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LUBRICATING OILS

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4 Claims. (Cl. 196—151)

The present invention relates to improved lubricating oils, especially such as are improved with regard to their colour or bloom.

We have found that lubricating oils can be improved in various respects by adding thereto, preferably in small amounts, an oil-soluble vacuum residue, which is solid at ordinary temperature and which is derived from de-asphalted hydrocarbon products containing cyclic, i. e., aromatic and/or naphthenic constituents, by which term are comprised tars, asphalt-basic or mixed basic mineral oils, especially from the hydrogenation products of the same, or from destructive hydrogenation products of coals or coal tars, preferably mineral coals or mineral coal high temperature tars. By reason of the said addition the setting point and the turbidity point of the lubricating oils is lowered and a good greenish fluorescence or bloom is imparted to the oils. Moreover, the formation of foam from the oil in motors is prevented.

In order to prepare the said additional agents, the initial material for the preparation of the vacuum residue is treated with flocculants, as for example benzene rich in hydrogen, gas oil or liquefied normally gaseous hydrocarbons, whereby the asphalts are precipitated. The deposited substances are separated and the oil is subjected to a vacuum distillation. The latter is preferably carried out up to a temperature of from 300° to 350° C. under a pressure of from 7 to 8 millimeters (mercury gauge). In this manner a product which is solid but readily soluble in lubricating oils is obtained; an addition of from 0.05 to 3 per cent produces the effect already described.

The following example will further illustrate how this invention may be carried out in practice but the invention is not restricted to this example.

Example

There are added to a destructive hydrogenation product, boiling above 350° C., of mineral coal, four times its amount of benzene and the whole is centrifuged whereby the solid constituents are separated. The resulting liquid is then distilled until the ratio of oil to benzene is 1:2. The mixture is then mixed with from five to ten

times its amount of a light benzene with which has been incorporated 10 per cent of petroleum ether, while stirring. After allowing to stand for several hours, the asphalt is precipitated and is then removed by filtration. Distillation is then effected until only one third of the precipitant added remains. The mixture is then refined with 20 per cent sulphuric acid and then with 20 per cent caustic soda solution, washed with water and dried. The oil is freed from the hydrocarbons of low boiling point which have been added by distillation and then distilled up to 350° C. under a pressure of 8 millimeters (mercury gauge). The residue remaining is a red-brown resin. If this be added in an amount of 0.2 per cent to a lubricating oil of bad color, an oil having a good green fluorescence is obtained. Moreover, the setting point and turbidity point are lowered.

What we claim is:

1. A lubricant comprising a major proportion of a lubricating oil and a minor proportion of a residue which is solid at ordinary room temperature and which is derived by vacuum distillation from a deasphalted destructive hydrogenation product of a coaly material.

2. A lubricant comprising a lubricating oil and between 0.05 and 3 per cent of a residue which is solid at ordinary room temperature and which is derived by vacuum distillation from a deasphalted destructive hydrogenation product of a coaly material.

3. A lubricant comprising a major proportion of a lubricating oil and a minor proportion of a residue which is solid at ordinary room temperature and which is derived by vacuum distillation from a deasphalted destructive hydrogenation product of mineral coal.

4. A lubricant comprising a lubricating oil and between 0.05 and 3 per cent of a residue which is solid at ordinary room temperature and which is derived by vacuum distillation from a deasphalted destructive hydrogenation product of mineral coal.

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