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REMOVAL OF PETROLATUM FROM HYDROCARBON OILS

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In accordance with the present invention, the separation of petrolatum or wax from wax bearing oils, particularly residues, such as cylinder stocks, and lubricating distillates, is effected in the following manner.

The wax bearing oil to be treated is thoroughly mixed with a diluent liquid comprising a mixture of naphtha, butanol and benzol. The diluent mixture may suitably contain from 35 to 60% of naphtha, from 15 to 30% of butyl alcohol (butanol) and from 18 to 35% of benzol. Thus, the following mixtures have been found suitable for the present invention.

Example 1. Naphtha 50%; butanol 25%; benzol 25%.

Example 2. Naphtha 50%; butanol 30%; benzol 20%.

Example 3. Naphtha 64%; butanol 18%; benzol 18%.

Example 4. Naphtha 50%; butanol 15%; benzol 35%.

In carrying out the invention, the diluent mixture is mixed with the oil to be treated, for example, a cylinder stock, in the proportions of from 50 to 75% of the diluent to 50 to 25% of the oil. The mixture is then slowly settled and cooled to a temperature of 20° F. or lower. The heavier layer of petrolatum settles out, and may be removed by gravity, or if desired, by centrifuging. The wax-free oil is separately withdrawn, reduced by fire and steam distillation to remove the diluent present therein and also to secure an oil of the desired flash point and is finished in any suitable manner.

As an example of the operation of our process, a cylinder stock obtained by the reduction of mid-continent crude and having a gravity of 20.8° A. P. I. was mixed with a diluent such as that described in Example No. 1 above, in the proportions of 30 parts of the oil to 70 parts of the diluent. The mixture was cooled and settled at 15° F. and the petrolatum free oil withdrawn. Upon reduction to a gravity of 21.5° A. P. I. and a flash point of 550° F., the oil showed a solid test of 20° F. Similarly, a mixture of a similar stock with a diluent such as that described in Example No. 4 above, on mixture in the proportion of 26.5% oil to 73.5% diluent and settling at −5° F. resulted in a petrolatum-free oil which on reduction to 21.8° A. P. I. gravity and a flash point of 450° F., showed a solid test of 20° F.

We claim:

1. The method of removing petrolatum from oil comprising the admixture of the oil with a diluent comprising 35 to 60% of naphtha, 15 to 30% of butanol and from 18 to 35% of benzol, cooling the mixture, and separating the petrolatum from the diluted oil by the difference in their specific gravities.

2. A diluent oil for the removal of petrolatum from oil comprising 35 to 60% naphtha, 15 to 30% butanol and 18 to 35% benzol.

3. A diluent oil for the removal of petrolatum from oil containing 50% naphtha, 25% butanol and 25% benzol.

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