

# UNITED STATES PATENT OFFICE.

ROBERT HUTCHISON, OF PRESTWICK, SCOTLAND.

## LUBRICANT.

SPECIFICATION forming part of Letters Patent No. 496,225, dated April 25, 1893.

Application filed October 6, 1891. Serial No. 407,839. (No specimens.)

*To all whom it may concern:*

Be it known that I, ROBERT HUTCHISON, a subject of the Queen of Great Britain and Ireland, and a resident of Prestwick, in the county of Ayr, Scotland, have invented certain Improvements in Lubricants, of which the following is a specification.

My invention relates to the manufacture of lubricants of kinds such as are described in the specification of Letters Patent of the United States No. 432,313, dated July 15, 1890, and granted to me, such lubricants being suitable for railway axles and for other apparatus requiring lubricants of considerable consistency or body, and my present invention has specially for its object to modify the ingredients and proportions of the ingredients, so as to make the resulting product capable of withstanding such changes of temperature as it will be subjected to in use without its consistency being objectionably modified thereby.

In carrying out my present invention I proceed first as according to my former invention to combine slaked lime with oleic, margaric, or stearic acid, or any mixture of such acids, and also with mineral or hydrocarbon oil. While however, I as formerly use a considerable excess of the acid relatively to the lime, and for the same purpose I use a smaller proportion of the oil. When employing a pale or refined lubricating oil of .905 specific gravity, manufactured from American petroleum or mineral oil, I mix about thirty parts by weight of the said oil with fourteen parts by weight of oleic acid and one part of lime, (weighed before being slaked.) I boil the ingredients together by means of steam injected into them, or in any other convenient way,

until the mass becomes homogeneous. After the boiling operation sufficient time is given to allow the grease which has been formed, but is still fluid, to separate from the excess of water due to the steam injected, and to the slaked lime. The grease is then run off into coolers having a depth of about a foot, and in the coolers it is, by preference kept gently stirred until it begins to set. After the grease has thoroughly set in the coolers there is intimately mixed with it pinate of soda or of potash in the proportion of nine parts by weight of the said pinate to the quantity of grease made with the quantities of ingredients hereinbefore specified. The mixture is effected in a pug mill or other suitable mixing apparatus, and the product is rendered soft and pliable and in a condition facilitating its access to the surfaces to be lubricated by it, while it has the property of retaining its consistency or body substantially uniform, and does not become thin and fluid with such increase of temperature as it may be subjected to in ordinary use.

I claim as my invention—

A grease-like lubricant composed of lime combined with the fatty acids described in excess, with mineral or hydrocarbon oil and with an alkali pinate, the ingredients being compounded in the proportions and in the manner substantially as set forth.

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

ROBERT HUTCHISON.

Witnesses:

EDMUND HUNT,  
DAVID FERGUSON.