

# UNITED STATES PATENT OFFICE.

HENRY GROGAN, OF FLATBUSH, NEW YORK.

## IMPROVEMENT IN LUBRICATING COMPOUNDS.

Specification forming part of Letters Patent No. 116,704, dated July 4, 1871.

*To all whom it may concern:*

Be it known that I, HENRY GROGAN, of Flatbush, in the county of Kings and State of New York, have invented a new and Improved Lubricating Compound; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to an improvement on a lubricating compound for which Letters Patent were granted to me August 2, 1870, No. 106,053, and which consists of tallow, petroleum, caustic soda or other equivalent alkali, and animal hair.

My present improvement consists in adding to the above compound a powdered mineral substance, such as plumbago or soap-stone, which materials have the property to fill up the inequalities in the surface to be lubricated, and which, being bad conductors of heat, prevent said surfaces from becoming heated by their friction against each other, my compound being of such consistency that the powdered mineral or minerals will mix uniformly therewith without being liable to settle down, and furthermore, if desired, said powdered minerals may be used as substitutes for the hair used in the compound described in my patent No. 106,053.

In preparing my compound I take the above-named ingredients in about the following proportions: Tallow, one part; petroleum, (by preference the heavy oil or paraffine in a refined state,) three to six parts; caustic soda or other equivalent alkali, one part; plumbago or other mineral, in a finely-powdered state, one-half to one part; animal hair to suit.

By preparing a compound of tallow, petroleum,

and caustic soda, or other alkali, a thick pasty saponaceous mass is obtained, which is not affected by any change in the temperature, and with which plumbago, soap-stone, or other mineral in a powdered state, and also animal hair, can be readily incorporated.

The plumbago or other mineral, when mixed with the above-named saponaceous mass, is not liable to precipitate, and a portion thereof is consequently always in contact with the rubbing surfaces, while plumbago, when mixed with oil or other liquid lubricator, is liable to settle down, whereby its effect is lost; or if plumbago is mixed with ordinary tallow, the mass becomes hard in cold weather and its lubricating effect is destroyed.

By the addition of animal hair to the compound its lubricating effect is rendered uniform.

What I claim as new, and desire to secure by Letters Patent, is—

1. A lubricating compound, made of tallow, petroleum, caustic soda or other alkali, and plumbago or other mineral producing the same effect, as herein set forth.

2. A lubricating compound, made of tallow, petroleum, caustic soda or other alkali, plumbago or other equivalent mineral, and animal hair, as herein described.

This specification signed by me this 28th day of December, 1870.

HENRY GROGAN.

Witnesses:

W. HAUFF,  
E. F. KASTENHUBER.