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STABLE SUSPENSION AND PASTE OF COAL.

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A variety of processes are already known for the production of suspensions or pastes of coal in which processes viscous hydrocarbons or oils are employed as dispersing agents.

We have now found that highly stable suspensions or pastes of coal, very suitable for many purposes, may be obtained by replacing the aforementioned agents, in the mechanical dispersion of the previously finely ground coal, by alcohols, such as methanol or isobutyl alcohol, especially in the form of crude methanol and crude isobutyl alcohol, such as may be obtained by the catalytic reduction of oxids of carbon under pressure. Preferably stabilising additions are employed in conjunction with the alcohols which may consist of inorganic or organic bases soluble in the said alcohols, for example, hydroxids of the alkali metals or ammonia, methylamine, pyridine, aniline and the like.

By suitably proportioning the amount of coal, it is possible to obtain stable, oleaginous suspensions or pastes of coal possessing from low to maximum viscosity. In many cases the stability of the suspension or paste of coal may be further improved by an addition of mineral oils, more especially those which already contain finely divided carbon, as for example crude petroleum or certain brown-coal-tar oils. The resulting suspensions or pastes are highly suitable for example as heating oils or as original materials for chemical purposes such as the destructive hydrogenation of coal.

The following examples will further illustrate the nature of the said invention but the invention is not limited to these examples. The parts are by weight.

Example 1.

10 parts of finely ground brown-coal (lignite) are treated for several hours in a ball mill or disintegrator with 25 parts of crude isobutyl alcohol (products of high boiling point of the synthesis of methanol from oxids of carbon) containing 1 part of sodium hydroxid in solution until the mixture no longer separates into its components and a stable, oleaginous and viscous suspension of brown coal has been formed.

Example 2.

1 part of finely ground brown-coal is treated with 5 parts of crude isobutyl alcohol and 1 part of pyridine or aniline, in the manner described in Example 1, a stable suspension of brown coal, possessing lower viscosity than that described in the foregoing example, being produced.

Example 3.

40 parts of brown coal are treated with 90 parts of crude isobutyl alcohol, 1 part of sodium hydroxid and 5 parts of brown-coal-tar oil, as in Example 1, a highly viscous mass, specially adapted to form the original material for the destructive hydrogenation of coal, being obtained.

Other varieties of coal or bitumens, for example pit coal and the like, can also be treated in the same manner as hereinbefore described.

What we claim is:

1. The process of producing stable suspensions of coal which consists in mechanically dispersing the coal in a liquid alcohol with an addition of a base soluble therein.

2. The process of producing stable suspensions of coal which consists in mechanically dispersing the coal in crude synthetic isobutyl alcohol.

In testimony whereof we have hereunto set our hands.

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