

UNITED STATES PATENT OFFICE

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LUBRICANT AND METHOD OF PRODUCING THE SAME

No Drawing.

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The invention relates to an improved lubricant and the method of producing the same.

The object of the invention is to so treat petroleum lubricating oils having paraffin bases as to reduce the cold test thereof so that heavier oils, which contain a better body and are better lubricants, can be used in cold weather without becoming too stiff and solid for practical purposes.

By my invention I am able to take petroleum lubricating oils having paraffin bases, such as are usable for lubricating automobiles or other machinery and reduce the cold test thereof, for example, Mid-continent or Pennsylvania petroleum oil and similar paraffin oils, having a viscosity test of two hundred seconds at one hundred degrees F. Saybolt Universal Viscosimeter and a cold test of thirty-five degrees F. and reduce the cold test to zero F. without affecting the lubricating or other qualities of the oil. In carrying out my invention I take degreas of any suitable kind, including American degreas, and make a zinc degreas soap therefrom. Degreas, as is well known, contains a mixture of fats made from various fatty acids, and I may make this soap directly by boiling zinc oxide (ZnO) and the degreas together until completely saponified, or I may make it indirectly. In the latter case I take degreas and make a sodium soap therefrom with sodium hydroxide ($NaOH$) and this soap is then dissolved in water, zinc sulphate ($ZnSO_4$) in solution added thereto and the mixture may then be heated to hasten the action, although heating is not necessary. The zinc replaces the sodium with the result that I get a zinc soap and sodium sulphate (Na_2SO_4), the latter being soluble and easily washed out, leaving the resultant water-insoluble zinc degreas soap.

In either case I obtain a product of zinc degreas soap which when added to the petroleum lubricating oil having a paraffin base I desire to treat reduces the cold test thereof.

For practical commercial purposes I dissolve the soap so made in a small amount of lubricating oil, generally a ten per cent solution, which I call my base. If now I de-

sire to reduce the cold test of a particular petroleum lubricating oil having a paraffin base, such as one of the examples given above, I mix it with some of this base, for example, ten per cent base and ninety per cent of the lubricating oil, such as I have indicated, which gives a one per cent zinc degreas soap solution. This one per cent of zinc degreas soap will reduce the cold test in the case of a Mid-continent or Pennsylvania petroleum oil having a paraffin base of two-hundred viscosity test at one hundred degrees Fahrenheit from thirty-five degrees F. down to zero F.

While I have described my invention in connection with two known lubricating petroleum oils having paraffin bases, having a cold test of thirty-five degrees F., it will be understood that the zinc degreas soap may be used with other lubricating petroleum oils having paraffin bases or greases made from petroleum oils having paraffin bases to reduce the cold test thereof and hence I desire it to be understood that this invention is not to be limited to any specific oil or proportion of parts except as such limitations are specified in the claims.

What I claim as my invention is:

1. As a new lubricant, a petroleum oil having a paraffin base and having a small amount of zinc degreas soap added thereto to reduce the cold test of said oil.

2. As a new base for treating petroleum lubricants having paraffin bases to reduce the cold test thereof, a petroleum lubricating oil having zinc degreas soap added thereto in an amount not to exceed ten per cent of the mixture.

In testimony whereof, I affix my signature.

RUSH NICHOLAS JARMAN.

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