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PLASTIC COMPOSITIONS AND VEHICLES THEREOF

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1 Claim. (Cl. 106—40)

The object of the invention is to provide improvements in plastic compositions broadly, but more particularly in wood fillers, and in an improved liquid vehicle for the same.

Another object in line with the above is to provide a composition of this class, in which all the ingredients are either directly or indirectly derived from natural wood as a source.

A further object is to provide a liquid vehicle, which may be marketed either alone or as an integral part of the said composition, and which is also composed of ingredients, each of which is a derivative or extract in some manner or other from natural wood, it being understood, of course, that any synthetic or other form of material, when and if possible to substitute for a given ingredient as hereinafter specified, which produces a result that is identical with those enumerated below, is to be considered to all intents and purposes within the scope of the present invention.

Still another object is to provide a filler of this type, which is especially adapted to be employed in filling cracks and openings of various sorts in bodies of wood, without the usual tendency of such fillers to shrink in time, and thereby crack and/or separate from the surrounding or otherwise adjacent surfaces of the wooden body, since the fact that all of the ingredients as hereinafter set forth, are composed either of or are derived from wood, insures a degree of cohesion of the filler to the wooden body, such as cannot be attained where mere adhesion of inherently unlike substances is depended upon.

And a still further object is to provide a filler of this type, which may be of any desired degree of plasticity when used; which will rapidly solidfy while cohering integrally with the adjacent wooden surfaces; which is of relatively low cost to produce; which can be readily made fireproof or fire-resisting; which will take stain, varnish, or the like, similar to the adjacent portions of the wooden body; and which is in every way satisfactory for the purposes desired.

The present invention, broadly considered, therefore consists in other words in producing a liquid vehicle, as well as a plastic composition, in either of which the danger of fire, explosion, or inflammability, may be minimized by the addition of proper substances or chemicals, if desired, in order to lessen the fire hazard in the manufacture, use, storage, or general handling, of such substances. Furthermore, the invention comprises the assembly of wood or cellulose derivatives in such combination and proportions, that when thoroughly mixed, or kneaded together, a doughy-like mass of putty-like consistency is produced which can be used for cold moulding, or with heat and pressure for certain types of moulding.

In carrying out the present invention, I have developed several formulae for the liquid vehicle above referred to which in the order of their preference are given as follows:—

Formula A

	Parts by weight
Cellulose, or cellulose acetate, or cuprammonium cellulose, or cellulose xanthate, separately or a combined mixture of any two or more of these	15 to 25
Rosin (colophony)	5 to 10
Camphor	10 to 20
Methyl-acetone	70 to 45

Formula B

	Parts by weight
Cellulose or viscose	18 to 23
Rosin	2 to 4
Rosin oil	1 to 3
Methyl-acetone	77 to 69
Spirts (turpentine)	2 to 1

Formula C

	Parts by weight
Cellulose, or cellulose acetate, or hydrated ligno cellulose or a mixture of any two or more of these	15 to 20
Rosin (colophony)	5 to 10
Methyl-acetone	80 to 70

Formula D

	Parts by weight
Cellulose acetate, or cuprammonium cellulose, or cellulose xanthate or a mixture of any two or more of these	15 to 20
Rosin	4 to 16
Wood oil	1 to 3
Methyl-acetone	80 to 61

Formula E

	Parts by weight
Hydrolized ligno cellulose or pulp	15 to 20
Rosin	4 to 16
Wood oil	1 to 3
Methyl-acetone	80 to 61

Formula F

	Parts by weight
Wood scrap	16 to 25
Rosin (colophony)	3 to 5
Methyl-acetone	80 to 65
Wood oil	1 to 5

Formula G

	Parts by weight
Viscose	15 to 20
Rosin	5 to 10
Methyl-acetone or any suitable solvent or ketone	80 to 70

Having any one of the foregoing formulae, with any substitution if desired among the alternatives noted, there is added to the same from 18 to 30 parts of finely divided wood flour, in order to produce the filler, it being noted that upon the addition of the wood flour, the mass is thoroughly kneaded until a doughy-like mass of putty-like consistency is attained.

Such a plastic composition as that produced from any of the formulae listed, in the proper combination with wood flour, may be used to fill spaces in many different materials, altho it has been produced especially for use with wooden bodies, as hereinabove stated. Such a composition will dry hard in the air for cold-moulding without the aid of heat, but by the combined use of heat and pressure can be moulded in substantially any desired shape, pigments of various forms can be added to impart desired colors to it, and the finished product can be painted, varnished, shellacked, or otherwise coated or decorated, while articles formed of such composition can be cut, sawed, polished, or otherwise manipulated when fully hardened.

Summing up, the invention comprises (1) a liquid solution and (2) a truly plastic wood composition. The liquid solution has for its base an alkali cellulose, cellulose acetate, a hydrated cellulose, or even hydrolized ligno cellulose, made from such materials as wood, fibre board, wood pulp, wood fibre, and fibres containing ligno cellulose, to which is added rosin, a wood oil, and a methyl-acetate liquid in such proportions that it can be used as a plasticizer and binder for various pigments in paints, varnishes, lacquers, enamels, shellacs, etc. or as a binder for wood in its plastic form in the making of putty, or for mixing with inks, adhesives, or cements, and for moulding compounds and general repair work; for making fine threads, sheets, films, solids, ornaments, etc; as a direct coating for wood, paper, fibre, pasteboard, leather, etc.; as a liquid for general water-, grease-, gasolene-, climate-, and general-proofing, and as an insulator for various purposes.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

A composition of matter comprising a cellulose derivative, rosin, rosin oil, camphor, acetone and wood flour, in such relative proportions as to produce a doughy-like mass of putty-like consistency.

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