

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JONATHAN H. CONNELL II,  
and ARUN HAMPAPUR

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Appeal 2012-007129  
Application 12/029,027<sup>1</sup>  
Technology Center 3600

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*Before* MURRIEL E. CRAWFORD, NINA L. MEDLOCK, and  
BRADLEY B. BAYAT, *Administrative Patent Judges*.

BAYAT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 3–7, 9–11, 13–17, and 19–22. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE DECISION

We AFFIRM-IN-PART.<sup>2</sup>

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<sup>1</sup> Appellants identify the real party in interest as International Business Machines Corporation. App. Br. 1.

## INVENTION

Appellants' claimed invention relates to a method and system for determining a restocking state of a product. Spec. ¶ 1. Independent claim 1, reproduced below, is representative of the subject matter on appeal. App. Br. 22, Claims App'x.

1. A method for determining a restocking state of a product, comprising:

acquiring an image of a current state of a product at an assigned shelf location;

determining, using a computer system, a remaining number of the product at the assigned shelf location based on the acquired image by comparing the acquired image to an empty shelf image of the assigned shelf location, wherein the empty shelf image is a stored reference image, and wherein the comparing the acquired image to the empty shelf image includes differentiating an object that is not the product and excluding the object from the remaining number;

comparing the remaining number of the product at the assigned shelf location to a predetermined restocking level for the product; and

generating a restocking alert if the remaining number of the product at the assigned shelf location is less than the predetermined restocking level for the product.

## REJECTIONS

The following rejections are before us for review.

Claims 11–16 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

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<sup>2</sup> Our decision references Appellants' Appeal Brief ("App. Br.," filed Sept. 6, 2011), Reply Brief ("Reply Br.," filed Feb. 7, 2012), and the Examiner's Answer ("Ans.," mailed Dec. 8, 2011).

Claims 1, 3–7, 9–11, 13–17, and 19 are rejected under 35 U.S.C. § 103(a) as unpatentable over Li (US 2003/0004784), Roseen (US 2003/0164754), and Fleisch (US 2007/0069867).

Claims 20–22 are rejected under 35 U.S.C. § 103(a) as unpatentable over Li, Roseen, Fleisch and further in view of Hamilton (US 2008/0306787).

### FINDINGS OF FACT

We have determined that the findings of fact in the Analysis section below are supported at least by a preponderance of the evidence.<sup>3</sup>

### ANALYSIS

#### *Nonstatutory Rejection*

Appellants argue that the rejection of claims 11–16 under 35 U.S.C. § 101 as being directed to nonstatutory subject matter is improper, because independent “[c]laim 11 does not claim a ‘propagated carrier signal[]’ . . . [and] [c]ertainly, the phrase ‘computer readable medium’ encompasses a vast variety of ‘tangible medium.’” App. Br. 6.

As the Examiner points out, the Specification describes that the claimed “computer-readable medium” may comprise information conveyed by “a modulated data signal.” Spec. ¶ 35, *See* Ans. 14.

“A transitory, propagating signal . . . is not a ‘process, machine, manufacture, or composition of matter.’ Those four categories define the explicit scope and reach of subject matter patentable under 35 U.S.C. § 101; thus, such a signal cannot be patentable subject matter.” *In re Nuijten*,

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<sup>3</sup> *See Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Patent Office).

500 F.3d 1346, 1357 (Fed. Cir. 2007). Claims that are so broad that they read on nonstatutory as well as statutory subject matter are unpatentable. *Cf. In re Lintner*, 458 F.2d 1013, 1015 (CCPA 1972) (“Claims which are broad enough to read on obvious subject matter are unpatentable even though they also read on nonobvious subject matter.”). *See Subject Matter Eligibility of Computer Readable Media*, 1351 Off. Gaz. Pat. Office 212 (Feb. 23, 2010).

In light of the Specification, claims 11–16 are broad enough to read on a transitory, propagating signal containing information and are not limited to a tangible medium within one of the statutory classes of 35 U.S.C. § 101. Thus, claims 11–16 are not directed to patent eligible subject matter according to *Nuijten* and consequently, the rejection of these claims as being directed to nonstatutory subject matter is sustained.

