

UNITED STATES PATENT OFFICE.

EDWARD S. BOYNTON, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
BOYNTON SOAP PROCESS COMPANY, OF NEW YORK.

SOAP.

SPECIFICATION forming part of Letters Patent No. 586,231, dated July 13, 1897.

Application filed October 10, 1896. Serial No. 608,473. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD S. BOYNTON, a citizen of the United States, residing at Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Soaps and Saponaceous Compounds, of which the following is a specification.

My invention relates to soaps and to compounds or solutions containing soap, and the principal object I have in view is to give to the soap improved detergent qualities.

Another object of my invention is to produce a soap having therapeutical qualities.

A further object of my invention is to improve the lathering qualities of a soap.

My invention consists in a soap or saponaceous mixture having one of the various ferrocyanids incorporated therewith, either in the process of manufacture of the soap or after the soap is formed, in the proportions hereinafter specified.

In the adaptation of my invention to practice I employ the different ferrocyanids in accordance with the purposes for which the soap is intended. For example, if the soap is to be employed for detergent purposes generally, as for washing and laundry uses, I employ potassium ferrocyanid ($K_4FeC_6N_3Aq.$) in the proportion of about one per cent. to the soap used.

While in practice I find that the addition of one per cent. of the ferrocyanid—that is, one pound for each one hundred pounds of the soap—produces good results and is satisfactory, I do not limit myself to this, as the proportion may be increased or diminished within reasonable limits without injurious results or without depriving the compound of its beneficial properties. Such a soap compound is also of great benefit in cases of chronic eruption of the skin. For ophthalmic troubles I find that zinc ferrocyanid ($Zn_2FeC_6N_3Aq.$) may be substituted for the potassium ferrocyanid in like proportions with advantage.

When soap is designed for general toilet purposes, I prefer to use the solution of iron ferrocyanid (soluble Prussian blue— $Fe_4C_{12}N_{12}K_2$) in the same proportions as those stated for the other ferrocyanids.

To enable those skilled in the art to use my

invention, I will explain how the soap may be prepared in a simple manner: Cut one pound of good soap into chips and melt or dissolve the same in three ounces of soft water. When the soap is thus dissolved, add thereto one per cent. (seventy grains) of the particular ferrocyanid selected, allow it to dissolve, and then pour the compound soap into a mold or molds. When cold, remove the soap from the mold, dry it, and it will be ready for use.

The soap thus produced has improved detergent qualities, which are manifest by reason of its increased softening and dissolving action upon foreign substances. This softening and dissolving action is particularly noticeable in the case of acids and in its attack upon the salts of perspiration, upon all dead nitrogenous tissue, (dandruff, decayed epidermis, scales of wounds, catarrhal mucus, and mucous membranes,) and upon the impurities of textile fiber. The effect upon wool, hair, and silk is to soften them and thereby improve their quality. It is found also that the lather produced with ferrocyanid soaps is much softer and smoother, and that a fine shaving-soap can be produced by incorporating the ferrocyanid agent with any ordinary laundry-soap.

My soap has characteristics by which it may be readily distinguished from all other soaps known to me.

Chemical reaction.—If a few drops of ferric chlorid be added to an acidulated solution of my soap—say, a one-per-cent. solution acidulated with muriatic acid—the solution at once assumes a blue color. This is a marked characteristic, but any one accustomed to handling or using my soap can distinguish it at once by the smooth lather produced when wet as compared with all other soaps known to me.

A further test may be had by placing a one-per-cent. solution of my soap and the same quantity of another soap in separate bottles and subjecting them to a like amount of shaking to produce a lather. It will be noticed that the lather from my soap consists, in general, of smaller bubbles, that remain intact much longer than in the case of the ordinary soap.

I am aware that it has been a common prac-

tice to mix substances with soaps usually to medicate them, the soap being merely a vehicle. My invention, however, does not relate to a mere mixture, but to a chemical soap
5 compound having improved qualities.

I am also aware that it has been proposed to mix a very small quantity of Prussian blue with soap to color it. This I do not claim.

What I do claim is—

- 10 1. A soap or saponaceous compound containing as one of its essential ingredients a ferrocyanid, in substantially the proportions specified, said soap having the distinguishing characteristics that an acidulated solution

thereof becomes blue when ferric chlorid is 15 added thereto.

2. A soap or saponaceous compound containing as one of its essential ingredients, potassium ferrocyanid, in substantially the proportions specified. 20

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD S. BOYNTON.

Witnesses:

PETER A. ROSS,
HENRY CONNETT.