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METHOD OF PRODUCING TOBACCO FOILS

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4 Claims. (Cl. 131—15)

The present invention relates to a method of producing tobacco foils, particularly for use as cover leaves or wrappers as a substitute for natural tobacco leaves.

Such tobacco foils have previously been made by mixing pulverized tobacco with cellulose derivatives which are soluble in organic solvents, for example, acetyl cellulose, in the presence of a solvent, such as acetone, ether, or alcohol, and by then spreading the doughy mass into foil shape. However, apart from the fact that even during the manufacture of such tobacco foils unsurmountable difficulties often occurred, they were not able to withstand the stresses of being handled by machinery or by hand and were also practically useless because of their bad taste.

It is an object of the present invention to overcome these disadvantages and to provide a tobacco foil which likewise consists of pulverized tobacco and cellulose derivatives, but can fully serve as an adequate substitute of natural tobacco leaves. This object may be attained according to the invention by adding orthophosphoric acid (90%) to the anhydrous solution of cellulose derivatives. Such addition of phosphoric acid is of particular advantage for the formation of the foils themselves and also improves the mechanical properties of the finished foils. It has proved especially advantageous when used with an anhydrous solution of methyl cellulose with a high methoxy group constituent in a mixture of low alcohols such as methanol, ethanol, propanol or isopropanol and highly volatile hydrocarbon chlorides such as methylenechloride, chloroform, or di-, tri- or perchlorethylene. The proportion of approximately 90% phosphoric acid used with the methyl cellulose preferably amounts to 15 to 30% of the added methyl cellulose.

The addition of phosphoric acid has the surprising result that the resistance of the tobacco foils to tearing, their resistance to water, and their stability in storage are improved to such an extent that they can be manipulated without difficulty either by hand or by machines despite their high tobacco content which may amount to as much as 90 to 95%.

The phosphoric acid of a foil which is produced according to the invention can no longer be dissolved therefrom by water, except in traces of free acid or its salts. During the drying process of the foil which is carried out at a temperature of about 40 to 60° C., a part of the free hydroxyl groups of the methyl cellulose together with the phosphoric acid will form an ester, and a certain cross-linking of the individual molecules wiill occur.

It is of advantage to add the phosphoric acid in such a quantity that a part thereof will not be esterified, but remain in the foil in the form of free phosphoric acid. Due to its hygroscopicity, the phosphoric acid, better than any organic polyvalent alcohol, prevents the foil from becoming too brittle and it also absolutely prevents the formation of mold fungi and bacteria in the foils.

The foils according to the invention do not require any addition of preservatives which might be harmful or affect the taste of the tobacco smoke. Because of their high resistance to water, they may be used not only as cover leaves but also as wrappers and, when cut up, as an addition to the tobacco in cigars, cigarillos, cigarettes, stogies, and the like, or as an addition to pipe tobacco.

The following is an example of the production of a foil in accordance with the invention:

The quantities of ingredients used are as follows:

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Methylcellulose (highly methylated)	22
Finely ground tobacco	115
Methylenechloride	685
Methanol	175
Orthophosphoric acid (90%)	3
Total	1,000

The ground tobacco with a particle size of less than 0.1 mm. is introduced into the above quantity of methylenechloride and well stirred. Then the methylcellulose with a methoxy value of at least 1.6 is added and the phosphoric acid introduced with steady stirring. As soon as an intimate mixture is obtained, the methyl alcohol is allowed to run in slowly with continuous stirring. In the resulting methylenechloride-methylalcohol solution through the swelling of the methylcellulose the tobacco becomes capable of being poured. It is advantageous to allow the mass to stand for 36 hours.

Although our invention has been illustrated and described with reference to the preferred embodiments thereof, we wish to have it understood that it is in no way limited to the details of such embodiments, but is capable of numerous modifications within the scope of the appended claims.

Having thus fully disclosed our invention, what we claim is:

1. A method of producing tobacco foils comprising the steps of mixing a mixture comprising finely pulververized tobacco and an anhydrous viscous solution of methylcellulose with phosphoric acid, then shaping the resulting mixture into foils, and drying the said foils.

2. A method of producing tobacco foils comprising the steps of adding finely pulverized tobacco to an anhydrous solution of methyl cellulose having a high methoxy group content in a mixture of lower alcohols and highly volatile hydrocarbon chlorides, then adding a substantially 90% phosphoric acid in an amount of substantially 15 to 30% of the methyl cellulose content, then shaping the mixture into foils, and drying the said foils.

3. A tobacco foil comprising a dried sheet formed of a mixture of finely pulverized tobacco with reaction product of methylcellulose with orthophosphoric acid.

4. A foil as claimed in claim 3 containing free phosphoric acid.

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