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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEPHEN E. HANNAH, SCOTT J. CARTER and JESSE M. JAMES

Appeal 2011-008385
Application 12/200,804
Technology Center 3600

Before EDWARD A. BROWN, WILLIAM V. SAINDON and MICHAEL L. HOELTER, *Administrative Patent Judges*.

HOELTER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

This is a decision on appeal, under 35 U.S.C. § 134(a), from a final rejection of claims 1-19. App. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

THE CLAIMED SUBJECT MATTER

The disclosed subject matter pertains to a method, system and apparatus "for tracking the locations and statuses of vehicles, such as shopping carts." Spec., para. [0006]. Independent claim 1 is illustrative of the claims on appeal and is reproduced below:

> 1. A method of estimating a number of carts clustered together in an area that comprises a plurality of carts, the method comprising:
>
> causing each of the plurality of carts to generate a radio frequency (RF) transmission;
>
> at each respective cart, generating Received Signal Strength Indication (RSSI) values for the transmissions received from the other carts; and
>
> collectively analyzing the RSSI values generated at the carts to estimate how many of the carts are clustered together.

REFERENCES RELIED ON BY THE EXAMINER

Ekchian	US 4,862,160	Aug. 29, 1989
Moreno	US 5,315,290	May 24, 1994
Wieth	US 7,218,225 B2	May 15, 2007

THE REJECTIONS ON APPEAL[1]

1. Claims 1, 2, 11-14 and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Moreno and Ekchian. Ans. 3.

[1] The specific claims subject to each rejection was clarified by the Examiner in a Miscellaneous Communication mailed Aug. 20, 2010. Appellants responded accordingly in their briefs.

2. Claims 3-10, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Moreno, Ekchian and Wieth. Ans. 5.

ANALYSIS

Appellants argue each independent claim (i.e. claims 1, 11, 12 and 14) separately. App. Br. 6-12. Claim 1 is a method claim, claims 11 and 12 are system claims while claim 14 is an apparatus claim. We likewise address each claim separately.

The rejection of independent method claim 1 as being unpatentable over Moreno and Ekchian

Claim 1 includes the step of generating, "at each respective cart," received signal strength indication (RSSI) values "for the transmissions received from the other carts." Claim 1 also includes the step of collectively analyzing these RSSI values "generated by the carts" in order "to estimate how many of the carts are clustered together."

The Examiner relies on Moreno for teaching other claim limitations and relies on Ekchian for teaching the above limitations. Ans. 4. More specifically, the Examiner finds that Ekchian "teaches a method of estimating a number of items clustered together in an area that comprises a plurality of carts" and also the generation of RSSI values and the analyzing of these values "to estimate how many of the items are clustered together." Ans. 4.

Appellants disagree and contend that Ekchian "merely identifies the products in the vicinity of the wheeled cart as being within one or more SKU's, without attempting to estimate how many of the products are clustered together." Ans. 7, *see also* Reply Br. 3.

Ekchian discloses a wheeled cart that repeatedly sweeps through a set of frequencies to interrogate a plurality of groups of items within the cart's range. Ekchian Abstract. Items in each group are tagged with a responder having a unique identifier (e.g., a stock keeping unit SKU) associated with that group. Ekchian Fig. 1, Abstract, 2:2-6. Ekchian also discloses that the strength of the signal returned to the cart from the tagged item is measured and stored and also that the on-board computer displays the "total number of units in the given SKU." Ekchian 3:15-25. While Ekchian is silent regarding any clustering of common SKU items, the Examiner finds that Fig. 1 "shows items on the shelf clustered together" and provides a definition of "clustered." Ans. 10-11. We agree that Ekchian's Fig. 1 discloses products in clusters, and that Ekchian discloses counting the items having the same SKU however, the Examiner does not indicate where Ekchian discloses any calculations or estimations to indicate whether like products are clustered together on the peg rack or whether they are spaced apart from each other and/or intermixed with products of other groups when the sweep is made. In other words, while Ekchian determines the number of like items, the Examiner does not indicate where Ekchian teaches the determination of whether the items counted are clustered together or not. Accordingly, we agree with Appellants that "Ekchian's system merely determines the number of items within a particular group (as determined by tags having a particular SKU frequency set)" and does not disclose the step of collectively analyzing received values to estimate clustering, as claimed. Reply Br. 3.

