582-592 (2)
PM-519

IN THE UNITED STATES PATENT OFFICE

In re application of :

Henry B. Merritt :

Serial No. 109,686 :

Filed January 25, 1971 : Group 331

TOBACCO MODIFICATION BY SALT ADDITION

Hon. Commissioner of Patents
Washington, D.C. 20231

Sir:

A M E N D M E N T

In response to the Official Office Action of April 13, 1972, please amend the above indicated application as follows:

In the Claims:

Cancel claims 1, 3, 4, 5, 6 and 10.

In claim 2, change "1" to - 11.

In claims 7 and 8, change "6" to -12.

In claim 9, change "6" to -13.

In claims 2 and 7 to 9, line 1 of each, delete "tobacco" and insert - smoking.

Kindly add the following new claims:

11. A smoking product effective in producing lowered tar delivery which comprises a natural or reconstituted tobacco component and about 4% to about 10% by weight based on the tobacco component of an additive comprising a mixture of

alkali metal and alkaline earth salts, in which the cations of said salts are in a weight ratio of about 1:1 to 1:3, respectively, and are selected from the group consisting of sodium, potassium, calcium and magnesium and in which the corresponding anions are selected from the group consisting of acetate and a mixture of citrate and acetate anions.

12. The smoking product of claim 11, in which said anions of alkali metal and alkaline earth salts are acetate anions.

13. The smoking product of claim 11, in which said anions of alkali metal and alkaline earth salts are a mixture of citrate and acetate anions.

REMARKS

Applicant believes that the original filing fee covers the changes of this amendment. In the event, however, that there are any additional costs incident hereto, please apply such to our special account No. 23-550.

The claims have been extensively redrafted to cover only the embodiment of a tobacco additive comprising mixtures of alkali metal and alkaline earth metal salt in a ratio of about 1:1 to 1:3 respectively. Additionally, the tobacco has been described as being either natural or reconstituted, as set forth at page 4, line 10, and in the examples of the instant specification.

Reconsideration is respectfully requested of the rejection of claims under 35 USC 112, paragraph 2. The claims have been extensively redrafted in order to comport with the comments set forth in the Official Action of April 13, 1972. It is submitted that the claims are now devoid of any aspect of ambiguity or double inclusion and comply with both paragraphs 1 and 2 of 35 USC 112.

Reconsideration is respectfully requested of the rejection of claims under 35 USC 102 over British patent specification 1,208,491 of Millar et al. As the examiner properly noted, when he failed to reject original claims 6 - 9, this reference fails to teach the use of an alkaline earth metal salt as an additive to a smoking composition. All the claims in the instant application now call for the presence of this ingredient. Accordingly, it is respectively submitted that the rejection is no longer proper.

Applicants would further like to point out that it would be improper to rely on Millar et al to teach the obviousness of the instant invention under 35 USC 103. The Miller et al reference is directed solely to a tobacco filter - which may comprise a natural or synthetic tobacco, which has been impregnated with between 5 and 40%, preferably 20%, of a salt consisting of the acetate, propionate, adipate, citrate, or tartrate of an alkali metal of Group 1a. Clearly, the aforesaid composition differs considerably from that disclosed in

the instant application.

Applicants invention is directed to a product which is smoked. It is therefore clear, that the two compositions are intended and employed to satisfy divergent aims, as the reference composition is used only to filter the smoke of untreated tobacco. As is further apparent from the physical location of the reference additive in the filter, the means of obtaining the desired reduction in tars must be one of either catalysis of, or adsorbtion from, the smoke passing through the salt impregnated filter. Applicant's composition, on the other hand, actually undergoes combustion.

The relative proportions of salt to tobacco disclosed in the reference and instant descriptions further emphasize the differences between their respective usages. Applicant's provide for a salt concentration of from 4 to 10%, preferably 6 to 7% of salt. Millar et al correspondingly provide for a salt concentration of between 5 and 40% preferably 20%. Thus the reference discloses a preferred embodiment approximately 3 times as concentrated as the preferred composition disclosed instantly. This difference again suggests that its salt is providing a function which is different from that set forth in the instant invention. Further, as is apparant from the instant specification at the paragraph starting on line 6 of page 6, it would be most undersirable to employ the Millar et al concentrations in the instant invention. The considerably higher proportions of alkali metal salts disclosed in that

reference would cause significantly increased rates of burning or combustion in a manner antithetic to the controlled rate disclosed by applicants to be incident to the utilization of the instant proportion of alkaline metal salt.

