

ALIEN PROPERTY CUSTODIAN

STENCIL SHEETS

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No Drawing. Application filed October 6, 1941

This invention relates to improvements in stencil sheets commonly used for duplicating written or typewritten matters, and more particularly to stencil sheets comprising a fibrous base provided with a normally impervious coating in which characters may be formed by the pressure of a stylus or the type of a typewriting machine.

Heretofore it has been proposed to prepare a stencil sheet consisting of a porous base, such as Japanese yoshino paper, coated with a material comprising a solution of vinyl resin, such as vinyl acetate or vinyl chloride, in volatile solvents, such as a mixture of toluol, alcohol and ethylene glycol monoethyl ether, and softening agents such as aluminum stearate, peanut oil and dibutyl phthalate.

The present invention is based upon the discovery that the coating material prepared by mixing and emulsifying an aqueous solution of polyvinyl alcohol with a tempering or softening agent in the presence of an emulsifying agent constitutes a highly efficient coating for stencil sheets, possessing an excellent flexibility and good durability.

Polyvinyl alcohol is a water soluble hydroxy vinyl compound which can be produced by the hydrolysis of polyvinyl acetate, carried out in a suitable liquid vehicle, under the influence of acid or alkali. Polyvinyl alcohol forms viscous and stable aqueous solution. The viscosity of the solution may be varied widely and it depends on the degree of the polymerisation. The aqueous solution of polyvinyl alcohol emulsifies easily with oily softening agents and can be mixed evenly with the aqueous solution or dispersion of organic colloids such as gelatine, casein and soybean protein. When a sheet of fibrous base is coated or impregnated with the above mixture and dried, a tough and flexible coating is obtained,

which is unaffected by oily or greasy inks and has a good keeping quality. The coating also can be clearly cut through by the pressure of a stylus or the type of a typewriting machine.

In carrying out the invention, first a coating material is prepared by mixing and emulsifying an aqueous solution of polyvinyl alcohol, dissolved in hot water, with one or more of tempering or softening agents, such as mineral oils, fatty oils, fats, waxes, higher fatty alcohols, naphthenic acid glycerides, dibutyl phthalate, ethylene glycol and glycerine, in the presence of emulsifying agents such as Turkey-red oil and sulphate salts of higher fatty alcohols. There may be added, if necessary, an aqueous solution of organic colloids, such as gelatine, casein, soybean protein and methyl cellulose, hardening agents, such as formalin and butyl aldehyde, and coloring agents such as pigments or dyes. Then sheets of Japanese yoshino paper are impregnated with the coating material in drawing over the surface of the resulting solution, the surplus being removed by a scraper, and allowed to dry.

The proportions of the ingredients of the coating material may vary according to several circumstances. The following is an example:

	Parts by weight
2% aqueous solution of polyvinyl alcohol.....	500
2% aqueous solution of gelatine.....	100
2% aqueous solution of soybean protein.....	200
Turkey-red oil.....	50
Castor oil.....	30
Oleyl alcohol.....	50
Heavy mineral oil.....	20
Prussian blue.....	20
China clay.....	40

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