UNITED STATES PATENT OFFICE.

GEORGE ROBBINS, OF WATERTOWN, MASSACHUSETTS.

IMPROVED PROCESS FOR MAKING SOAP.

Specification forming part of Letters Patent No. **43,605**, dated July 19, 1864.

To all whom it may concern:

Be it known that I, GEORGE ROBBINS, of Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Hard and Soft Soaps; and I do hereby declare that the following description forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The ordinary process of making is a somewhat tedious, and recently, from the high price of materials employed, a very expensive one. It is well known that six or seven days are by the modes now generally practiced necessary to produce soap, this length of time being required to chemically unite the ingredients or saponify the fatty matters. In order to make the soap hard, it has been customary to use salt to precipitate the alkaline lyes; but it is desirable to retain as much alkali in the soap as possible to make it of good quality, and as the fatty matters will only take a certain portion of alkali the remainder goes off.

My improvements consist in combining with the materials commonly used for making soap gelatine obtained, by boiling or otherwise, from the bones, hoofs, &c., of animals. I have found by practical operation that by this means saponification or consolidation of the materials is effected almost at once, the time required to complete the process by my improvement being not one-seventh of that necessary by the modes heretofore practiced by soap-manufacturers. Moreover, the body of soap thus obtained is much larger than can be made by the usual method, because the addition of gelatine retains all the alkalies and consolidates all the ingredients, so that none are lost, while it hardens the soap without the application of salt or other substances. The low price at which gelatine can be produced enables me to manufacture soap by my process at a very much less rate than has ever before been possible.

I will now proceed to describe in detail one mode by which my improvements can be carried out.

I take the bones, hoofs, &c., of animals, and boil them with water in a suitable pan until all the gelatine is mixed with the water. The fat is then skimmed off and the bones removed. The tallow, grease, or other fatty substances are heated to a boiling-point in another vessel, when a portion of the gelatinous liquor obtained as before described is added with a suitable quantity of alkaline lyes. I continue to add the gelatine and alkalies until all the ingredients are saponified, the operation being carried by the usual soap-making process.

It will be seen by the foregoing description that no ingredients are necessary to be introduced to carry off any portion of the alkalies, and that the consolidation and hardening of the soap are produced by the action of the gelatine which joins and holds all the materials together.

To produce soft soap it is only necessary to reduce with water.

The proportions of the substances used can of course be varied; but I have found good results by using fifteen pounds of tallow and fifteen pounds of potash to five or eight gallons of gelatine.

It will be evident that rosin or other materials commonly employed in the manufacture may be added without varying the essential principles of my invention.

Having thus described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

The improvement in the process of manufacturing hard and soft soap, which consists in the saponification of fatty substances by means of gelatinous alkaline solutions, as hereinabove described.

GEORGE ROBBINS.

Witnesses:

JOSEPH GAVETT,

SAML. M. BARTON.