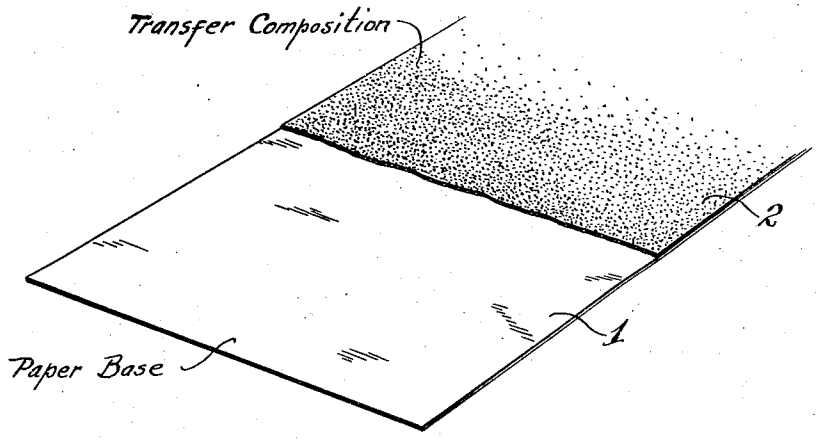
Nov. 1, 1932. B. S. TAYLOR ET AL 1,885,388

TRANSFER COMPOSITION

Filed Dec. 23, 1925



Inventors
Bert S. Taylor
Webster N. Jones
By Eakin & Avery
Attys.

Patented Nov. 1, 1932 1,885,388

UNITED STATES PATENT OFFICE

BERT S. TAYLOR AND WEBSTER N. JONES, OF AKRON, OHIO, ASSIGNORS TO THE B. F. GOODRICH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

TRANSFER COMPOSITION

Application filed December 23, 1925. Serial No. 77,389.

This invention relates to coatings for transfer papers of the type employed with heated dies to affix upon fabrics, leather, etc. thin-sheeted letters and other markings.

A primary object of the invention is to provide a superior transfer composition which may be spread upon a paper back, dried, and subsequently loosened from the paper and affixed to fabric in desired designs by means of a heated die. Another object is to provide a composition of this character suitable for marking the fabric portions of rubber shoes and consequently one that can withstand the vulcanization temperatures to which the shoes are subjected. A further object is to provide a composition of the type described which shall be suitable for use even upon standing for extended periods after spreading upon the paper backing.

Heretofore it has been proposed to make compositions for transfer papers by binding pigments with low melting compounds, such as gelatin, glue and nitrocellulose mixtures. These compositions are, however, not satisfactory for many purposes and particularly for transfers of trade marks, size marks, etc. to the fabric portions of rubber goods which must be vulcanized subsequent to the marking operation, since the binder in the affixed letters will not hold the pigment intact in shape and marginal contour upon the fabric under the temperatures of vulcanization.

For the affixing of markings on the fabric of rubber shoes, which are subsequently to be vulcanized by subjection to high temperatures, we have discovered that a transfer composition comprising a spar varnish, which is a well known commercial product composed in major part of gum-resin such as copal gum and a drying oil such as tung or china wood oil, an insoluble pigment, and an organic solvent admixed in suitable proportions gives most satisfactory results. This composition may be spread in a thin coat on paper, the organic solvent quickly evaporated, the pigment-varnish film readily transferred with a hot die to fabric in clean-cut designs, and the impression thus transferred will withstand the heat of vulcanization.

In practice, we find that the following recipe has proven to be especially practical and commercially satisfactory and is herein given for purpose of illustration, it being understood that a wide variation from this example is within the scope of this invention:

Spar varnish	10 gallons
Carbon tetrachloride	1.5 gallons
Aluminum powder	48 pounds

These ingredients are intimately admixed, spread on thin paper and the carbon tetrachloride removed by evaporation, after which the coated sheet may be rolled up ready for use. In the accompanying drawing, 1 represents the paper base and 2 represents the coating of the transfer composition applied thereto.

It is to be understood that any insoluble mineral pigment, such as bronze powder, vermillion, crimson antimony, etc. may be employed instead of the aluminum powder above specified, that high grade varnishes, composed in substantial part of drying oils, such as China wood oil, may replace the spar varnish, and that other organic solvents, such as gasoline, benzol, etc. may be substituted for the carbon tetrachloride.

Where the pigmented coating is to be transferred by the hot-die process within a reasonably short time after the coated paper is prepared, satisfactory results can be secured with the composition hereinabove described. However, when the transfer paper stands for two or three weeks before use, we find that the impressions cannot be as satisfactorily transferred therefrom. This appears to be due to the drying and hardening of the varnish vehicle.

We have found that the addition of stearic acid, or certain other organic compounds, to compositions of the character above described has the remarkable effect of not only speeding up the preliminary drying or removing of the organic solvent, so that the coated surface loses its tackiness after a very short drying period, but also retards the hardening of the varnish vehicle so that the coating may be transferred readily and satisfactorily even after standing for several weeks. This last property is particularly advantageous in

large manufacturing operations where stocks of coated papers in large quantities are purchased. Among the substances which exhibit these beneficial properties in the coating compositions of the present application are the higher fatty acids, of which stearic acid is an example, the mineral waxes, such as Montan wax, and petroleum products of high boiling point, such as paraffin and petrolatum.

As illustrative of a transfer paper coating composition containing a substance adapted to retard hardening of the pigment vehicle, the following recipe is given:

Aluminum powder	48	pounds
Spar varnish	10	gallons
Carbon tetrachloride	1.5	gallons
Stearic acid	6.5	pounds

This composition, after intimate mixing, may be spread in thin films on paper, and the organic solvent removed by evaporation. Upon standing for weeks, the coating does not become hard, and even after baking in an oven at 200° F. for two days, the coating is capable of being transferred from its paper backing to fabric to give a satisfactory impression.

It is obvious that wide variations in the proportion of the several ingredients may be employed without departing from the principles of this invention and we therefore do not wholly limit the claims herein to specific examples of the specification.

We claim:

1. A transfer comprising a thin paper base coated on one side with a composition consisting largely of an oleoresinous varnish containing substantial proportions of a drying oil, a finely divided pigment, and a higher fatty acid.

2. A transfer comprising a thin, flexible base coated on one side with a composition consisting largely of a spar varnish, a finely divided pigment, and a higher fatty acid.

3. A transfer comprising a paper base coated on one side with a composition consisting largely of a spar varnish, aluminum powder, and stearic acid.

In witness whereof we have hereunto set our hands this 19th day of December, 1925.

BERT S. TAYLOR.
WEBSTER N. JONES.