

## UNITED STATES PATENT OFFICE.

ISRAEL D. BALCH, OF CAMBRIDGE, MASSACHUSETTS.

## IMPROVEMENT IN SOAP.

Specification forming part of Letters Patent No. 116,008, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, ISRAEL D. BALCH, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Soaps; and I do hereby declare that the following is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to an improvement in soaps, the improvement having reference to the polishing or abrasive qualities of the soap, as well as to its cleansing and its detergent properties.

The improvement consists in combining with a soap, made with any common soap ingredients, a powder formed of calcined diatomaceous deposit, the structure of which is such as to give its finest particles an abrasive action, while its hardness and impalpability render a soap made with it as an ingredient peculiarly valuable in removing roughness and acid secretions from the skin, and in imparting a polish to surfaces rubbed with it or with suds made from it.

The diatomaceæ I find as an earthy deposit, and when found it is of a soft spongy character, brownish in color, and containing a very

small percentage of organic matter. But by burning or roasting the material it is reduced to an impalpable and perfectly white silicious powder, and this is all the preparation it needs before combining it with the soap ingredients.

The diatomaceous deposits are by some supposed to be of vegetable origin and by some to be of an animal nature; but, whatever their origin, they are formed of symmetrical and indestructible silicious skeletons, and are so fine that they do not injure any fabric, while with the soap they will remove stains and grease from clothes and oil and dirt from the skin with remarkable effect.

As a cosmetic soap it has a peculiar property of smoothing, cleansing, and beautifying the skin; and as a detergent I have found it to be very useful in cleansing the skin from impure secretions.

I claim—

A soap made with the peculiar silicious ingredient, substantially as described.

ISRAEL D. BALCH.

Witnesses:

FRANCIS GOULD,

S. B. KIDDER.

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