Patented Apr. 14, 1931 1,800,561

UNITED STATES PATENT OFFICE

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TRANSFER MATERIAL

No Drawing. Application filed May 5, 1927. Serial No. 189,167.

My invention relates to frangible transfer material adapted for coating webs of flexible fabric such as tissue paper, and which is normally solid at atmospheric temperatures and which must be melted to apply it to such fabrics. For instance, the transfer material used in the manufacture of carbon paper, and which is known to the trade as "dope", has a melting point of 165° F. Such dope is extremely brittle and frangible; both in mass and as a coating. Such an ordinary carbon paper coating yields freely to the impacts of a typewriter and consequently transfers type impressions which are more or less blurred. Therefore, it is the object and effect of my invention to render such material tough and consequently less frangible and more coherent and adherent with reference to the web upon which it is coated. The essential feature of my invention is the inclusion in a transfer material of a gummy substance which serves as a binder for the other ingredients without rendering the mass sticky, in the ordinary sense of the latter term and, as hereinafter described, such a binding substance is exemplified by the natural gum known as gutta-percha. Such binding substance toughens the dope so that it yields less freely to the hammer blows of a typewriter and imparts a sharper imprint than ordinary dope.

A typical example of my invention would include such a gummy substance in mixture with a comminuted pigment, a waxy substance and a fatty substance. For instance, gutta-percha, comminuted carbon, carnauba wax, and petrolatum. In the preparation of such a mixture, the crude commercial gutta-percha, which is about the consistency of soft molded rubber, may be dissolved in carbon tetrachloride, before mixture with the mass from which such solvent is subsequently evaporated. However, the crude gutta-percha, in lumps, may be mixed with carnauba wax in lumps and form a substantially homogeneous mass by fusion at a temperature above the boiling point of the wax. However, I have found it cheaper, and satisfactory, to mix the gutta-percha with carnauba wax, in lumps, and fuse them together at slightly above the melting point of the wax while mixing them in such a mill as is used for grinding paints and inks; the other ingredients of the dope being included in that gummy and waxy mixture, while the latter is fused.

I find it preferable, for some purposes, to include in the transfer material with the black pigment aforesaid, a colored pigment, for instance, Prussian blue. A typical formula comprising the latter would include gutta-percha, thirty parts; lamp black, seventeen parts; Prussian blue, seventeen parts; carnauba wax, thirty parts; and petrolatum, forty parts.

As above noted; the gummy substance herein contemplated and exemplified by gutta-percha is characterized by the fact that it does not become sticky when mixed with the fatty substance, i. e., vaseline, of carbon dope. Consequently, the natural gum known as caoutchouc, india-rubber, or rubber, is not the equivalent of gutta-percha in my composition; for it is well known that rubber is rendered extremely sticky by combination with a fatty substance such as vaseline. Incidentally, whereas, gutta-percha is soft at 45° C., and melts at 120° C., a temperature of 120° C., is necessary to soften rubber, which does not melt until a temperature of 150° C., is reached. The inclusion of rubber in ordinary carbon dope imparts to the latter qualities which it is the purpose and effect of my invention to avoid.

However, I do not desire to limit myself to the specific substances or proportions thereof herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention, as defined in the appended claims.

I claim:

1. A frangible transfer material, adapted for use in the manufacture of carbon paper and the like, operative at atmospheric temperatures, and including gutta-percha 30 parts, lamp black 17 parts, carnauba wax 30 parts, and petrolatum 40 parts.

2. A frangible transfer material, adapted for use in the manufacture of carbon paper

and the like, operative at atmospheric temperatures, and including gutta-percha 30 parts, lamp black 17 parts, Prussian blue 17 parts, carnauba wax 30 parts, and petrolatum 40 parts.

In testimony whereof, I have hereunto signed my name at Burlington, New Jersey, this 22nd day of April, 1927.

SAMUEL A. NEIDICH.