lines how the stack may be cut into a plurality of many leaved booklets.

Figure 3 is a view in perspective showing one of the booklets cut from a stack and ready for use.

In the following description the terms tissue or crepe paper and cold cream will be used as illustrations, respectively, of types of fibrous material and a normally plastic me-

dium with which the same is impregnated but it is to be understood that these terms are used by way of illustration only and the invention in its broadest aspects contemplates its application to a variety of products having the characteristics of the material named.

If cold cream were applied to a sheet of fibrous material, such as tissue paper, in the ordinary manner, even though the paper could be said to be saturated with the same at the time of manufacture it would be found that with the lapse of time all of the cold cream had evaporated leaving the paper dry and substantially free from cream, and this even though the treated tissue were confined within a hermetically sealed envelope. It has been found, however, that the evaporation and loss of the cream may be avoided when a method of manufacture is adopted which will force or drive the cold cream into the very fibre of the tissue to make, in effect, a homogeneous article of fibrous material and cream. Then even though the cream on the surface of the paper evaporates, that entrained, within the fibre, and perhaps also in the interstices of the fibres, may be liberated by the heat of the skin when the tissue is brought into contact therewith or rubbed thereover.

It has been found that the essential ingredients of some cold creams manufactured according to certain formulæ volatilize so readily as to be impractical for the purpose at hand, while other creams made according to other formulæ are so liquid or so easily liquefiable as to be equally inapplicable. The cold cream capable of being forced into the fibre and retained therein it is believed must be composed of ingredients not readily volatilized and of sufficient solidity and body to force its way into the fibre under pressure. This cream when maintained at moderately low temperature is substantially solid and in the process of manufacture of the composition of matter is used in the form of a brick. The cream may be incorporated with various grades of paper and the formulæ and consistency of the cream selected is dependent to some extent on the stock to be treated. A heavier paper necessitates the application of more cream of a stiffer constituency and requires a greater application of pressure in the process. With a non-volatilized cream as described above and retained in brick form at a temperature of from 40° to 50° F. a paper stock of about fifteen pounds base is used.

In the manufacture, the solidified cold cream is applied to the paper simultaneously with the application of pressure thereto, a suitable instrumentality being availed of to insure the even application of the cream in the proper quantities. In some situations as under certain conditions of the cream due to atmospheric or temperature conditions it may be found advantageous to apply another sheet of similar tissue to the one already treated with cold cream and this sheet is juxtaposed to the first sheet against that side to which the cream has been applied. Thereafter or during the process of juxtaposition both sheets may be subjected to pressure, duly regulated dependent upon the solidity of the cream and the characteristics of the paper. A plurality of the sheets, either single or double are then formed in stacks or bundles which are enveloped in impervious material, such as glacine, and subjected to a seasoning treatment during which time the surface oil evaporates. The enveloped stacks are placed in a chamber or seasoning room and maintained at a predetermined temperature between 40° and 60° F. dependent to some extent upon the paper and cream and pressures used. It has been found that a seasoning temperature of substantially 50° will give excellent results. Apparently during the seasoning operation the cream works its way into the fibres of the tissue and the cream "sets" therein to form what is in effect a homogeneous structure. After the seasoning the bundles, still wrapped in impervious covers are subjected to great and extended pressure at which time the cream is wholly driven into the fibres of the material while substantially none is left on the surface. By properly regulating the seasoning and the pressure as well as the quantity and constituency of the cream as originally applied and the number of sheets making up the bundle to be pressed there may be left a small quantity of the cream on the surface. This is found advantageous in some situations as some users express a preference for a commodity in which the cream is visible. After the bundles are pressed it will be found desirable to form booklets of the cold cream tissue from them. The bundles are therefore stitched at predetermined points and then cut up into booklets ready for the market.

One form of apparatus by which the method of manufacture may be carried out is illustrated in Figure 1. There the sheet of fibrous material *a* is illustrated as formed in a roll *a'* from which it is led between a pair of pressure rolls *b*, *c*. One of the rolls, say *c*, forms one of a train of cold cream applying rolls *c*, *d*, *e* by which cold cream is taken from the surface of a brick *x*, of cold cream and applied to one surface of the sheet simultaneously with the pressing operation, the roll *c*, serving to apply the proper amount of cream evenly over the surface of the sheet. In order that the brick of cream may be maintained at the proper stiffness its temperature is controlled by refrigerating coils *e*, disposed about the pan *f*, within a casing adapted to be pressed upwardly against the roll *c*, by means of the springs *g*. In order to further control the quantity of cream in its applica-

tion to the paper, the central roll d is yieldingly maintained against the outer rolls by adjustable spring pressed bearings d'.

