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PREPARATION OF CIGARETTE FILTER TIPS
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3 Claims. (Cl. 117—62.2)

This invention relates to filter tips and to their produc-
tion.

The use of cellulose acetate in cigarette filter tips is
well known. Cellulose acetate is most frequently em-
ployed for this purpose in the form of non-porous con-
tinuous filaments, since in this form it is more easily
controlled in processing operations, and when arranged
collectively in a filter wad, is known to act as filtration
medium for tobacco smoke. The preparation of cellulose
acetate by a spinning process is a long established art,
and novel ways of improving its effectiveness in filter
wads, for example, by crimping, have hitherto been de-
scribed. In all cases however the cellulose acetate has
been prepared by processes well known in the textile in-
dustry.

It has been proposed to use in cigarette filter tips flake
cellulose acetate which has a porous micro-rugose or
pitted surface termed "active." Flake material possessing
this broken or pitted surface is stated to be particularly
efficient in the filtration of tobacco smoke. This improve-
ment is directly attributed to the nature of the surface.
The "active" surface referred to above differs from cast
film or spun fibre, or flake, which, by reasons of its
method of production and/or processing, for example
by contact with solvents or solvent vapours, or by layers
of coating or adhesive, has a smooth and unbroken sur-
face.

The "active" cellulose acetate may be impregnated
into or coated on to one or both sides of a carrier matrix,
such as, for example, paper tissue or natural or synthetic
materials in the form of fabric, woven or non-woven, or
in the form of a loose fibre mat in which the fibres may
be bonded or unbonded and parallel or criss-cross. This
provides a substantially reinforced cellulose acetate sheet,
possessing the micro-rugose "active" surface. Such a re-
inforced cellulose acetate sheet was produced as follows:

A matrix of cellulose fibres which had been previously
sprayed with glacial acetic acid, was impregnated with a
solution of 7.5 parts by weight of cellulose acetate in 92.5
parts by weight of glacial acetic acid, to which 30 parts by
weight of water has been added, the excess of the impreg-
nating solution was squeezed out and the impregnated

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sheet was immersed in water between two perforated
plates, so that the water was able to permeate the sheet
while the sheet was maintained under slight pressure and
held flat.

The formed "sheet" reinforced or otherwise may be cut
up into shreds in the same way as tobacco, which can then
be processed into filter wads, by the use of conventional
cigarette manufacturing machines.

What we claim is:

1. A method for the manufacture of cigarette filters
from cellulose acetate which has a pitted "active" surface
comprising the steps of impregnating a fibrous sheet carrier
with a solution of cellulose acetate which has added
thereto a precipitant liquid in an amount adjusted to ap-
proach the precipitation point, treating the so impregnated
carrier with the precipitant to occasion "in situ" forma-
tion of the "active" cellulose acetate on the carrier the
said impregnated carrier being adapted to be formed into
a filter tip for association with a cigarette.
2. A method for the manufacture of cigarette filters
from cellulose acetate which has a pitted "active" surface
comprising the steps of impregnating a fibrous matrix with
a solution of cellulose acetate which has added thereto a
precipitant liquid in an amount adjusted to approach the
precipitation point, treating substantially all of the so im-
pregnated matrix with the precipitant liquid to occasion
"in situ" formation of the "active" cellulose acetate on the
carrier the said impregnated carrier being adapted to be
formed into a filter tip for association with a cigarette.
3. The process of claim 2 wherein the fibrous matrix
is in the form of cut fibers selected from the group con-
sisting of cellulose and cellulose acetate.

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