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G. W. BROOKS

2,079,600

CLEANSING ARTICLE

Filed Feb. 10, 1936

Fig. 1.

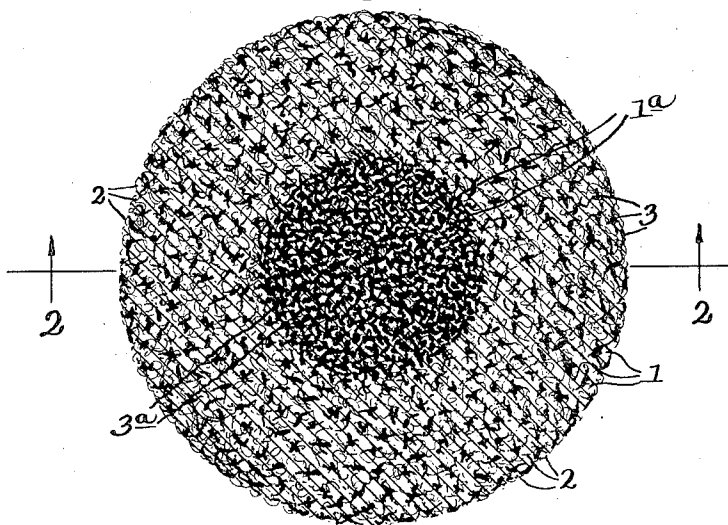


Fig. 2.

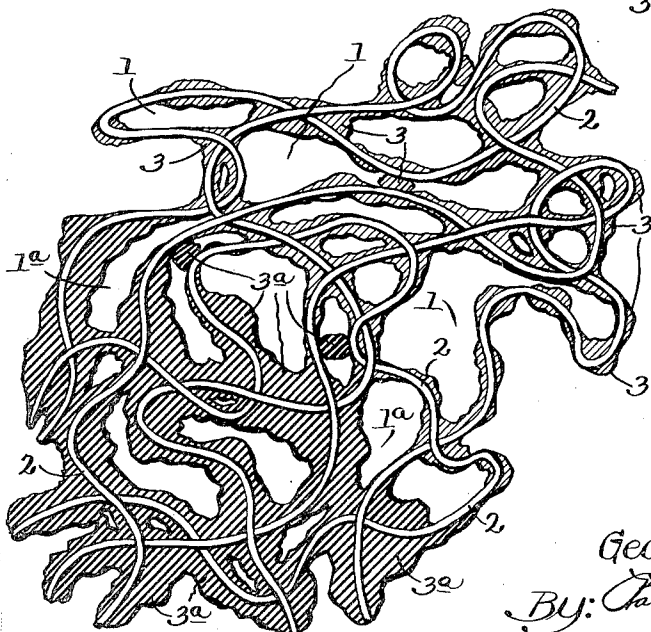
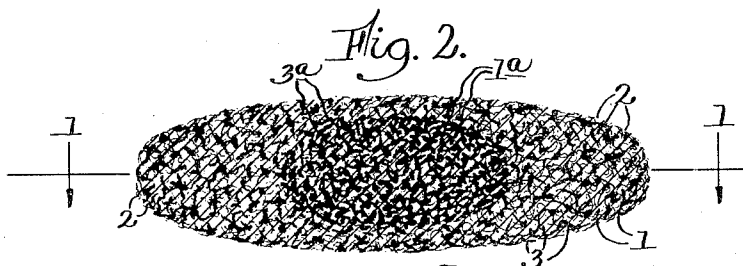


Fig. 3.

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UNITED STATES PATENT OFFICE

2,079,600

CLEANSING ARTICLE

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Application February 10, 1936, Serial No. 63,133

3 Claims. (Cl. 15—122)

The present invention relates to the art of cleansing articles.

Among the objects of the invention is to provide a novel cleansing article of the type composed of a mass of metallic fibres or filaments and soap.

In the use of cleansing articles composed of metal fibres, usually designated "steel wool" although the fibres may be of any metal desired or even of non-metallic substance but having the physical characteristics of metal fibres, and a distribution of soap throughout the fibrous mass and adhering to or held therein by the fibres, the soap component becomes used up when the metallic wool part has been only partly used up.

The present invention comprehends as a novel feature thereof a double distribution of soap in the wool mass with a double interspersion of voids affording access of water to the soap, the soap of one distribution being in the outer portion of the wool mass and near and at the working surface thereof to act as an immediate or primary supply of soap, and the soap of the other distribution being located within the wool mass to act as a reservoir or secondary supply of soap for the primary supply surrounding it.

The broader aspects of my invention include any one of various forms of pad in which the concentration and/or activity of the soap in the inner portion is different.

The preferred embodiment of the invention comprises a pad or body of metal wool fibres having soap of the same character distributed throughout its extent in two different concentrations in two distinct portions of the pad. The inner portion of the pad is provided with a soap concentration of greater density than that of the outer portion, and said outer portion wholly encloses said inner portion, the greater part of the soap in each portion being in the form of coatings about most of the fibres and so arranged as to provide spaces between the coated fibres. The coatings are thicker in the inner portion to provide the denser soap concentration and hence a reserve supply of soap for the outer portion of the pad.

