UNITED STATES PATENT OFFICE.

FRANCISCO F. CARMONA, OF MEXICO, MEXICO, ASSIGNOR TO COMPANIA EXPLOTADORA NAVEZTEN, OF MEXICO, MEXICO.

DETERGENT, BLEACHING, AND DISINFECTING COMPOSITION.

1,237,267. Specification of Letters Patent. Patented Aug. 14, 1917.

No Drawing. Application filed August 29, 1911. Serial No. 646,572.

To all whom it may concern:

Be it known that I, FRANCISCO F. CARMONA, a citizen of the United States of Mexico, residing in the city of Mexico, Federal District, Mexico, have invented a new and useful Improvement in Detergent, Bleaching, and Disinfecting Compositions, of which the following is a description.

This invention relates to means for cleansing, bleaching and disinfecting fibrous materials, and more particularly has reference to a composition of matter employed for removing dirt, oils and fat from fabrics and materials from which fabrics are made, and also for bleaching and disinfecting the same.

The object of my invention is to provide a composition which is efficient for the purpose, simple, and cheap of production.

Therefore, my invention consists in the composition of specified ingredients hereinafter described and claimed.

My composition is composed of a detergent, a bleach, and a disinfectant which latter, incidentally, also has bleaching properties, and this composition may be in either liquid, powder or paste form.

In the liquid form, the detergent is made of 400 kilograms of water with vegetable, saponaceous matter, and may be produced by directly mixing 17 grams of saponin with the whole amount of water, or by macerating and steeping 250 grams of quillaia bark in 200 kilograms of water, and 150 grams of xhixhi stalks and leaves in a like amount of water. The steeping should be done in separate vessels and should continue for approximately five hours. The quillaia and the xhixhi solutions are then mixed together in equal amounts. This produces a saponin water or saponaceous fluid.

I then dissolve 20 kilograms of any suitable bleaching powder, such as chlorid of lime, in 200 kilograms of the saponaceous fluid, solution being assisted by agitation. After complete solution, the liquid is strained and placed in another vessel in which it is mixed with 200 kilograms of the saponin fluid, and then agitated and strained.

I then make a solution consisting of 150 kilograms of the above saponin water, 20 kilograms of carbonate of sodium, 6 kilograms of caustic potash, 5 kilograms of sodium chlorid and 50 kilograms of the above bleaching solution. These ingredients are then agitated until thoroughly mixed and dissolved. The fluid is then allowed to settle and is then skimmed to remove the supernatant matter resulting from impurities of an insoluble nature.

The foregoing saponin fluid and two alkali bleaches are then thoroughly mixed together and thereafter skimmed to remove impurities. The composition then presents a whitish color when agitated, becoming quite clear when quiescent, owing to the settling of precipitate of carbonate of calcium. This precipitate is formed by the reaction between the carbonate of sodium and the hypochlorite of calcium, which, being insoluble, assists the detergent action of the chemicals by mechanical abrasion of the dirt when the liquid is swirled around and through the goods, fabrics, or other substances to be cleaned. This composition is essentially a detergent fluid, possessing cleansing qualities of a high degree, as well as good bleaching properties, owing to the evolution of hypochlorite of potassium through the reaction of the hypochlorite of calcium with the caustic potash, and the presence of finely-divided soft soap due to saponification, which takes place between the greasy material adhering to the goods cleaned, aided by the saponaceous material in the vegetable barks.

A liquid of essentially bleaching qualities which may be used in certain cases by mixture with the foregoing composition is produced by combining 10 kilograms of water, 1 kilogram of chlorid of lime, and 1 kilogram of chlorid of sodium. Complete solution and thorough mixture are secured by agitation and the liquid is decanted, strained and kept in vessels well covered so as to protect it from the light.

A third composition which has disinfectant and bleaching properties, when combined with the foregoing compounds, is composed of one kilogram of commercial sulfuric acid and ten kilograms of water. The mixture is made by pouring the acid in the water in small quantities at a time in the usual way.

The above compositions, it will be noted, are essentially liquid; and the character of water employed is of no consequence, since

water which is salt, alkaline, or pure may be used as a diluting medium with equally good results.

Instead of making the detergent and bleaching compositions in liquid form, they may be made in the form of powders. That is to say, such a detergent, alkaline in character and of high saponaceous quality, may be compounded of:

	Grams.
Sodium carbonate	0.381
Caustic soda	0.191
Sodium chlorid	0.238
Chlorid of lime	0.143
Bi-sulfite of sodium	0.025
Xhixhi	0.022

To be mixed with the above detergent, I produce an alkali bleach composed of chlorid of lime, 1 gram; and chlorid of sodium, 1 gram. This composition, when to be used, has added thereto 20 grams of water.

As a disinfectant, with incidental bleaching qualities, I combine with 20 grams of water 1 gram of bi-sulfite.

The alkali detergent and bleach above described may be produced in the form of paste by adding oil of any suitable kind in quantities sufficient to make the same of the consistency of the ordinary salves.

It will be understood that my detergent in either the liquid, powder, or paste form can be used by itself for the purpose of washing fabrics, or for personal use; and, when either of the detergents is combined with it either of the alkali bleaches, the powder being first dissolved in 20 grams of water, bleaching and washing may be conducted at the same time: and, when it is desired to also disinfect, the acid bleach may be combined with the alkali bleach and detergent, as will be readily understood.

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

1. A composition for use in cleaning and bleaching resulting from the mixture of a detergent comprising a mixture of vegetable saponaceous matter and water, an alkali bleach and an acid compound resulting in a substance having disinfectant properties and bleaching properties.

2. A composition for use in cleaning and bleaching comprising the reaction products of sodium carbonate, caustic soda, sodium chlorid, chlorid of lime, sodium bisulfite, and xhixhi; combined with an alkali bleach in liquid form; and a composition having disinfectant properties and having incidental bleaching properties.

3. A composition for use in cleaning and bleaching comprising a detergent including a saponifying-bark derivative, and an alkali bleach containing chemicals which react with an acid, producing hypochlorous acid, chlorin and oxygen.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANCISCO F. CARMONA.

Witnesses:
C. CHANEY,
M. CHESTNEY.