July 26, 1932. E. W. WASHBURN 1,868,862

DETERGENT TOWEL AND METHOD OF MAKING THE SAME

Filed Feb. 1, 1928

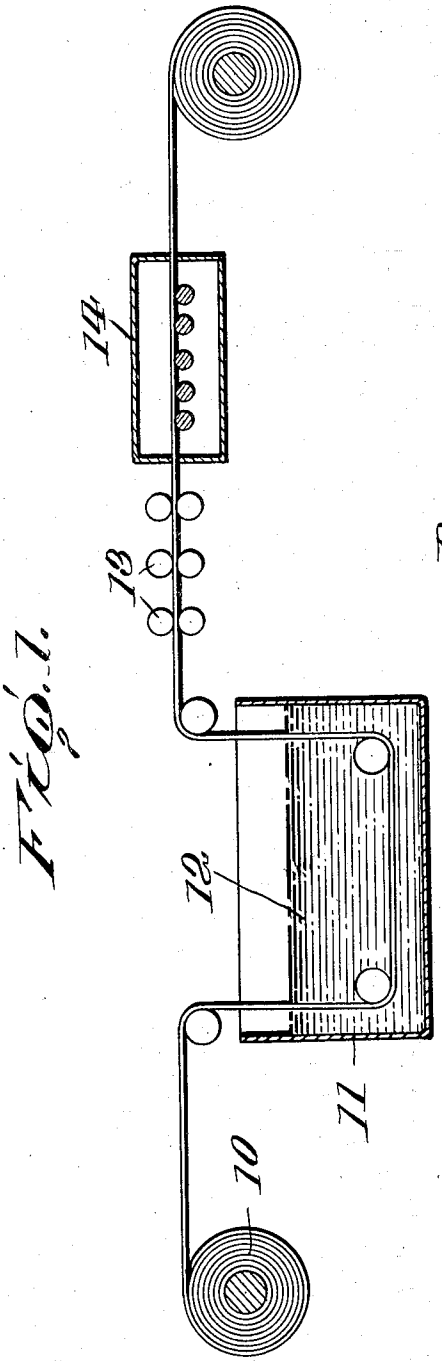

Fig. 1.

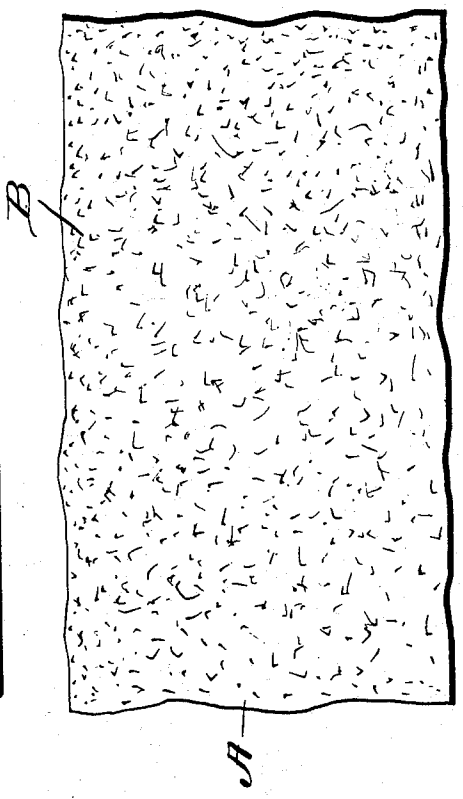

Fig. 2.

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UNITED STATES PATENT OFFICE

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DETERGENT TOWEL AND METHOD OF MAKING THE SAME

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This invention is a towel capable of performing both cleansing and drying functions, and a metnod of making the same. Ordinarily in washing the skin four operations are usually carried out, substantially as follows:—

First, wetting the skin or the soap, and rubbing together to secure a lather, or the wetting and soaping of a wash or scrub cloth to be applied to the skin. Second, causing the soap and the dirt or grime on the skin to combine by a scrubbing action either with or without the aid of a scrubbing agent such as a wash or scrub cloth or brush. Third, removing the excess and used soap by rinsing. Fourth, finally drying the skin with a suitable towel.

One of the objects of the invention is to promote economy in the use of soap, and to make unnecessary any separate provision for soap of any form in a toilet room, by providing a towel or the like impregnated with a suitable soap solution, so that the detergent action of the soap may be combined with the drying action of the towel, so as to reduce the number of manipulations above referred to. A further object is to provide a simple method of incorporating a detergent into suitable toweling material.

In the accompanying drawing:

Figure 1 is a diagrammatic view illustrating the method of producing a detergent towel in accordance with the invention. Figure 2 is a diagrammatic view illustrating a detergent towel.