Appellants acknowledge that "the Examiner is equating Ekchian's shelved items with carts" and even assuming this to be proper, Appellants

contend that "Ekchian fails to teach or suggest that each of the shelved items receives transmissions from the other shelved items and generates RSSI values in response to the received transmissions." Reply Br. 3. Appellants contend that this is "because the tags 22 of Ekchian do not generate RSSI values for received transmissions, much less for transmissions received from a plurality of carts." App. Br. 8, Reply Br. 2. We agree that Ekchian ascertains the computed number of items based on signals received from each tagged item, but we are not informed where Ekchian's tags themselves generate RSSI values for transmissions received from other like items. Accordingly, we reverse the rejection of independent claim 1 and dependent claims 2-10 and 18.

The rejection of independent system claim 11
as being unpatentable over Moreno and Ekchian

Claim 11 includes limitations similar to those discussed above with respect to claim 1 and particularly the limitations of "at each respective cart, generating RSSI values for the transmissions received from the other carts" and "collectively analyzing the RSSI values generated at the carts to estimate how many of the carts are clustered together." The Examiner does not provide a separate rationale for the rejection of claim 11 but instead relies on "the same art and rationale used to reject claim 1." Ans. 7, *see also* 13. As we find deficiencies in the rationale applied to claim 1, we likewise reverse the rejection of independent claim 11.

The rejection of independent system claim 12
as being unpatentable over Moreno and Ekchian

Claim 12 includes the limitation of "wherein the wheels are configured to measure signal strengths of transmissions from other wheels" and further that these signals are analyzed "to identify carts that are clustered together." The Examiner specifically relies on "the same art and rationale used to reject claim 1" (Ans. 7) and further contends that "one cannot show nonobviousness by attacking references individually" (Ans. 14). The Examiner does not indicate where Appellants argue Moreno and Ekchian "individually." To the contrary, Appellants contend that "Moreno and Ekchian do not *collectively* teach or suggest" certain limitations (italics added). App. Br. 10, Reply Br. 5. The Examiner reiterates that "Ekchian teaches items clustered together" and as indicated previously, it is not disputed that Ekchian discloses items clustered together. *See* e.g., Fig. 1. However, the Examiner does not indicate where Ekchian discloses wheels "configured to measure signal strength of transmissions from other wheels" or where such signals are analyzed "to identify carts that are clustered together." Accordingly, we reverse the rejection of independent claim 12 and dependent claims 13 and 19.

The rejection of independent apparatus claim 14
as being unpatentable over Moreno and Ekchian

Claim 14 includes the limitation of communication circuitry "configured to receive radio frequency transmissions from other shopping cart wheel assemblies of other shopping carts" and further that the "transmissions received from the other shopping cart wheel assemblies" include signal strength data to enable the detection of "clusters of shopping carts." The Examiner finds that "claim 14 is rejected using the same art and rationale used to reject claim 1" (Ans. 7). Appellants contend that Moreno

and Ekchian do not teach of suggest communication circuitry that receives transmissions from other wheel assemblies as claimed. App. Br. 11, *see also* Reply Br. 8. The Examiner does not identify where Ekchian discloses communication circuitry that receives "transmissions from other shopping cart wheel assemblies of other shopping carts" or where Ekchian discloses that such transmissions include signal strength data used to "detect clusters of shopping carts" as claimed. Accordingly, we reverse the rejection of independent claim 14 and dependent claims 15-17.

DECISION

The Examiner's rejections of claims 1-19 are reversed.

REVERSED

JRG