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TYPEWRITER RIBBON

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The present invention is directed to the pro-
vision of what may be termed a supplemental
ink coating on typewriter ribbons, which coat-
ing is applied to the ribbon surface intended
for contact with the paper, and co-acts with
the ink coating for the body of the ribbon in
the transfer of the type impression.

In the manufacture of typewriter ribbons, it
is customary to coat or impregnate the fabric
of the ribbon with ink of a character fully
understood in the art, and to inscribe the type
impression by the direct contact of the inked
fabric under the impact of the type. Such an
operation tends to lack of uniformity in the
appearance of the type impressions, due to va-
riations in the strength of impact of the type,
and to smear the ink and to lack of sharpness
or clearness in definition of the writing.

The present invention consists essentially in
the provision of a surface ink coating, which is
applied directly to the surface of the ribbon in
advance of the application of the ribbon ink
for the purpose of initiating a sharper type
impression than it is possible to secure directly
from the ribbon ink and which sharp initial
impression is strengthened and reinforced by
the ribbon ink.

The ink surface coating of the present in-
vention is of a harder or firmer consistency
than that afforded by the ribbon ink, which
impregnates the body of the ribbon, with the
result that the type impact has the effect of
first forming a relatively light or delicate and
clear-cut impression created by the contact of
the coating ink, and thereafter intensifying and
deepening said initial impression.

In carrying out the details of the present
invention, I find that by first coating a ribbon
with the surface ink coating of carbon paper
ink and afterwards impregnating the ribbon on
the reverse side with ribbon ink of standard
quality, and of the character now commonly
employed in the making of typewriter ribbons,
that a ribbon possessing the characteristics of
the present invention will be produced.

The carbon paper ink is preferably of a firm
consistency by reason of the inclusion of an
adequate amount of hard wax gums or other
hardening ingredient with the pigments and
oils commonly employed in the making of car-
bon paper coatings. The inclusion of the wax
or other hardener gives a firm glossy surface
to the ink coating, and prevents its ready trans-
fer to the paper, save under the impact of the
type, and the firm texture of the coating serves

to prevent spreading or smearing of the ribbon
ink which reinforces the lines formed by the
carbon ink coating.

It will also be understood that the present
invention is not directed to any particular
formula of ingredients employed in the ribbon
ink and/or the surface coating, since the rib-
bon ink may be of any standard quality com-
monly employed in the making of typewriter
ribbons, and the surface coating may be of any
character commonly employed in the making of
carbon sheets, it being understood, however,
that a relatively firm textured surface coating
is preferred for the purposes of the present in-
vention.

If it is desired to positively retard the trans-
fer and discharge of the ribbon ink, the ribbon
first described may be additionally treated to
a thin coating of cellulose on one of its surfaces
before the application of the supplemental car-
bon ink coating, so that the cellulose coating will
act as a screen or filter through which the rib-
bon ink must be driven before it can be expelled
through the supplemental ink coating.

The ribbon treated in the manner last re-
ferred to will have the cellulose surface coating
applied to the fabric of the ribbon in the form
of a thin surface layer, which is pervious to the
passage of ribbon ink under pressure, and upon
the surface of the cellulose coating the supple-
mental carbon ink coating will be applied and
constitutes the writing surface of the ribbon.
In short the cellulose coating will be interposed
between the fabric impregnated with the ribbon
ink and the surface coating of carbon ink with
the result that the transfer of the ribbon ink
will be somewhat retarded and the supply of
ribbon ink conserved.

The cellulose coating must be thinly applied in
order not to render the surface of the fabric
completely impervious to the penetration of the
ribbon ink under the impact of the type.

The following constitutes a satisfactory for-
mula for the cellulose coating: A mixture of
pyroxylin solution and an equal amount of py-
roxylin cement. The pyroxylin solution contains
four parts of pyroxylin to five parts of a soft-
ener, such as castor oil, to which is added a low
boiling point solvent, such as ethyl acetate
diluted with a quick drying liquid such as gaso-
line, alcohol or acetone. Pyroxylin cement is
the same as pyroxylin with the softener omitted
and gums or resins added, which seem to give
greater flexibility and adhesion.

The cellulose may be applied as a single

coating or additional coatings may be applied with a corresponding reduction in the penetrability of the coating and the amount of ribbon ink which will be driven through the coating under the impact of the type.

Although I have described a cellulose or like coating applied to the fabric of the ribbon for the purpose of retarding the transmission of the ribbon ink to the surface contiguous to the paper being typed, it will be understood that the use of the cellulose coating is optional and desirable only in cases where conservation of the ribbon ink is required.

The present invention is one which affords a firm glossy surface contiguous to the paper sheets, so that the danger of smearing or accidentally marking the sheets by contact with the ribbon is reduced to a minimum, and at the same time the clearness of the type impressions is enhanced.

I claim:

1. A typewriter ribbon comprising a fabric impregnated with ribbon ink and having a coating ink surface of relatively harder consistency to give sharp type impressions to be reinforced by the ribbon ink therethrough.

2. A typewriter ribbon having its fabric impregnated with ribbon ink and having a surface coating composed of ink of wax-like consistency, and adapted to give sharp type impressions to be reinforced by the ribbon ink.

3. A typewriter ribbon having its body fabric impregnated with ribbon ink and having a coating of carbon paper ink applied thereto.

4. A typewriter ribbon having its fabric impregnated with ribbon ink and having a surface coating of relatively firm carbon paper ink applied thereto.

5. A typewriter ribbon having its fabric impregnated with ink and having a surface coating of ink of a different consistency than the ink first mentioned.

6. A typewriter ribbon having its fabric impregnated with ink and having a coating of pervious material applied thereto to constitute a screen and having a surface coating of ink applied to the said screen coating.

7. A typewriter ribbon having its fabric impregnated with ink and having a coating of pervious material applied thereto to constitute a screen and having a surface coating of ink applied to the said screen coating,—the surface coating being of a firmer texture than the ink impregnating the fabric of the ribbon.

8. A typewriter ribbon having its fabric impregnated with ribbon ink and having a pervious coating applied thereto to form a screen for retarding the transmission of ribbon ink and the screen coating having a surface coating of ink of a different consistency applied thereto.

9. A typewriter ribbon having its fabric impregnated with ribbon ink and having a pervious coating applied thereto to constitute a screen for the passage of the ribbon ink and a surface coating for the screen consisting of carbon paper ink.

10. A typewriter ribbon having its fabric impregnated with ribbon ink and having a pervious coating applied thereto to constitute a screen for the passage of the ribbon ink and a surface coating for the screen consisting of carbon paper ink of relatively firm smooth surface texture.

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