

# UNITED STATES PATENT OFFICE

SAMUEL Y. LOVE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO LOVE BROTHERS, OF SAME PLACE.

## IMPROVEMENT IN LUBRICATING COMPOUNDS.

Specification forming part of Letters Patent No. **143,362**, dated September 30, 1873; application filed August 4, 1873.

*To all whom it may concern:*

Be it known that I, SAMUEL Y. LOVE, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improved Lubricating Composition, of which the following is a specification:

The object of my invention is an effective, economical, and lasting lubricating composition, made of petroleum or petroleum products, resin, and lime, or its equivalent, all treated and combined substantially in the manner described hereafter.

In making the lubricating composition it is essential, in the first place, that there should be a thorough union of the petroleum and resin. This I accomplish by taking about twenty pounds of resin and melting it with a small quantity of petroleum, stirring the compound intimately until the heated mixture is thorough. Then I add more petroleum and mix as before, and this I continue until a complete union of about forty-two gallons of petroleum with the twenty pounds of resin has been brought about. After this mixture has become cool I add lime-water to it, taking care to keep the composition in a state of agitation during the application of the lime-water, which I continue until the composition is reduced from a fluid or semi-fluid condition to a viscid mass of about the consistency of ordinary lubricating-grease. Any of the light or heavy petroleum oils, or the liquid products of petroleum, will serve the desired purpose; and, although lime-water is to be preferred on the score of economy, other alkaline liquids may be employed for accomplishing the result effected by the lime-water. Whatever may be the character of the petroleum, which is

the basis of the composition, or whatever alkaline liquids may be used, it is essential to a successful result that a thorough union of the petroleum and resin should be effected in the manner described while both are in a heated state; otherwise a homogeneous lubricating composition cannot be produced.

One of the peculiarities of my improved lubricant is its property of resisting the effects of heat, the application of which in no way affects its consistency or lubricating effects; hence it is of especial value when applied to the axle-boxes of railroad-cars, for the heating of the journals cannot render it fluid; hence it can be applied to the boxes without any waste or other fibrous or porous material.

I have found that for many purposes, by the addition of about twenty pounds of flour to the above mixture, the condition of the lubricant will be improved; and, in some instances, it may be advisable to add to the three ingredients tallow, or other grease, glue, or vegetable gums.

I claim as my invention—

The within-described lubricating composition, consisting of petroleum, petroleum products, resin, and lime-water or alkaline liquid, treated and compounded with or without flour, grease, or gums, substantially in the manner described.

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

SAML. Y. LOVE.

Witnesses:

WM. A. STEEL,  
HUBERT HOWSON.