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## LUBRICANT AND METHOD OF ITS MANUFACTURE

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## 3 Claims. (Cl. 87—9)

This invention relates to a lubricant and its method of manufacture and is somewhat similar to the lubricating composition disclosed in my patent of July 25, 1933, No. 1,920,161.

5 The present invention has for one of its objects the production of an improved lubricant, containing finely divided mica.

Another of its objects relates to the mixing of the mica with the other ingredients, this being entrap-  
10 ped in the same.

Another of its objects is the production of an improved lubricant in a crayon, stick or brick form, which is brittle at ordinary room temperatures, and which remains firm and solid up to a  
15 temperature of 115 degrees Fahrenheit, and also which, when applied under the necessary pressure, becomes or transforms into a lubricant of plastic consistency, this plastic consistency being retained up to a temperature of 120 degrees Fahrenheit, or as low as 20 degrees Fahrenheit.

20 Wax is one of the primary ingredients of my mixture and by the term "wax" it is meant to include ozocerite, carnauba, syncera, paraffin and the like. Oil is another ingredient and by this term petroleum jelly and the like are included.

25 The wax is melted and the oil added thereto in any desired manner and then mica, either flaked or pulverized, is added, such mica preferably forming about 5 percent of the composition although it may be varied from one to fifteen percent. The wax used in the mixture is approximately 50% but may be widely varied. However, the amount used should be sufficient to entirely absorb or entrap the oil so that the composition  
30 formed has a brittle characteristic and no free oil or grease is present at room temperature. The oil forms the remainder of the composition.

The wax is melted and the oil, this oil usually being in a liquid state, is added thereto. Also, the mica, finely divided, is added in this mixture and then the entire mixture is raised to a temperature of approximately 250 degrees F. The raising of the temperature of the mixture to this temperature is desirable as it makes for better and complete blending of the various ingredients.  
40 The mixture is agitated and allowed to cool to a temperature of approximately 160 degrees before it is poured into the molds. This aids in securing an even distribution of mica throughout the finished product. Also, the shrinkage in the molds is advantageously reduced.

50 The molded articles, in the form of elongated sticks or bars, have a brittle characteristic due to their crystallized construction inasmuch as the oil is so impregnated in the wax that there is no free

oil present at room temperature. This is advantageous as is obvious. It is only when the sticks are worked or used and consequently the brittleness of the composition destroyed that the oil and mica become available for use as a lubricant. 5 The wax in the composition acts as a plastic vehicle to hold the lubricants between or against the elements or parts to be lubricated.

My stick of lubricant, as previously set forth, is solid before use, but upon application is broken  
10 down and becomes plastic and resembles putty, except that it is more slick in feel. Due to its particular ingredients the above properties remain within the plastic lubricant for a wide range of temperature and the lubricant will not shatter  
15 even when cooled to temperatures below freezing temperatures.

The following percentages by weight may be utilized for the production of one kind of my improved lubricant:—

|                      | Percent |
|----------------------|---------|
| Petroleum jelly----- | 18      |
| Oil -----            | 18      |
| Mica -----           | 5       |
| Waxes -----          | 59      |
|                      | 100     |

My composition may be used wherever desired to lessen friction or to serve as a cushion between  
30 elements or both and is particularly desirable for use in the automotive trade, being widely used on the dovetails and lock tongues of automobile doors and also on the hood lacings to prevent squeaks, rattles and wear, and also to prevent binding or  
35 sticking.

When a piece of the lubricant, in its brittle, crystallized stick form, is transformed into a plastic or decrystallized form, as happens when the product is applied to a surface by being  
40 rubbed thereon, it maintains a plastic consistency within a wide range of temperatures. As far as the effect of cold tests on this plastic consistency is concerned, if a crystallized stick of lubricant is exposed to extreme cold it will be-  
45 come very brittle the same as will happen when any kind of wax is given the same test, and such wax will, after being exposed upon the surface of dry ice, shatter easily when struck with a solid object such as a hammer. However,  
50 a piece of decrystallized lubricant manufactured in accordance with my invention, after being reduced to a plastic or putty-like consistency and then flattened out in the shape of a 25 cent piece, but two or three times the thickness thereof, 55

can be placed upon or between pieces of dry ice, until reduced to a corresponding temperature, can be dropped on a hard surface or struck with a solid tool or article, such as a hammer, and the said piece will not shatter completely as will happen in the case of ordinary wax as above mentioned. On the contrary it will still retain to a large degree its plastic consistency despite this extreme cold test.

If ordinary oils or greases are applied to hood lacings on a car, the same will gradually soak into the lacings and run or flow downwardly therethrough until it is useless for the purpose of lubricating between the hood lacings and the hood. When my improved lubricant is applied to a lacing the same is merely placed upon the high parts of the lacing and it remains on the surface inasmuch as the mica, in the form of particles, prevents entry of the same into the body of the lacing and thus a very slick and clean surface is provided. This dry over coating eliminates friction and at the same time is stainless. This is a very distinctive feature of my lubricant.

Another point which should be brought out is that my lubricant provides lubrication immediately upon its mutilation from its crystalline form even though the temperature is the same. In other words, the particles of the composition are inherently slick and after their crystalline formation has been destroyed, readily slide upon one another.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. A brittle composition of the class described comprising, a liquid hydrocarbon compound having high lubricating properties and being of relatively high viscosity at room temperature, finely divided mica, and wax, said wax being of sufficient quantity to not only completely absorb the liquid hydrocarbon compound and the mica but also to render (at room temperature) the resulting product of a dry and brittle characteristic whereby the finely divided mica is held in inactive relationship until the elastic limit of the composition is reached and whereby clothes and the like are not soiled by contact therewith, but which upon application of pressure beyond said elastic limit is transformed into a plastic form of lubricant, and which further retains this plastic consistence within a range of temperatures as high as 120 degrees Fahrenheit and as low as 40 degrees Fahrenheit.

2. A brittle composition of the class described comprising 36% hydrocarbon oil in a liquid condition and petroleum jelly, 5% mica, and the remainder waxes, the waxes being both crystalline and amorphous, and of solid form at room temperature and above, the viscosity of the oil and petroleum jelly and waxes being so related as to produce a brittle and dry composition.

3. A composition stick of the class described consisting of wax including oil and petroleum jelly and having a crystallized structure due to the predominance of crystalline wax and particles of mica entrapped therewithin, said particles of mica being saturated and coated with oil.

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