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METHOD OF RECONDITIONING PAPER SURFACES

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1 Claim. (Cl. 117—2)

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This invention relates to a process of reconditioning the surface of paper and a composition therefor, and in particular to an inhibitor of so-called ghosts on blue prints, photocopies and other kinds of reproductions.

Documents, drawings, letters or the like very often have marks thereon which either are caused by papers having been folded, by surface erasures or other similar procedures which affect the surface of the paper. Such surface flaws impair the appearance of the papers, and furthermore in the case that blue prints, photostatic copies or other reproductions are made thereof, such flaws appear to an exaggerated degree on the reproduction as a "ghost" and consequently spoil the picture.

It is an object of this invention to provide a composition and a method for removing from paper surface flaws such as those described above.

This and other objects of the invention are accomplished by treating the paper at the spots having the flaws with at least one organic compound selected from the group consisting of clear light oil material, glycerols, glycerol ethers, glycerol esters and hydrocarbon solvents. In the following a few examples are given which yielded satisfactory results.

Example I

	Parts by volume
Kerosene	50
Carbon tetrachloride	50

This mixture was applied to the paper at the location of the surface flaws and the excess thereof then removed by blotting. The marks had practically disappeared and a reproduction of the paper was free from ghosts.

Example II

	Parts by volume
Blown castor oil	35
Methyl alcohol	65
Carbon tetrachloride	50

This mixture was applied by the same method as in Example I. Also here the results were satisfactory.

Example III

	Parts by volume
Glycerin	25
Methyl alcohol	75

Example IV

	Parts by volume
Glycerin	35
Ethyl alcohol	65

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The method of applying this mixture was the same as described in connection with Example I. This mixture of Example IV yielded by far the best results, since it left the paper without any marks after drying and removed every trace of erasure or crack or other surface flaw. Thus, reproductions made of a paper treated with the composition of Example IV, were entirely free from ghosts or the like.

Example V

	Parts by volume
Diethylene glycol monoethyl ether	35
Methyl alcohol	65

Example VI

	Parts by volume
Diethylene glycol monoethyl ether	35
Ethyl alcohol	65

The mixtures of Examples V and VI were found to be especially satisfactory for reconditioning bond paper on account of their non-grain raising property. However, they are also applicable for other kinds of paper, such for example for vellum paper.

The composition and method of our invention is applicable for all sorts of paper, such as bond paper, vellum paper or the like.

For reconditioning the surface of vellum paper a solvent alone is sufficient to obtain the desired effect, since vellum paper is coated with a plastic material which is soluble in hydrocarbon solvent. For bond paper it is preferable to apply a mixture of an organic compound selected from the group consisting of clear light oil material, glycerol, glycerol ether, or glycerol ester and a hydrocarbon solvent therefor. As was set forth above a mixture of glycerol and ethyl alcohol yielded the very best results. In particular 20 to 50 parts by volume of glycerin and 80 to 50 parts by volume of ethyl alcohol were found to be preferable, and a mixture of 35 parts by volume of glycerin and 65 parts by volume of ethyl alcohol proved to be excellent.

The composition used for the process of our invention may be applied with a glass rod or a brush. As described in the examples, it is advantageous, though not obligatory, to remove, immediately after application, any excess of the reagent, for instance by means of blotting paper.

It will be understood that while there have been described herein certain specific embodiments of our invention, it is not intended thereby to have it limited to or circumscribed by the specific details given, since our invention is sus-

ceptible to certain modifications or changes which come within the spirit of the specification and the scope of the appended claim.

We claim:

In a method of reconditioning the surface of a substantially uniform appearing opaque writing paper having a flaw thereon rendering a portion of the surface non-uniform appearing, the steps of applying to the said paper at said flaw only a mixture consisting of approximately 35 parts by volume of glycerin and approximately 65 parts by volume of ethyl alcohol, and thereafter drying the said paper whereby the said flaw is caused to disappear and the paper attains substantially the original overall uniform appearance.

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