

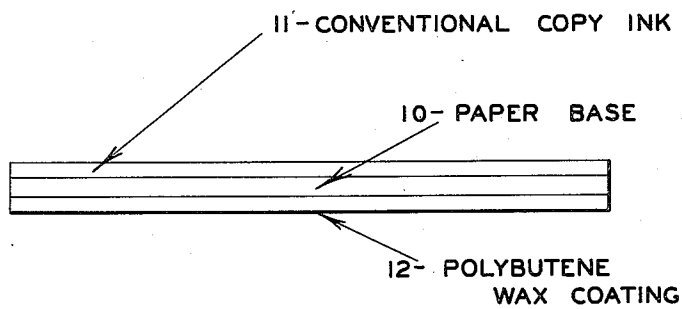
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CARBON PAPER

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CARBON PAPER

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3 Claims. (Cl. 282—28)

This invention relates to carbon paper for use with typewriters and the like; and provides a non-curling, slip-resisting typewriter carbon paper of unusually attractive appearance.

Typewriter carbon paper is ordinarily made by coating one side of a thin absorbent paper sheet with a molten composition of wax, dyestuff and pigment, which is relatively stiff when cold, but pressure-sensitive, so that it will offset onto paper pressed against it when subjected to pressure, as with a pencil or typewriter key. The properties of the carbon paper can be changed by varying the composition of the transfer composition.

Substantially all carbon papers have a very pronounced tendency to curl, due to the fact that the coated side of the paper has a coefficient of expansion different from the uncoated side. Attempts have been made to overcome this tendency by coating the non-marking side of the sheet with a waxy composition having the same coefficient of expansion as the marking wax; but this aggravates the already pronounced tendency of carbon paper to "slip"—i. e. move out of place between paper sheets when put into a typewriter.

My invention provides a smooth carbon paper which is both slip-resisting and non-curling, and involves coating one side of the paper with a conventional copying wax, and the other side of the paper with an essentially similar wax containing a small amount of a polybutene of rubbery consistency. This type of polymer is compatible with the wax, but gives the solidified wax coating a definite tack as opposed to the slip of the simple wax coating processes. As a result, the paper becomes slip-resisting as well as non-curling.

A carbon paper made in accordance with my invention is illustrated in edge elevation in the accompanying drawing, in which 10 represents the paper base which is coated on one side with a layer of conventional copy ink 11, and on the other side with a layer 12 of the special polybutene wax coating.

Preferably, I add a few percent of a metallic powder, or any other desired coloring material to the composition. The addition of such a powder to a normal wax mixture would result in a readily friable product totally unresistant to handling; but the polybutene acts as a binder as well as an anti-slip agent. The powder improves the

appearance of the sheet, and serves to reduce surface tack (adhesiveness) without increasing the tendency to slip.

Typical compositions for coating according to my invention are the following:

EXAMPLE 1

Unpigmented coating

	Parts by weight
Refined carnauba wax.....	58
Amorphous petroleum wax—M. P. 155° F.....	10
Polybutene wax—paraffin wax combination of	
Example 2.....	32

EXAMPLE 2

Silver colored coating

	Parts by weight
Refined carnauba wax.....	58
Amorphous petroleum wax—M. P. 155° F.....	10
Wax combination made from—	
25% polybutene—rubbery polymer of high	
molecular weight.....	32
75% paraffin wax—M. P. 270–275° F.....	
Aluminum powder.....	5

The ratios of the ingredients, and the ingredients themselves, can be varied over a wide range, the important thing being to have a waxy coating containing a minor proportion (5 to 20% or so) of the polybutene. Thus, in the specific formula shown above, the essential non-curling and anti-slipping properties can be obtained with 50–65% carnauba wax, 0–20% petroleum wax, and 25–40% of the polybutene wax combinations. Other wax combinations permit the use of varying amounts of the polybutene.

The coatings can be applied in conventional fashion, using roll, knife and intaglio coating machines; the two coatings can be applied at once, or one after the other, in any desired manner.

I claim:

1. A non-curling slip-resistant carbon paper coated on one side with a conventional copying carbon composition, and on the reverse side with a waxy composition having a coefficient of expansion similar to the conventional copying carbon composition, and containing from 5 to 20% of rubbery polybutene.

2. A non-curling slip-resistant carbon paper coated on one side with a conventional copying carbon composition, and on the reverse side with a waxy composition having a coefficient of expansion similar to the conventional copying carbon composition, and containing from 5 to 20% of rubbery polybutene, and a pigment.

3. A non-curling slip-resistant carbon paper

coated on one side with a conventional copying carbon composition, and on the reverse side with a waxy composition having a coefficient of expansion similar to the conventional copying carbon composition, and containing from 5 to 20% of rubbery polybutene, and aluminum powder.

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