In tne practice of the invention, a solution of a desirable toilet soap is made in a suitable solvent, such as water, alcohol, ether or in general any solvent which will dissolve the soap and which can later be removed from the toweling by evaporation. If desired, there may also be added to the solution, smaller quantities of glycerine, perfuming materials, scouring materials, and in general such additional materials as are customarily added to toilet soaps to improve their detergent properties.

In the solution thus prepared, the toweling material, (which may be paper, cloth or in general any fabric or absorbent material capable of use as a towel), is immersed for a sufficient length of time to secure the desired degree of impregnation. It is preferred to immerse the toweling in a continuous process, as illustrated in Figure 1, although this is not essential.

Referring to said figure, 10 designates a web of fabric, paper or the like, which is passed through a tank 11, containing the desired soap solution 12. The immersion is sustained for a length of time sufficient to secure substantial saturation of the toweling material, and after said web leaves the bath, it is subjected to pressure in any suitable manner, for example through rolls conventionally indicated at 13, or to vacuum, centrifugal force or other mechanical process for the removal of the excess solution so that the completed towel will be slightly impregnated, but not appreciably coated with the detergent material. The impregnated toweling is then subjected to a drying step, as for instance, by being passed through a drier of any one of the types used commercially for drying fabrics or paper in any of the standard manufacturing, cleaning, or drying processes to which said fabrics may be subjected after passing through a bath. Such a drier is conventionally shown at 14. In case a solvent other than water is used as the medium for carrying the soap and other impregnating materials, the drier would naturally be provided with auxiliary apparatus for solvent recovery. The dried and impregnated, but not appreciably coated toweling material is now ready for use and may be supplied in sheets or as a web or roll.

To use the towel, instead of first washing the skin with soap and water and drying with a towel in the ordinary way, the skin is first moistened with clear water and the detergent-impregnated towel above described is used for drying. For instance, assuming that the hands have been washed in clear water, the detergent-impregnated towel is manipulated in identically the same manner as a non-impregnated towel would be, i. e. put through the motions of rubbing the skin of the hands until they are perfectly dry. If the towel has been impregnated with a

good grade of soap at the proper concentration in the solvent, and the proportion of impregnation is maintained at less than an amount which would appreciably coat the surface of the toweling material, the effect of the drying manipulations will be to obtain a combined drying and celansing action, so that the skin will be found to be clean, dry and free from excess soap. In other words, the cleansing action is effected by the combination of the detergent carried by the towel with the moist dirt or grime upon the skin surface which is being dried. If glycerine has been used with the soap in the solvent, the skin, of course, will be correspondingly softened and smooth. It is obvious that the detergent toweling can be supplied in any of the forms in which paper towels are ordinarily furnished, and that the final product consists of toweling material A, which is slightly impregnated with, but not coated by an approximately dry detergent compound, conventionally indicated by the stippling B.

The advantage of the invention is that a towel is provided which will remove dirt from the surface of the human skin during the drying operation which normally follows the usual washing ablutions. The surface of the towel is free of soap coating of any appreciable visibility or lather producing quantity, the proportions of soap to the toweling material being such that the toweling material possesses sufficient body and absorbent characteristics to dry as well as cleanse the moistened surface. The soap does not coat the towel surface at all and is not transferred to the skin in any appreciable amount during the drying operation. It is to be understood that although "a desirable toilet soap" is mentioned in the specification, the same has been selected solely for illustrative purposes, and without intention to limit the invention thereto. Therefore, wherever the term "soap" or "soap compound" is employed in the specification and claims, the same is meant to define a detergent soap, a detergent soap compound, or any other soap-like compounds possessing similar detergent characteristics.

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 detergent towel comprising toweling material slightly impregnated with a soap compound, the surfaces of said material being free of soap coating of any appreciable visibility and lather producing quantity, the proportions of soap to the toweling material being such that said toweling material possesses sufficient body and absorbent characteristics to dry as well as cleanse a moistened surface.

2. A detergent towel comprising a flexible sheet of close fibered toweling material impregnated with a soap compound, the surface of said toweling material being free of soap coating of any appreciable visibility, the proportions of the soap being such that the volume of soap is insufficient to produce a lather and the toweling material possesses sufficient body and absorbent characteristics to dry as well as cleanse a moistened surface.

3. A detergent towel comprising paper toweling material slightly impregnated with a soap compound, the surfaces of said toweling material being free of soap coating of any appreciable visibility, the proportions of soap to the toweling material being such that said toweling material possesses sufficient body and absorbent characteristics to dry as well as cleanse a moistened surface.

In testimony whereof I have hereunto set my hand.

EDWARD W. WASHBURN.