

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CINDY B. S. TONG and KEVIN B. HICKS

Appeal No. 95-1829
Application No. 08/068,040¹

ON BRIEF

Before KIMLIN, HANLON, and PAK, Administrative Patent Judges.

HANLON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 25, 38-47 and 49 (see Paper No. 10), all of the claims pending in the application. The claims on

¹ Application for patent filed May 28, 1993. According to appellants, the application is a continuation-in-part of Application No. 07/749,347, filed August 23, 1991, now U.S. Patent 5,244,684, issued September 14, 1993.

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appeal are directed to a composition useful for inhibiting enzymatic browning of raw fruit and vegetable juices. Claims 38 and 39 are illustrative of the subject matter on appeal and read as follows:

38. A composition useful for inhibiting enzymatic browning of raw juice selected from the group consisting of raw fruit juice, raw vegetable juice and mixtures thereof, which composition consists essentially of (a) at least one sulfated polysaccharide in an amount sufficient to inhibit enzymatic browning; and (b) a promoter selected from the group consisting of chelating agents, acidulants, and mixtures thereof in an amount sufficient to enhance the browning inhibiting effect of said polysaccharide; wherein said polysaccharide is from about 0.025 percent weight:volume to about 1.0 percent weight:volume and said promoter is from about 0.25 percent weight:volume to about 1 percent weight:volume.

39. A raw juice selected from the group consisting of raw fruit juice, raw vegetable juice, and mixtures thereof, subject to enzymatic browning, containing at least one sulfated polysaccharide in an amount effective to inhibit browning of said juice.

The following rejections are at issue in this appeal:

(1) Claims 25 and 38-47 are rejected under 35 U.S.C. § 103 as being unpatentable over Kastin;²

² U.S. Patent No. 4,925,686 to Kastin granted May 15, 1990.

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(2) Claims 25, 38-47 and 49 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5,244,684.³

Rejection under 35 U.S.C. § 103

Claims 25 and 38-47 are rejected under 35 U.S.C. § 103 as being unpatentable over Kastin. We reverse this rejection.

The invention on appeal is directed to a composition useful for inhibiting enzymatic browning of raw fruit and vegetable juices containing at least one sulfated polysaccharide in an amount sufficient to inhibit enzymatic browning (see claims 38 and 39). The composition of claim 38 further includes a promoter in an amount sufficient to enhance the browning inhibiting effect of the polysaccharide. Preferred sulfated polysaccharides include carrageenans (Specification, p.7, lines 6-8) and suitable promoters include citric acid (Specification, p.8, lines 11-14; Specification, p.9, lines 4-7).

³ U.S. Patent No. 5,244,684 to Tong et al. granted September 14, 1993 (hereinafter "Tong").

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Kastin discloses a pasteurized fruit juice comprising fruit juice, a sweetener, a stabilizer, and a pH controlling agent (col. 1, lines 55-68). According to Kastin, stabilizers include carrageenan in an amount from about 0.01 to 0.02% by weight (col. 2, lines 47-51), and the pH controlling agent includes citric acid in an amount from about 0.1 to 0.2% by weight (col. 2, lines 52-57).

According to the examiner (Answer, p.4):

The claims appear to differ from Kastin in the recitation of inhibiting browning of the juice and in the recitation of the particular level of carrageenan added to the product. It would be obvious to one of ordinary skill in the art to utilize the process of Kastin to prepare the juice of the claims since the inhibition of browning in the juice is seen to inherently flow from the process of Kastin (note column 2, lines 58-62 of Kastin wherein preservatives and color enhancers are recited for color preservation).

Kastin discloses at col. 2, lines 58-64:

The composition may also be provided with standard additives such as preservatives, flavor and color enhancing agents known to those in the food industry. . . . The preservatives include potassium sorbate and sodium benzoate

However, the examiner has failed to establish that, as with raw fruit and vegetable juices, enzymatic browning is a problem in pasteurized fruit juices. Therefore, we disagree

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that inhibition of enzymatic browning "inherently flow[s] from the process of Kastin."

