UNITED STATES PATENT OFFICE.

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PAINT AND VARNISH VEHICLE.

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No Drawing. Application filed May 12, 1909. Serial No. 495,463.

To all whom it may concern:

Be it known that I, CARLETON ELLIS, citizen of the United States, residing at Larchmont, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Paint and Varnish Vehicles, of which the following is a specification.

This invention relates to the solvent intended for use in the manufacture of paints and varnishes in lieu of spirits of turpentine and similar resin oils.

It has been observed that turpentine has a bleaching action on many pigments, and in some cases, this is so noticeable that delicate shades of color are ruined on standing for considerable period in cans containing turpentine. This action is possibly due to oxygen or ozone liberated by the turpentine, as it is well known that turpentine is active in this respect. It has often been observed that the cork stoppers in bottles containing turpentine are quickly bleached to a light yellow color due to this property of the turpentine or its vapors.

The object of the present invention is to provide a solvent in the manufacture of paints and varnishes which is practically free from bleaching action thereby permitting the use of most delicate colors or pigments without danger of change on standing in the package. For this purpose, I make use of a petroleum product obtained in the distillation of petroleum, intermediate benzin and kerozene in boiling point, and having a flash point of from say 90° F. to 110° F. This hydrocarbon oil has an agreeable odor and forms the basis of my improved composition. It is combined with a quantity of a blending solvent such as solvent naphtha or heavy naphtha having a flash point of about the same order as the light kerosene petroleum. In combining oils such as spirits of turpentine and pine oil with the light kerosene hydrocarbon, a turbid mixture is produced and this mixture is unsuitable for admixture of paints and varnishes as it produces alligatoring and creeping of the varnish and in fact even retards the drying of the varnish oil; in case of paint, it is liable to produce a coat which scales readily or becomes chalky. By the method hereinafter described, the composition may however be put into a refined condition which overcomes these objections producing a solvent for paint and varnish which evaporates with the desired rapidity, not so rapidly but that the coating may be brushed out to a smooth layer free from brush marks, nor so slowly as to produce a coating exhibiting tackiness for a long period. The method involved produces a clear water-white solution which has an odor somewhat resembling that of turpentine and which may be used in lieu of turpentine or if desired to partially displace it in paint or varnish mixtures of nearly every description.

A formula suitable for thinning kauri varnish or similar hard copal varnishes, consists of the aforesaid light kerosene hydrocarbon 80 parts, solvent naphtha flashing at 100° F., 12 parts and turpentine 8 parts. This mixture is allowed to age, preferably in the dark, for six days and is then filtered through fullers' earth. The first runnings from the fullers' earth are to be rejected and may be mixed with some of the fresh solvent mixture and allowed to age again. After the first runnings which constitute only from 3 to 5% of the solvent mixture, the filtrate may be collected and is ready for use.

Another composition suitable for rosin varnishes and those made from Manila copal and other soft resins, consists of the light kerosene hydrocarbon 85 parts, solvent naphtha 10 parts, pine oil 5 parts. This is aged for three days and then filtered through fullers' earth.

Still another formula illustrative of my improved composition consists of the light kerosene hydrocarbon 274 parts, spirits of turpentine 22 parts and pine oil 4 parts. This is aged in the dark for from four to six days and filtered through a deep layer of fullers' earth.

Another composition well adapted for use in the manufacture of paints or for thinning paints consists of the light kerosene hydrocarbon 275 parts, and spirits of turpentine 25 parts. This should be aged for several days and filtered.

The filtration to be effective and to produce the qualities of the composite solvent as above indicated must not be conducted until the aging process is complete, as otherwise reaction or change takes place in the filtered product resulting in a solvent having a bad effect on paint and varnish. For that reason, it is better to age for at least the time above specified and preferably longer although the periods above mentioned are usually sufficient to give a solvent hav-

ing the requisite qualities. Just what the character of the change is which occurs in the aging, I am not able to say; it suffices to state that during the operation of aging and subsequent filtration, the blending of the solvent is clear and free from objectionable odor and is most effective as a thinning and reducing material in the manufacture of paints and varnishes.

The pine oil referred to is obtained in the manufacture of wood turpentine and is the heavier oil remaining in the still after the removal of the lighter fractions, or wood turpentine distillate and contains terpineol and similar bodies. Even in small proportions, it has a desirable action in tending to prevent alligatoring of certain varnishes and paints when these are thinned with petroleum hydrocarbon mediums.

Having described my invention to the details of which description I do not of course wish to limit myself, what I claim is:—

1. A paint thinning composition comprising the clarified product from aging and filtration of a mixture of light kerosene hydrocarbon, flashing at not less than 90° F., turpentine and pine oil.

2. A paint thinning composition comprising a clear mixture of light mineral hydrocarbon, spirits of turpentine and a modicum of pine oil.

3. A paint thinning composition comprising a clear mixture of light mineral hydrocarbon, spirits of turpentine and a modicum of terpineol.

4. A paint thinning composition comprising a clear mixture of light mineral hydrocarbon, flashing at not less than 90 F., spirits of turpentine and a modicum of pine oil.

5. A paint thinning composition, comprising a clear mixture of a light mineral hydrocarbon, flashing between 90 F. and 110 F. spirits of turpentine and a modicum of pine oil.

6. A paint thinning composition comprising light kerosene hydrocarbon, 274 parts, spirits of turpentine, 22 parts, and pine oil, 4 parts.

In testimony whereof I have affixed my signature in presence of two witnesses.

CARLETON ELLIS.

Witnesses:

NATHANIEL L. FOSTER,

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