

UNITED STATES PATENT OFFICE.

JOSEF OSKAR KLIMSCH, OF VIENNA, AUSTRIA-HUNGARY.

PROCESS OF MAKING RESIN SOAPS.

SPECIFICATION forming part of Letters Patent No. 536,930, dated April 2, 1895.

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To all whom it may concern:

Be it known that I, JOSEF OSKAR KLIMSCH, a subject of the Emperor of Austria-Hungary, and a resident of Vienna, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in the Manufacture of Soaps, of which the following is a specification.

My invention relates to the manufacture of soaps, and it consists of the process of saponification which will be hereinafter described.

My improved method consists essentially in incorporating together a finely pulverized alkaline carbonate, a finely pulverized resin or resinic acid, and in mixing in intimately a suitable binding agent. To the resultant product perfumes, coloring matter, &c., may be added or not, as desired, and the whole is then compressed into blocks or cakes of the form desired. After these several operations, the product is very similar in general characteristics to the fatty acid salts, ordinarily known as soaps, and constitute in fact resin soaps.

Any suitably resin or resinic acid may be used, such as colophony, or pine resin. The alkaline carbonate preferred is sodic carbonate, such for instance as that made by the ammonia process, but potassic carbonate may be used, if desired; and the two are mixed together in about the proportions of one hundred parts by weight of resin to one hundred and twenty parts of the carbonate; but these proportions will depend to a large extent upon the nature of the resin, and may be varied within wide limits.

It is immaterial whether the carbonate and the resin be pulverized separately or together, and when intimately mixed, they are moistened with the binding agent. This binding agent may be a partial solvent of the mass or may act merely as a glue to bind the parts together, or simply as a filling. Thus I have found alcohol, benzene, petroleum, glycerine, water-glass, starch, glue, agar-agar jelly, lime, magnesite, and the like suitable for the purpose, or one or more of these may be used. To the mixture of carbonate, resin, and the binding agent, or agents thus formed, the perfumes, coloring matter, or other additional matter common in toilet or medicated soaps,

and the like, may be added, and the various ingredients are then thoroughly incorporated into a homogeneous whole by any well-known process of grinding, or kneading, pressing, &c. The resultant product is finally pressed, molded, and cut into the desired form and is ready for use.

It will be obvious that by regulating the final pressure, a soap of any desired degree of hardness may be obtained.

By my improved method of manufacture, I can obtain resin soaps possessing any desired degree of hardness and which may be quite free from water; and with the modifications in this method due to certain well-known additions, the soaps produced are rendered suitable either for industrial, domestic, toilet, or medicinal use. More alkali is employed in this rapid method of saponification in order to obtain not a sticky but a slippery and hard soap.

In practice the use of alkaline carbonates can only be an advantage, as I obtain a greater solubility even in cold water. Therefore also a greater cleaning property of the resin soap is obtained without its having a caustic effect.

In my improved method of manufacturing soap, the longer the grinding or kneading, or the better the several ingredients of the resin soap are mixed and pressed, the less of the binding agents will be required; for, during the mixing and grinding of the several ingredients, the material becomes heated, which favors the union, and enables excellent hard resin soaps to be obtained.

Among other special advantages obtained in the before-described manufacture of resin soaps, are, first, the doing away with every kind of boiling and the customary preparation of liquor; second, an almost dry, odorless, easy, and rapid operation, which has no deleterious effect upon the people in or near the works; third, the possibility of producing on a large scale, cheap, white, and colored, hard resin soaps of any kind, and for any use; fourth, the easy production of soaps which may be quite free from water, which are therefore unchangeable during transport and storage, economic and effective in use, and which dissolve well even in cold water.

Small quantities of suitable fatty or oleic

acids may be mixed with the resins, if desired, but these should be only such as are moderately soluble in the cold state in aqueous alkaline carbonates, that is to say, those that will easily form emulsions.

By these successive operations products are obtained which behave in every respect, that is to say, as to structure, against water, &c., similarly to fatty acid salts (soaps) thus constituting resin soaps (sodic resinate). The resinate formed is the same whether the alkali is used in the form of carbonate or hydrate. The above process will be more easily understood on remembering that resins (colophony, pine resins, &c.), show the property of becoming oxidized when in a powdered state, so that when larger quantities of the same are powdered, and not used immediately, they become, of themselves heated to such a degree that they bake together or melt, and their color becomes darker.

The quantity of binding or filling materials to be used depends on the quantity of soap to be produced, and is from five per cent. to twenty-five per cent. of the soap.

The essence of the invention consists in the process of manufacturing hard resin soaps, which may be quite free from water, in which the chief constituents, viz: a resinic acid and the necessary alkaline carbonate are used in a powdered or ground state, and after being intimately mixed, are, if desired, uniformly moistened or mixed with one or more suitable binding agents, solutions and filling materials (for instance, alcohol, benzene, glycerine, water-glass, starch, destrin, glue, agar-agar, lime, magnesite, or the like), or with coloring agents or perfumes; the mixture of resin powder and alkali powder, moistened or mixed in this manner, being finally transformed directly by successive grinding, mixing, pressing, molding, cutting and stamping process, by means of well-known machines, according to the several binding agents which are used, into resin

soap for industrial, domestic, toilet, or medicinal purposes.

The manufacture of resin soap according to my process is therefore carried on without the use of alkaline lye, and without any heating or boiling of the soap.

It will be obvious that various modifications in the herein described process may be made by any practical chemist or soap maker, which could be used without departing from the spirit of my invention.

I claim, broadly, as new—

1. The process of manufacturing soap, which consists in incorporating together a powdered resinous compound, a powdered alkaline carbonate, and a binding agent, and in compressing the product so formed.

2. The process of manufacturing soap, which consists in incorporating together powdered resin, a powdered alkaline carbonate, and a binding agent.

3. The process of manufacturing soap which consists in incorporating together powdered resinous material, powdered carbonate of soda, and a binding agent, substantially as described.

4. The process of manufacturing soap which consists in incorporating together powdered resinous material, powdered carbonate of soda, and a binding agent, and compressing the product so formed, substantially as described.

5. The process of manufacturing soap, which consists in incorporating together powdered resin, an alkaline carbonate, and a binding agent, and in compressing the product so formed, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOS. OSKAR KLIMSCII.

Witnesses:

V. MORE,
HARRY BELMONT.