No. 873,615. PATENTED DEC. 10, 1907.

M. R. A. SAMUEL.

PROCESS OF SAPONIFICATION.

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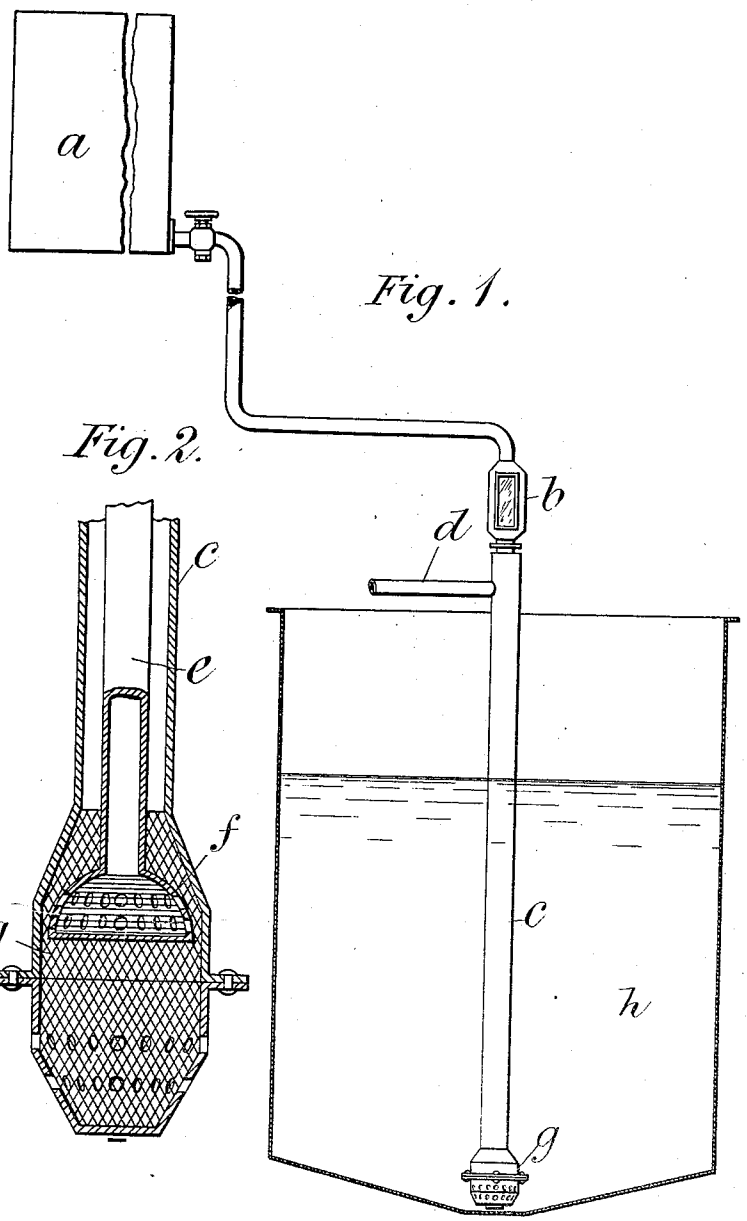


Fig. 1.

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

MARCUS REGINALD ANTHONY SAMUEL, OF LONDON, ENGLAND, ASSIGNOR TO THE KARSAM SOAP COMPANY, LIMITED, OF LONDON, ENGLAND.

PROCESS OF SAPONIFICATION.

No. 873,615. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed March 9, 1907. Serial No. 361,513.

To all whom it may concern:

Be it known that I, MARCUS REGINALD ANTHONY SAMUEL, gentleman, a subject of the King of Great Britain, residing at 12 Minories, in the city of London, England, have invented a new and useful Process of Saponification, of which the following is a specification.

This invention relates to improvements in the manufacture of soap, detergents, and the like.

According to this invention a mineral oil such as petroleum is incorporated with soap by a process of saponification, one of the advantages of which is that the process can be carried out in an open pot and that the mineral oil will not separate after prolonged boiling even when the soap contains very large percentages of it.

This invention may be carried out in the apparatus shown in Figures 1 and 2 in which *a* is a storage tank, *b* a gage provided with a glass front, *c* the outer tube of an injector, *d* a tube for conveying steam or other fluid, *e* the inner injector tube, *f* an inner pulverizing chamber filled with woven wire netting or cloth, *g* an outer pulverizing chamber filled with closely woven wire cloth, *h* is the copper or pot.

The following are examples illustrating the invention:—

Example I. A mixture of twenty parts tallow, five parts rosin, five parts petroleum rendered liquid by heat, is placed in the storage tank *a*. The mixture is then led through the pulverizing chambers *f* and *g* in a finely divided state into the bottom of the pot *h* containing a hot caustic soda solution of a specific gravity of 1.116. After boiling for a very short time the operation is complete and the curd soap rises to the surface. If this is allowed to stand for a sufficient time, as in the ordinary process, it will throw out all its excess of alkali together with the glycerin and become a closed soap, which may be drawn off and framed in the usual way. The proportion of petroleum may be either largely increased, according to the particular kind of soap or detergent etc. required. The strength of the alkaline solution may also be varied within wide limits, but it is advisable to start with a solution of the strength above mentioned; during the operation the strength may be increased to about 1.383 specific gravity and reduced when necessary at the finish to such strength that the soap can throw out the excess. When it is desired to obtain the usual percentage of glycerin the strength of the solution should not exceed 1.2 specific gravity. Fixed quantities of alkaline solution and fats etc. may be taken in the correct proportions to form a hydrated soap, or to facilitate the usual process of soap making fats etc. are injected as above described, into a weak alkaline solution until all the alkali is neutralized, and then salted out in the usual way.

Example II. A soft soap containing petroleum is made in exactly the same manner as hard soap, substituting caustic potash for caustic soda.

What I claim is:—

1. In a process of saponification injecting a saponifiable substance simultaneously with a mineral oil into a solution of caustic alkali.

2. In a process of saponification introducing a saponifiable substance simultaneously with a mineral oil in one or more streams, each stream being of small volume, below the surface of a solution of caustic alkali.

3. In a process of saponification injecting a saponifiable substance simultaneously with a mineral oil in a finely divided state into a solution of caustic alkali.

4. In a process of saponification mixing a saponifiable substance with a mineral oil and then injecting the mixture into a solution of caustic alkali.

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Witnesses:
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