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TREATING HECTOGRAPH BANDS

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The present invention relates to improvements in hectograph pads of the type usually employed in hectograph machines and in their treatment prior to use.

The hectograph pads employed in hectograph or duplicating machines are usually in the form of relatively thin layers of gelatin mass mounted upon long strips of backing of paper or fabric to form a long continuous band, which is rolled upon a spindle or other supporting means for storage and in connection with its use in the duplicating machine. The gelatinous mass employed in such bands, although usually tanned or hardened, has some adhesive characteristics when freshly made and in the roll, there is a tendency for the gelatinous mass to adhere to the back surface of the backing of paper or fabric. Heretofore, in the preparation of the band for storage or shipment in roll form, it has been customary to coat the surface of the gelatinous mass with a powder such as starch or talc to prevent the gelatinous copying mass from sticking to the back surface of the paper or fabric.

When powders are employed to prevent adhesion in this manner, the powder must be removed from the roll before it can be used by washing. This is an operation requiring some time, involving the complete unrolling and rerolling of the band, and is sometimes found unpleasant or occasionally omitted altogether by the user.

In accordance with the present invention, it has been found possible to provide the gelatinous mass of such a hectograph band with a coating which adequately prevents adhesion between the gelatinous mass and the back of the fiber backing, the removal of which, if desired, is much more easily accomplished than when powder is used; and which permits of copies being made on a first use of the roll, even when the user fails to remove the coating initially.

The coating, in accordance with the present invention, may be applied after the formation of the hectograph band either before or during its rolling upon a suitable support or spindle.

In accordance with the present invention, it has been found that the provision of a thin film or coating of a water-soluble lower alkyl cellulose ether between the convolution of the roll adequately prevents the undesired adhesion and protects the surface of the copy mass. Thus, adhesion of the gelatinous mass to the backing of such bands may be prevented by the application to the surface of the gelatinous mass of solutions of methyl-cellulose or the water-soluble ethyl-celluloses. These substances are preferably

employed in dilute aqueous solution in which the proportion of the coating material may suitably be from 1 to 5%, although somewhat stronger solutions, say up to 10%, may be employed, if desired. When so applied, adhesion of the gelatinous mass to the backing is prevented and at the same time the advantage is secured that bright copies can be made from the band without a preliminary washing to remove the coating material.

For example, I may employ an aqueous solution of methyl cellulose containing from 1 to 2% of the latter, applying it to the band prior to or during the rolling of the latter. A similar solution of a water-soluble ethyl cellulose may be employed in the same manner. These coating agents which have been found effective in accordance with the present invention form solutions with surface tension characteristics which cause them to readily spread over and form a thin film on the surface of the gelatinous mass.

In the application of the coating solution to the band, during the formation of the roll, it is preferred that the band be rolled on the spindle under tension while the coating liquid is being applied, the formation of pools or lakes of liquid or of air between the convolutions of the roll being thereby avoided. For example, good results have been secured with a tension of two or three pounds per lineal inch of width. The provision of suitable tension upon the band during the rolling of the same also causes an effective and even spreading of the coating solution and likewise prevents the retention between the convolutions of the roll of more than a very thin film.

The present invention may also be employed in connection with relatively short or individual hectograph pads formed with the copy mass on a backing, to protect the surfaces of the pads and permit them being stacked upon one another.

Although the present invention has been described in connection with certain specific embodiments thereof, it is to be understood that the details thereof are not to be regarded as limitations upon the scope of the invention except in so far as included in the accompanying claims.

This application is a continuation in part of my prior application Serial No. 663,052, filed March 27, 1933.

I claim:

1. A hectograph pad comprising a coating of duplicating material and a film of water-soluble alkyl cellulose on the duplicating surface.

2. A hectograph pad comprising a coating of duplicating material and a film of methyl cellulose on the duplicating surface.
3. A hectograph pad comprising a gelatin coating and a film of a water-soluble alkyl cellulose on the surface of said gelatin coating.
4. A hectograph pad comprising a gelatin coating and a film of methyl cellulose on the surface of said gelatin coating.
5. A hectograph pad comprising a gelatin coating and a film of water-soluble ethyl-cellulose on the surface of said gelatin coating.
6. A method of treating the gelatinized surface of a hectograph band, which method comprises applying an aqueous solution of methyl cellulose to said gelatinized surface to form a film of methyl cellulose thereon.
7. A method of treating the gelatinized surface of a hectograph band, which method comprises applying an aqueous solution of a water-soluble alkyl cellulose to said gelatinized surface to form a film of methyl cellulose thereon.
8. A method of treating the gelatinized surface of a hectograph band, which method comprises applying an aqueous solution of water-soluble ethyl cellulose to said gelatinized surface to form a film of methyl cellulose thereon.
9. A hectograph band comprising a backing, a coating of duplicating material thereon, and an integral film of methyl cellulose upon the duplicating surface.
10. A hectograph band comprising a backing, a coating of duplicating material thereon, and an integral film of a water-soluble alkyl cellulose upon the duplicating surface.
11. A hectograph band comprising a backing, a coating of duplicating material thereon, and an integral film of water-soluble ethyl cellulose upon the duplicating surface.
12. A hectograph roll comprising a hectograph band wound into roll form, said band comprising a backing, a coating of duplicating material thereon, and an integral film of methyl cellulose upon the duplicating surface.
13. A hectograph roll comprising a hectograph band wound into roll form, said band comprising a backing, a coating of duplicating material thereon, and an integral film of a water-soluble alkyl cellulose upon the duplicating surface.
14. A hectograph roll comprising a hectograph band wound into roll form, said band comprising a backing, a coating of duplicating material thereon, and an integral film of water-soluble ethyl cellulose upon the duplicating surface.
15. A hectograph band having on its duplicating surface an integral coating of a continuous film of a material permeable to the duplicating inks whereby said band may be initially employed for duplicating purposes without removal of said material, said material being adherent to the duplicating surface of the band and non-adherent to the reverse side thereof.
16. A method of coating a hectograph band which comprises winding into a roll a band having a backing and a gelatinized duplicating surface, applying an aqueous solution of methyl cellulose to a surface of the band during the winding operation whereby methyl cellulose is supplied between the convolutions of the band, and controlling the coating operation by subjecting said band to tension during the winding operation, thereby securing on the duplicating surface of the band and forming uniformly and integrally thereupon a thin film of said methyl cellulose.

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