#### *Obviousness Rejection*

*Claims 1, 3, 4, 6, 7, 9–11, 13, 14, 16, 17, and 19–22*

Appellants argue independent claims 1, 7, 11, 17, and 19 as a group. App. Br. 7–19, Reply Br. 1–3. We select claim 1 as being representative. The remaining claims stand or fall with claim 1. 37 C.F.R. § 41.37 (c)(1)(vii)(2011).

In rejecting claim 1 as obvious over Li, Roseen, and Fleisch, the Examiner acknowledges that Li does not disclose “comparing the acquired image to an empty shelf image of the assigned shelf location, . . . wherein the empty shelf image is a stored reference image,” and relies on Roseen to cure this deficiency. Ans. 7.

Appellants contend that Roseen does not compare the acquired image to an empty shelf image stored as a reference image, as required by claim 1. App. Br. 7–8, Reply Br. 2.

We disagree. Although Roseen does not explicitly disclose a “reference image,” we agree with the Examiner that the argued claim limitation can reasonably be interpreted as reading on the combination. As cited by the Examiner, Roseen discloses

Due to the fact that changes of the content of the cabinet 1 can only take place when the cabinet door is open it is sufficient that pictures are taken by the cameras 3 every time the cabinet door is being closed. The latest pictures are compared to those taken immediately before and the computer 5 records the changes.

Roseen ¶ 32, emphasis added, *See* Ans. 14–15. The Examiner reasons that each acquired image in Roseen is compared to a previously stored image, and because the previously stored image may be taken before any items are on the shelf in the refrigerator, that image can serve as an empty storage image of the designated storage location, as claimed. Ans. 7, 15. In other words, because pictures are taken every time the cabinet door is being closed, it is reasonable to presume that pictures are taken at some point when the shelf is empty. And by comparing the empty shelf pictures taken immediately before (stored reference image) to the latest pictures (acquired image of a current state of a product) to record changes on the shelf, Roseen teaches the disputed limitation.

Appellants also dispute the Examiner’s finding that Fleisch teaches “differentiating an object that is not the product and excluding the object from the remaining number,” arguing that “differentiating between objects’

is not the same as ‘differentiating an object that is not the product.’” Reply Br. 3.

The Examiner finds that Fleisch teaches the ability “to differentiate between a small number of shapes of [the] bottom [of the stocked goods] if the logical allocation of the support for the goods to be stored to a group of commodities is clearly determined.” Ans. 17, citing Fleisch ¶ 29. Fleisch also discloses

Optical systems, in particular, permit a good resolution and identification of commodities. Such an optical system can be realized, for example, by using CCD or CMOS cameras and image processing software that is known per se. In addition to the matrix-like arrangement of sensors in the camera types, pure linear arrays can be used as line-like cameras. In an image recorded by an optical sensor, individual goods can be identified, and their type as well as their quantity can thus be determined.

Fleisch ¶ 31, emphasis added. By differentiating between shapes of bottoms of items and determining the identification and quantity of the items, the Examiner reasons that Fleisch performs the function recited in the contested limitation. We are not persuaded by Appellants’ argument because in order to identify and determine the quantity of specific items on the shelf, Fleisch differentiates between one commodity or product and another object.

Accordingly, we sustain the rejection of independent claim 1 and the remaining claims that fall with claim 1.

*Claims 5 and 15*

Claims 5 and 15 require a “product map detailing the assigned shelf location of each of the plurality of different products.” The Examiner relies on Li at paragraph 28 for teachings this limitation. The Examiner reasons

that because Li's "surveillance mechanism is used to determine presence, type, quantity of objects such as inventory, it should determine which shelf has what inventories and what quantities." Ans. 19.

Appellants argue that nothing in the cited paragraph describes a "map detailing the assigned shelf location," as recited in claims 5 and 15. Reply Br. 3-4. We agree.

It appears the Examiner is relying on the theory of inherency in rejecting claims 5 and 15. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1463-64 (BPAI 1990) (citations omitted). The Examiner has not done so here. Thus, the Examiner has not established a prima facie case of obviousness with respect to claims 5 and 15.

Therefore, we will not sustain the rejections of claims 5 and 15.

#### DECISION

The rejection of claims 11-16 under 35 U.S.C. § 101 is AFFIRMED.

The rejection of claims 1, 3, 4, 6, 7, 9-11, 13, 14, 16, 17, and 19-22 under 35 U.S.C. § 103 is AFFIRMED.

The rejection of claims 5 and 15 under 35 U.S.C. § 103 is REVERSED.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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