

UNITED STATES PATENT OFFICE.

ROBERT IRVINE, OF ROYSTON GRANTON, COUNTY OF MID-LOTHIAN, SCOTLAND.

METHOD OF TREATING MINERAL OILS, &c.

SPECIFICATION forming part of Letters Patent No. 256,220, dated April 11, 1882.

Application filed January 5, 1882. (No specimens.)

To all whom it may concern:

Be it known that I, ROBERT IRVINE, a subject of the Queen of Great Britain and Ireland, and residing at Royston Granton, in the county of Mid-Lothian, Scotland, chemical manufacturer, have invented a new or improved method of treating mineral oils used for illuminating purposes, and mineral naphthas, in order to convert the same into a semi-solid or solid condition, of which the following is a specification.

This invention relates to the combination of certain mineral oils used for illuminating purposes, and mineral naphthas with the hereinafter mentioned ingredients, so as to produce a semi-solid or solid substance, mixture, or compound.

In carrying out this invention I take such oils as are derived by distillation from coal shale or other bituminous minerals, or from earth or rock oils, known as "petroleum," or otherwise, or from earth ware or wares, known as "ozocerite," "bitumen," "asphaltum," and the like, and which oils are suitable for illuminating purposes, known after purification as "burning" or "paraffine" oils, and the naphthas, benzoles, and light hydrocarbons, known as "turpentine substitute" or "mineral naphthas," and dissolve or combine under the influence of heat with such illuminating-oils and naphthas, compounds consisting of fatty acid or fatty acids with an alkali, alkalies, or salts having an alkaline reaction. This combination of fatty acids and alkali or alkalies is, when combined with water, commonly known as "soap" or "soaps." I employ such after the water usually present has been expelled by heat or, after being otherwise dehydrated, or I employ combinations of fatty acid or acids with alkali, alkalies, or salts having an alkaline reaction, heated together in a dehydrated or dry state until combination is effected and any water expelled; or I may employ substances containing fatty acids in combination with glycerine—such as tallow or animal fats and wares, vegetable fats and wares, when decomposed by an alkali, alkalies, or salts having an alkaline reaction, yielding a saponaceous substance, or these may be treated together with the oils

hereinbefore mentioned, so that their combination may be thus effected.

To effect the solution of the soap, soaps, or saponaceous matters in the oil heat is employed, applied at temperatures varying according to the proportion of saponaceous matter added and ranging up to the boiling-points of the oils so treated.

When the ingredients of the soap, soaps, or saponaceous matters are in their proper proportions—i. e., in their chemical combining proportions—complete solution or mixture or combination takes place in the oil or oils or naphthas employed, and the compound or mixture on being cooled takes the form of a greasy semi-solid or solid substance.

This combination of oils and soap or saponaceous compounds may either be burned in lamps of suitable construction or be decomposed by the addition of acid or acids, or acids diluted with water, and the oils or naphthas are thus obtained in their original condition by the decomposition of the soap or soaps dissolved in them, while the denser liquid containing the acid employed for this purpose combined with the alkali in the soap falls to the bottom.

By means of this invention a great margin of safety and loss by leakage is effected, besides the cost of transit and packages being materially reduced.

I claim as my invention—

The employment, in conjunction with mineral oil or oils used for illuminating purposes, mineral naphtha or naphthas and soap or saponaceous matter or matters in a dry or anhydrous state in order to obtain compounds in a semi-solid or solid state or condition, substantially as and for the purposes herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT IRVINE.

Witnesses:

J. A. LEONARD,
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