

# UNITED STATES PATENT OFFICE.

ELI F. BURCH, OF LAUREL SPRINGS, NEW JERSEY, ASSIGNOR TO CREW-LEVICK COMPANY, A CORPORATION OF PENNSYLVANIA.

## LUBRICATING COMPOUND.

1,246,869.

Specification of Letters Patent. Patented Nov. 20, 1917.

No Drawing.

Application filed June 6, 1916. Serial No. 101,950.

To all whom it may concern:

Be it known that I, ELI F. BURCH, a citizen of the United States, residing at Laurel Springs, in the county of Camden and State 5 of New Jersey, have invented certain new and useful Improvements in Lubricating Compounds, of which the following is a full, clear, and exact specification.

This invention relates to lubricating oils, 10 and its object is to produce a lubricating oil which will readily combine with water and form a permanent oily emulsion.

In carrying out my invention, I combine 15 a mineral oil (any suitable neutral mineral oil, but preferably one of the paraffin series) with a soap of a monobasic unsaturated fatty acid, preferably oleic acid.

As an example, 9% of oleic acid is mixed 20 with 2% of a saturated water solution of borax at a temperature of approximately 100° F. Into this mixture I then introduce 25 85% of a neutral mineral oil, preferably of the paraffin series, and mechanically stir the mixture. I then add 4% of a saturated alco- 30 holic solution of caustic soda. Under agi- 35 tation, the mixture clears up into a clear, bright, permanent oily liquid of apparently colloidal character.

In lieu of caustic soda and borax for ef- 35 fecting the neutralization of the oleic acid, I may employ potash, or other suitable "soft" soap producing neutralizing agent.

When mixed with water, the liquid forms 40 a permanent emulsion, thus making it espe- 45 cially useful as a lubricant in certain hy- 50 draulic machinery in places where the water is used over and over again, as the fluid serves not only as a lubricant but also as a 55 rust preventative.

Having thus described my invention, I 40 declare that what I claim as new and de- 45 sire to secure by Letters Patent is:—

1. The process of preparing a lubricant 45 which consists in mixing an unsaturated fatty acid with a water solution of borax, 50 then adding a neutral mineral oil, then agi- 55 tating the mixture mechanically, then adding a saturated alcoholic solution of caustic soda, and further agitating the mixture mechanically until it clears to a bright permanent oily liquid of apparently colloidal character.

2. The process of preparing a lubricant 55 which consists in mixing oleic acid with a water solution of borax, then adding a neu- 60 tral mineral oil of the paraffin series, then agitating the mixture mechanically, then adding a saturated alcoholic solution of caustic soda, and further agitating the mix- 65 ture mechanically until it clears to a bright permanent oily liquid of apparently colloidal character.

3. The process of preparing a readily emulsifiable lubricant which consists in mix- 65 ing oleic acid and borax solution, then add- 70 ing mineral oil, then adding caustic soda, and agitating the mixture until it resolves into a clear bright permanent oily liquid of apparently colloidal character.

In testimony whereof I affix my signature, 70 in presence of two witnesses.

ELI F. BURCH.

Witnesses:

C. V. EDWARDS,  
WILLIAM F. PALMER.