

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GARTH ROCKWOOD PARKER, JR.

Appeal 2008-5841
Application 10/224,712
Technology Center 1700

Decided: January 5, 2009

Before EDWARD C. KIMLIN, CATHERINE Q. TIMM, and
MARK NAGUMO, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 28-32. Claim 28 is illustrative:

28. A mixed bed ion exchange system comprising:

a) a strong base quaternary ammonium anion exchange resin wherein said anion exchange resin has been treated with 10 to 800 milligrams of water-soluble sulfonated poly(vinylaromatic) polyelectrolyte per liter of anion exchange resin; wherein the number average molecular weight of the sulfonated poly(vinylaromatic) polyelectrolyte is from 5,000 to 1,000,000; and

b) a strong acid sulfonated cation exchange resin wherein said cation exchange resin has been treated with 10 to 800 milligrams of a water-soluble cationic polyelectrolyte selected from the group of polymers consisting of poly(vinylaromatic) quaternary amine salts, poly(vinylaromatic) tertiary amine acid salts, or poly(vinylpyridines) acid salts, wherein the number average molecular weight of said polymers is from 5,000 to 1,000,000.

The Examiner relies upon the following reference in the rejection of the appealed claims:

Tasaki	6,060,526	May 9, 2000
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Appellant's claimed invention is directed to a mixed bed ion exchange system comprising a strong base quaternary ammonium anion exchange resin and a strong acid sulfonated cation exchange resin. Both the anion exchange resin and the cation exchange resin are treated with polyelectrolytes. The anion exchange resin is treated with a sulfonated poly(vinylaromatic) polyelectrolyte, whereas the cation exchange resin is treated with a polyelectrolyte selected from the group consisting of poly(vinylaromatic) quaternary amine salts, poly(vinylaromatic) tertiary amine acid salts, or poly(vinylpyridines) acid salts. According to Appellant,

treating the anion and cation exchange resins results in a non-agglomerating, readily separable mixed bed ion exchange system.

Appealed claims 28-30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tasaki. Claims 31 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tasaki.

We have thoroughly reviewed the respective positions advanced by Appellant and the Examiner. In so doing, we find that the Examiner's rejections are not well founded. Consequently, we will not sustain the rejections of record.

The appealed claims require anion exchange resins and cation exchange resins that have been treated differently. In particular, the anion exchange resin has been treated with a water-soluble sulfonated poly(vinylaromatic) polyelectrolyte, and the cation exchange resin has been treated with a water-soluble cationic polyelectrolyte selected from a recited group of polyelectrolytes. The Examiner erroneously finds that Tasaki, at col.1, ll. 53 - col. 2, ll. 15, discloses a mixed bed exchange resin comprising an anion exchange resin and cation exchange resin that have been treated as claimed. However, the referenced disclosure of Tasaki only teaches treating the anion exchange resin with a water-soluble sulfonated poly(vinylacromatic) polyelectrolyte. Tasaki provides no disclosure, either expressed or implied, that the cation exchange resin of the mixed bed ion exchange system is treated with a cationic polyelectrolyte. We do not understand the Examiner's reasoning that "by contacting the anionic

exchange resin with an effective amount of water-soluble sulfonated poly(vinylaromatic) polyelectrolyte, Tasaki clearly discloses the composition and the process as claimed” (Ans. 8, para. 1). The treating of both the anion and cation exchange resins with the same polyelectrolyte does not meet the requirements of the appealed claims. While Tasaki teaches that “[a]lternatively, but less preferred, the anion and cation resins can be first mixed and the sulfonated poly(vinylaromatic) polyelectrolyte admixed with the mixed resin bed to reduce the surface charge exhibited by anion resin type” (col.7, ll. 25-29), such alternative treatment by Tasaki does not result in the cation exchange resin being treated with a cationic polyelectrolyte, let alone one of the specific cationic polyelectrolytes recited in the appealed claims.

Consequently, since we find no description of the claimed subject matter within the Tasaki disclosure, we can not sustain the Examiner’s § 102 rejection. Also, since the Examiner has not set out a rationale why it would have been obvious for one of ordinary skill in the art to treat the cation exchange resins of Tasaki with a cationic polyelectrolyte, we also can not sustain the Examiner’s § 103 rejection.

In conclusion, based on the foregoing, the Examiner’s decision rejecting the appealed claims is reversed.

REVERSED

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