Other objects, capabilities, advantages, features and the like are comprehended by the invention as will later appear and as are inherently possessed by the invention.

In the drawing;

Fig. 1 is a horizontal sectional view taken in a plane represented by line 1—1 in Fig. 2 of the drawing;

Fig. 2 is a vertical sectional view taken in a

plane represented by line 2—2 in Fig. 1 of the drawing;

Fig. 3 is a fragmentary sectional view on a greatly enlarged scale showing the difference between the soap portions and voids in the secondary and primary supplies or distributions.

Referring more in detail to the drawing, the various embodiments of my invention are shown in the conventional form of a pad of compressed metal wool or filaments and soap associated therewith, as agglutinated thereto or held thereby, the product having a texture or skeletal structure, somewhat like a sponge, with innumerable interspersed voids 1 and 1^a, the concentration of the soap in the inner portion being greater than in the outer portion of the article, the steel wool filaments 2 acting as the supporting or reinforcing means with which the soap 3 and 3^a has become associated.

The association of the soap with the steel wool fibres or filaments does not appear to be regular but seems to be in the form of coatings 3 and 3^a. The soap may so agglutinate or coalesce as to adhere or cling to two or more filaments or may break away from said filaments and thus appear to be suspended or held between or among two or more steel wool fibres or filaments. The form of these associated coatings are varied, in some cases seeming to be filmy, in others filamentous, and others granular. These concentrated coatings are small and in this invention are not greater in size than grains of wheat or rice or the like. These soap coatings assist in protecting the steel wool filaments from rusting or corroding or the like.

In the case where the same kind of soap is used throughout and where the soap coatings are of the same size in one distribution as in the other, the coatings 3^a of the secondary supply are more to a unit of volume than in the primary supply so that voids 1 of the primary supply average larger than the voids 1^a in the secondary supply.

The distribution may be different in that the soap coatings 3^a of the secondary supply may be generally larger in size than the portions 3 in the primary supply, and distributed in number equal to or lesser or greater than the number in the primary supply per unit of volume, but in any case the concentration of the secondary soap supply is greater than the primary soap supply, and the voids 1^a will vary accordingly.

In the case where the soap of the secondary supply is different such as slower to dissolve etc., the soap coatings 3^a may be of the same size or

smaller or larger than the coatings 3 of the primary supply and with different possible distributions as to number and corresponding voids, but in any case the activity of the secondary supply is different than that of the primary supply.

In use the article is wetted with water so that the water will permeate through the voids or part of them so as to dissolve some of the soap, particularly the coatings 3 to form a soap solution and suds. The article is then applied to the surface of the object to be cleansed, only a part of the coatings 3 dissolving and being used up, the metal fibres or filaments functioning to mechanically cut or scrape the dirt and the like to be removed. As the primary soap coatings 3 become dissolved and used up some of the soap coatings 3^a will be softened by the water and will feed into the adjacent portion of the wool mass and agglutinate, on drying, to the filaments thereof to gradually replace or replenish the soap coatings already dissolved and used up. In this way the pad has a longer life so that by the time the soap in the secondary supply or distribution becomes exhausted or used up, the wool mass also has become used up.

This is in part a continuation of my co-pending application Serial No. 740,606, filed Aug. 20, 1934 for Cleansing article, to become abandoned.

The advantages of the invention will be readily apparent to those skilled in the art to which the invention belongs. An important advantage is that it furnishes soap in a readily dissolvable form as contrasted with a cake of soap or a plurality of chunks of soap, and at the same time provides a flexible or yieldable pad.

Having thus explained the nature of the invention and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, what is claimed is:—

1. A combined metal wool and soap cleaning pad comprising a body of metal wool with soap distributed throughout its extent in two distinct portions, one portion entirely inclosing and surrounding the other to provide an inner and an outer portion, most of the soap in each portion being in the form of coatings about substantially all of the metal fibres and providing voids between the coated fibres, the soap coatings in the inner portion being appreciably thicker to provide an inner concentration of a greater density of soap and hence a reserve soap supply for the outer portion of the pad.

2. A combined metal wool and soap cleaning pad comprising a homogeneous body of metal wool with soap distributed throughout its extent in two distinct portions, one portion entirely inclosing and surrounding the other to provide an inner and an outer portion, most of the soap in each portion being in the form of coatings about substantially all of the metal fibres and providing voids between the coated fibres, the soap coatings in the inner portion being appreciably thicker to provide an inner concentration of a greater density of soap and hence a reserve soap supply for the outer portion of the pad.

3. An article of manufacture comprising a body of metal wool fibres having soap of the same character distributed throughout its extent in two different concentrations in two distinct portions of the body, the inner portion of the body having a soap concentration of greater density than the outer portion, and said outer portion wholly inclosing said inner portion, the greater part of the soap in each portion being in the form of coatings about most of the fibres and providing spaces between the coated fibres, said coatings being thicker in the inner portion so as to provide the denser soap concentration, and hence a reserve supply of soap for the outer portion of the body.

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