From the rolls b, c the treated sheet is conducted to cutting devices h, which sever the sheet coming from the roll into a plurality of rectangular sheets a^2, which are then stacked into a bundle a^3. If desired, depending to a great extent on the characteristics of the fibrous material and the constituency of the cream, a second untreated sheet of fibrous material may be annexed to the treated sheet on that side to which the cream has been applied. To this end a sheet i may be conducted from a roll i' and pressed into contact with the sheet a, by pressure rolls j, k. The pressure of the rolls may be regulated by the spring pressed bearing j' on roll j. In this instance, the rectangular sheets a^2, comprise two layers as will be understood. The bundles are then subjected to a seasoning process. During this seasoning the edges of the sheets have a tendency to dry out. To obviate this the bundles a^3, are enclosed in an impervious envelope l. The wrapping, of course, may be done by hand but in the illustrated embodiment the stacks are shown as formed on a traveling belt n periodically movable to convey, by the stops m', a bundle within the envelope l and then convey the wrapped bundle onto a conveyor n upon which the bundles are conducted during a seasoning operation within a chamber n' wherein the atmospheric, temperature and time conditions are regulated according to the characteristics of the sheets at the commencement of the seasoning.

At the end of the seasoning treatment the bundles are delivered onto a belt o which conducts them to a press p where they are subjected to a pressure dependent upon the number of sheets making up a bundle and the characteristics thereof.

After the pressing operation the bundles are removed from the envelope and stitched as indicated at a^4 and then cut along the lines a^5 into a plurality of booklets a^6 as shown in Figure 3.

It will thus be seen that a convenient instrumentality has been provided incorporating plastic medium in a vehicle which can be readily carried about the person, for instance, for use at times when the medium in the usual receptacles cannot be conveniently carried or used. This instrumentality is best defined as a homogeneous article of a plastic medium and fibrous material and with it the plastic medium may be transferred to the skin, the warmth of the skin being sufficient to liberate the plastic medium.

While the invention has been described as the product of and/or a method by which cold cream may be incorporated in a sheet of tissue paper it is to be understood that the invention in its broadest aspects is not limited to such but is equally applicable to any plastic medium, such as ointment or other grease like paste carried with a fibrous material, such as paper, fabric or equivalent substances for convenience in handling and use.

What I claim is:

1. The method of manufacturing a homogeneous article of paper and a cold cream which consists in evenly distributing the cold cream from a substantially solidified brick of predetermined characteristics maintained at a predetermined temperature over one surface of a sheet of fibrous material simultaneously with the application of pressure, and in a film of such thinness it may be held practically absorbed therein so that no substantial cream appears as such free on the surface of the paper, seasoning the sheet to effect substantially perfect assimilation of the cream by the sheet, and pressing it.

2. The method of manufacturing a homogeneous article of fibrous material and a plastic medium which consists in evenly distributing the medium from a substantially solidified brick of predetermined characteristics maintained at a predetermined temperature over one surface of a sheet of fibrous material simultaneously with the application of pressure, forming a stack of the sheets, enveloping the stack in an impervious wrapping, seasoning the stack to effect substantially perfect assimilation of the cream by the sheet, and pressing it.

3. As an article of manufacture, a sheet of paper over which a layer of cold cream of such thinness has been applied that it is held practically absorbed therein and no cream appears as such free on the surface of the paper and which has been subjected to a seasoning operation to effect substantially perfect assimilation of the cream by the paper.

4. The method of manufacturing a toilet preparation comprising applying cold cream to a sheet of paper in a layer of such thinness that when applied to the paper it may be held practically absorbed therein so that substantially no cream appears as such free upon the surface of the paper, and subjecting the article so formed to a seasoning to effect perfect assimilation of the cream by the paper.

5. The method of manufacturing a toilet preparation comprising applying cold cream to a sheet of paper in a layer of film of such thinness that when applied to the paper it may be held practically absorbed therein so that substantially no cream appears as such free upon the surface of the paper, subjecting the article so formed to a seasoning to effect perfect assimilation of the cream by the paper, and thereafter subjecting the article so formed to pressure.

This specification signed this 8th day of March A. D. 1926.

KATHERINE M. MACKENZIE.