

UNITED STATES PATENT OFFICE

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HYDROCARBON JELL COMPOSITION

No Drawing.

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This invention relates, generally, to gelatinous compositions, and the invention has reference, more particularly, to a novel gelatinous composition designed to be used as a solid fuel, as a solid cleansing compound, and for other purposes.

The invention has for its principal object to provide a novel gelatinous composition that is not only adapted to be used where other solid fuels are employed but which may also be used in place of liquid fuels, as for example in cigar or cigarette lighters, and which composition is adapted to serve other valuable purposes such as that of a cleansing compound; such composition, owing to its solidified form, is not subject to spillage and may be readily carried about in cans or in collapsible tubes without involving the serious fire hazard commonly present in the use of liquid fuels.

Another object of the present invention lies in the provision of a gelatinous composition of the above character which is of stable character adapting it for a plurality of valuable uses and which may be economically and easily produced in large quantities; such composition consisting essentially of an acid soap and a hydrocarbon. Various fatty acids or oils are employed in making up the novel gelatinous composition of this invention, for example, stearic acid or coconut oil may be and are preferably employed, but the invention is not limited to the use of such specific substances, for any fatty acid or glyceride may be used, depending on the desired hardness of the finished product. If a glyceride is used, then substantially one-half of the available glycerin must be split off by saponification with an alkali. Complete saponification of the glyceride cannot be allowed to take place, for in such event a water soluble soap would be formed which soap would not gelatinize hydrocarbon. If a fatty acid is used, substantially one-half of the available hydrogen atoms must be replaced by neutralization with an alkali. The fatty acid cannot be completely neutralized for to do so would also result in producing a water soluble soap which could not gelatinize hydrocarbons.

Preferably, sodium hydroxide is the alkali

used, although other alkaline compounds such as potassium hydroxide, borax, sodium carbonate, potassium carbonate, and di or tri-sodium phosphate may be employed if desired. The hydrocarbon employed in the composition is preferably an aliphatic hydrocarbon such as obtained from petroleum distillates for example, gasoline, but aromatic hydrocarbons such as benzol, toluol and xylol may also be used.

In order to accelerate the partial neutralization of the fatty acid or the partial saponification of the coconut oil or glyceride, as the case may be, a suitable catalyzer is employed, which catalyzer is preferably ethyl alcohol, although any water soluble alcohol may be employed for this purpose.

When using a fatty acid such as stearic acid in making up the novel gelatinous composition of this invention, the stearic acid is dissolved in alcohol and to this solution is added a caustic soda solution with heating, the alcohol serving to catalyze the neutralization process, after which the hydrocarbon is added.

As an example of a composition employing stearic acid and embodying the principles of the present invention, the ingredients are mixed together in the following proportions by volume:—

	Parts
Stearic acid-----	35
Sodium hydroxide (30%)-----	7
Ethyl alcohol-----	500
Gasoline-----	4500

The preferred manner of preparing this form of the composition is as follows:—

Thirty five cubic centimeters of stearic acid are dissolved in five hundred cubic centimeters of ethyl alcohol by warming, and then seven cubic centimeters of a thirty percent solution of sodium hydroxide (30% sodium hydroxide and 70% water) is added and the heating is continued until the reaction is complete. Forty-five hundred cubic centimeters of gasoline is now slowly added and the resulting mass is then set aside to cool and gelatinize.

When using a glyceride such as coconut oil in making up the novel gelatinous composition

tion of this invention, the coconut oil is mixed with a caustic soda solution and additional water with heating. Ethyl alcohol is then added to catalyze the saponification process, after which the hydrocarbon is added.

As an example of a composition employing coconut oil and embodying the principles of the present invention, the ingredients are mixed together in the following proportions by volume:

Coconut oil	Parts
Sodium hydroxide (30%)	32
Water	9
Ethyl alcohol	60
Gasoline	3
	6000

The preferred manner of preparing this form of the composition is as follows:—

A mixture of thirty two cubic centimeters of coconut oil, seven cubic centimeters of a thirty percent solution of sodium hydroxide, and sixty cubic centimeters of water are heated on a steam bath until the coconut oil is melted. Three cubic centimeters of ethyl alcohol is then added and the mass is boiled until the reaction is complete, whereupon six thousand cubic centimeters of gasoline are slowly added while stirring and the resulting mass is then set aside to cool and gelatinize.

The resulting gelatinous composition is a glutinous solid that is readily handled and which is well adapted for use as a solid fuel in lieu of dangerous and highly inflammable liquid fuels such as alcohol or gasoline. Also this composition is well adapted for other uses such as removing spots and stains from clothing and other apparel, and with the addition of antiseptic agents provides a desirable germicide.

While there is given above illustrative tables of relative proportions of the several ingredients of the composition, it will be understood that variation may be made within reasonable limits. For example, by increasing the relative proportion of alcohol while keeping the quantities of other ingredients the same, the reaction may be even more rapidly accelerated. The quantity of gasoline or other hydrocarbon may be varied to produce a softer or harder jelly as desired. Also, by increasing the gasoline content the resulting gelatinous mass is of lesser density and more readily ignited, burning with greater rapidity. Changes in the balance of the other ingredients within reasonable limits may also be made while still attaining the purposes and function of the composition within the scope and spirit of this invention.

Although gasoline is used in the above compositions as the hydrocarbon, it is to be understood that other petroleum distillates may be used in lieu of gasoline and that aromatic hydrocarbons may also be used.

What is claimed is:—

A gelatinous composition for the purposes

described comprising a mixture of the herein named ingredients in the approximate proportions by volume as follows:—

Coconut oil	Parts
Sodium hydroxide (30%)	32
Water	9
Ethyl alcohol	60
Gasoline	3
	6000

In testimony, that I claim the invention set forth above I have hereunto set my hand this 8th day of June, 1929.

GUSTAVE KLINKENSTEIN.

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