Nevertheless, the examiner argues that the amounts of carrageenan and citric acid "appear to be recited in Kastin" (Answer, p.7). To the contrary, the amounts of sulfated polysaccharide and promoter in appellants' claimed invention differ from the amounts disclosed in Kastin.

The composition of claim 38 consists essentially of at least one sulfated polysaccharide in an amount from about 0.025% weight:volume to about 1.0% weight:volume and a promoter in an amount from about 0.25% weight:volume to about 1% weight:volume. The raw juice of claim 39 contains at least one sulfated polysaccharide in an amount effective to inhibit browning of the juice. According to appellants (Specification, p.7):

When used alone, the concentration of the at least one sulfated polysaccharide will range from about 0.1% to about 5%, preferably from about 0.25% to 1%, more preferably from about 0.3% to 0.5%. . . . If the sulfated polysaccharide(s) is used with a promoter (i.e. a chelating agent, acidulant or mixture thereof) then the polysaccharide(s) can be present in an amount as low as 0.025%, i.e. in a range of from about 0.025% to about 5%.

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In contrast, the amounts of carrageenan and citric acid in the pasteurized juice of Kastin are lower than the amounts in appellants' claimed invention. See col. 2, lines 49-51 (carrageenan present in an amount from about 0.01 to 0.02% by weight, preferably about 0.015% by weight); col. 2, lines 56-57 (citric acid present in an amount from about 0.1 to 0.2% by weight).

Appellants' argue (Brief, p.7):

Kastin does not teach inhibition of enzymatic browning in a raw juice and therefore provides no guidance as to which component or components in his disclosed composition could be optimized in order to inhibit enzymatic browning in an unpasteurized juice.

We agree. Absent any teaching or suggestion in Kastin that carrageenan, either alone or in combination with citric acid, inhibits enzymatic browning, one having ordinary skill in the art would not have been motivated to increase the amounts of carrageenan and citric acid. See In re Antonie, 599 F.2d 618, 620, 195 USPQ 6, 8-9 (CCPA 1977) (exception to rule that discovery of optimum value of variable in known process is normally obvious occurs when parameter optimized was not recognized to be result effective variable).

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To the extent that "Fruit Fresh" type additives typically contain organic acids such as ascorbic and citric acid (Answer, p.6), the use of "Fruit Fresh" to inhibit enzymatic browning of fruit juice and fruit product fails to cure the deficiencies of Kastin. The examiner has failed to establish that one having ordinary skill in the art would have been motivated to use a composition containing citric acid in combination with at least one sulfated polysaccharide in an amount claimed by appellants to inhibit enzymatic browning in a raw fruit or vegetable juice. See claim 38.

For the reasons set forth above, the rejection of claims 38 and 39 under 35 U.S.C. § 103 as being unpatentable over Kastin is reversed. Claim 25 is dependent on claim 38, and claims 40-47 are dependent on claim 39. Therefore, the rejection of claims 25 and 40-47 under 35 U.S.C. § 103 as being unpatentable over Kastin is also reversed. See 37 CFR § 1.75(c) ("Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim.").

Double patenting rejection

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Claims 25, 38-47 and 49 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5,244,684 to Tong (Answer, p.5). We affirm this rejection.

According to appellants (Reply brief, p.2):

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) will be filed upon receipt of indication of allowable subject matter.

Since a terminal disclaimer has not yet been filed, the examiner properly maintained the rejection of claims 25, 38-47 and 49 under the judicially created doctrine of obviousness-type double patenting (Supplemental examiner's answer, p.2).

No period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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) BOARD OF PATENT

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DECISION:
Send Reference(s): Yes No
or Translation (s)
Panel Change: Yes No
Index Sheet-2901 Rejection(s): _____

Prepared: March 23, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT