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[54] **METHOD FOR PREVENTING THE ESCAPE OF TOBACCO CRUMBS OR DETRITUS AT THE ENDS OF CIGARETTES IN TRANSPARENT PACKAGES**

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[58] **Field of Search** 131/8, 11, 20, 21, 140–144, 131/120, 121

[56] **References Cited**

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[57] **ABSTRACT**

The specification describes methods for preventing tobacco crumb formation in cigarette packages by heating the tobacco, cushioning it or providing for an electrostatic charge.

1 Claim, No Drawings

METHOD FOR PREVENTING THE ESCAPE OF TOBACCO CRUMBS OR DETRITUS AT THE ENDS OF CIGARETTES IN TRANSPARENT PACKAGES

The invention relates to a method for preventing the escape of tobacco crumb or detritus at the ends of cigarettes, more particularly in the case of cigarettes packed in transparent or translucent plastic foil. The invention is particularly concerned with such cigarettes packed individually.

The cigarette industry has to date not gathered any experience in the tests of the package of cigarettes as regards the behaviour of tobacco crumb or tobacco detritus in the case of the use of material which can be charged electrostatically, since conventional cigarette packages do not function with an interior foil consisting of such a material.

The present applicant was, however, in particular responsible for suggesting a method for preparing cigarettes in transparent packages. In such transparent packages, which consist of electrostatically chargeable material, it is necessary to take steps to see that at the ends of the cigarettes there is no escape of tobacco crumb or tobacco dust, which would otherwise collect around the cigarettes in the transparent package, because such a collection of residue would considerably impair the appearance of the package so that a cigarette packed in this manner could hardly be marketed.

Firstly it is important to see that no tobacco crumb is generated on placing the cigarettes in the preformed grooves in a transparent foil. This problem can be solved in a simple manner, as already suggested by the present applicant, by exerting a sucking or blowing action on the ends of the cigarettes before they are laid in the preformed grooves. There has also been a previous proposal to provide a shaking conveyor operative in the course of the downward movement of the cigarettes to the packing drum in order to shake away tobacco crumb, which may become detached from the tobacco structure.

Furthermore, especial care must naturally be taken in introducing the cigarettes into the preshaped groove so that as they drop into the groove no fresh crumb is formed.

A further problem resides in that tobacco crumb must not be allowed to drop out of the structure of the cigarette filling owing to movement of the package, for example when the cigarette has already become somewhat dry.

This problem is in itself somewhat more difficult to solve because on drying out of the cigarette the space between the wall of the package and the filling material is reduced and owing to the electrostatic behaviour of the material the crumb moves along the shank of the cigarette.

Furthermore, tobacco crumb should not arise when one or more cigarettes are removed from a package which has already been opened.

There has already been a proposal to steam the cigarettes for a short period of time at their tobacco ends before they are laid in the package so that a swelling action arises, which brings about a tight fit of the cigarettes in the package when they have been placed in it and after the covering foil has been placed over the groove. The swelling requires a certain time and is only completed after the package has been closed so that the cigarette is more firmly seated in the transparent package as compared with a cigarette packed under normal moisture conditions. The steaming must naturally be carried out very cautiously so that no spots are formed on the cigarette paper.

One aim of the present invention is to prevent the escape of tobacco crumb or detritus from the ends of cigarettes, preferably cigarettes which are individually packed in transparent or translucent plastic foils, in a particularly simple manner without it being necessary to employ the above-described steaming operation which is somewhat difficult to operate.

The present invention consists in a method for packaging cigarettes so as to prevent the escape of detritus from the ends of the cigarettes, in which the ends of the cigarettes before placing in a package are subjected to heating of short duration. Preferably the cigarettes are packed in transparent or translucent, that is to say light passing plastics foil and preferably the cigarettes are packed individually. The heating can for example be carried out with the help of microwaves so that there is a rapid baking operation which results in a coagulation of the proteins in the tobacco and the free ends of the cigarettes without the cigarette being deformed or singed. In this manner a type of self-sealing of the cigarette is achieved without using added materials.

If the cigarettes are laid individually in preformed grooves of plastics foil and this foil with grooves is later covered with a further foil and welded to it at the edges around the grooves, the aim of the invention can be achieved by adopting the feature that the sealed package is subjected to friction in the zone receiving the tobacco ends of the cigarettes in order to produce an electrostatic high voltage charge.

Preferably the method is so carried out that the packages are moved between rapidly rotating brushes after the sealing.

The electrostatic high voltage charge produced by friction leads to the tobacco surface of the cigarette being fixed in the package. Such electrostatic high voltage charges are effective for extraordinarily long periods of time and do not become dissipated even when the package is carried around for a long period of time in the pocket.

In the case of the method in which the cigarettes are preferably individually placed in preshaped grooves in plastics foil and the grooved foil is subsequently covered by a further foil and welded to it at edges around the grooves, the aim can also be achieved by adopting the feature that on laying the cigarettes at least at the tobacco ends in position a foam material cushion is laid additionally into the groove with the cigarette.

This foam material cushion can in accordance with a further feature of the invention possibly be moistened.

In this manner a buffer is produced between the limit of the groove and the tobacco end of the cigarette and, more particularly in the case of moistening of the foam material cushion one ensures that no tobacco can escape from the cigarette and lead to the formation of an unattractive deposit along the stem or shank of the cigarette.

I claim:

1. A method for preventing the emergence of tobacco particles from cigarettes to be packaged comprising the step of heating only the cigarette end to effect a rapid heating by microwave heating sufficiently to coagulate the proteins in the tobacco to seal the end thereof against the escape of detritus.

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