Reconsideration is respectfully requested of the rejection of claims under 35 USC 103 over the French patent 1,449,125. In order to simplify the assessment of this rejection, applicant encloses herewith a copy of British specification 1,116,644. The British patent specification is an English language counterpart of the French reference, and although lacking in some of the examples of the French reference, it may be used to facilitate the instant examination.

The disclosure of the French patent is directed to a method for reducing the harshness of reconstituted tobacco, and in particular, it teaches the use of certain inorganic alkali and alkaline metal compounds such as carbonates, bicarbonates and bisulphites, in order to bring about this effect. The specification further, rather gratuitously, discloses that organic salts may also be employed, and that one may employ as anions for the aforesaid metals, certain relatively weak organic acid radicals, such as those derived from acetic, tartaric and citric acids.

Remarkably, the exemplification of the reference invention and the claims attendant thereto are directed entirely to inorganic anions. Equally clear is the fact that the salts of alkaline earth metals were considered to be of relatively

minor importance for the purpose set forth in the reference.

Accordingly, although the French reference includes a mention of each of the claimed anions and cations of the instant additive and indicates the salts may be added to a tobacco substrate in the claimed proportions, such disclosure is insufficient to render the claimed invention obvious within the meaning of 35 U.S.C. 103. Rather, the instant situation is similar to that which prompted the C.C.P.A. to note, in In re Luvisi & Nohejl, 144 U.S.P.Q. 646, that:

> "It is possible for a patent to include a wide variety of subject matter but at the same time not to disclose a particular subject matter.
>
> "Constructive possession of the thing itself, as opposed to possession of mere language which embraces the name of that thing,"

is what is required under 35 U.S.C. 103 in order to render a composition obvious.

Applicant's disclosure sets forth the considerable improvements which have been made over the French patent and the other references now of record. Particularly, applicant's have discovered that whereas the organic radicals were previously considered to be of only marginal utility to reduce harshness, these same organic anions, are unusually effective in the reduction of total particulate matter. Additionally, applicants have discovered that concommitant with this unexpected facility, the organic radicals have provided several secondary advantages.

In this regard, the examiner's attention is directed to the specification, page 7, lines 15 to 24 and elsewhere, wherein

it is disclosed that the organic radicals impart definite flavor characteristics to the tobacco smoke. Thus the instant invention represents a considerable advance over the state of art recognized in the references.

Applicants have further discovered that there are considerable differences attendant to the use of the alkaline metal as opposed to the alkaline earth metal salts. Thus whereas the references tend, if anything, to equate the two classes of metals, applicants disclosure notes that their respective effects on the characteristics of ash color and combustion rate are considerably different.

The aforesaid improvements over the art of record, are set forth in the claims, wherein it is required that both an alkaline metal and alkaline earth metal salt be present in a particular weight ratio, and that the anions for said salts be selected from the organic radicals of acetic and citric acid. The instant ratio of alkali metal to alkaline earth metal salts is, of course, undisclosed in the references of record, which fail to teach any cooperation between the two types of metal. Thus in addition to recognizing the inherent differences between these two types of metals, applicants invention seeks to take advantage of their respective opposite characteristics thereby mitigating the inherent properties of the salts in conjunction with a tobacco, so as to arrive at a superior smoking product. In so doing, applicants have ignored the express direction of the references, by incorporating organic as opposed inorganic anions.

Accordingly the instant invention maximizes not only the properties of the cations present, but in addition utilizes anions, which result in a considerable improvement in the flavor properties of the tobacco smoke.

None of the aforesaid advantages has been reflected in the prior art. Accordingly it is respectfully submitted that although the prior art may be read to teach the efficacy of the addition of each of applicant's ingredients to a reconstituted tobacco for various purposes, the instant selection of particular such salts, in particular ratio, for the purpose of reducing the tar delivery of a smoking product, is nowhere suggested within the meaning of 35 U.S.C. 103. Accordingly, it is submitted that claims 2, 7, 8, 9, and 11 to 13 are in condition for allowance. Favorable action by the examiner is, therefore, respectfully solicited.

Respectfully submitted,

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By_____

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