Ex parte KEISUKE AOYAMA, KOJIRO TOYOSHIMA, and YOSHITAKA EZAKI

Appeal 2009-006755
Application 10/798,505
Technology Center 3600

Decided: November 17, 2009


DECISION ON APPEAL
STATEMENT OF THE CASE

Keisuke Aoyama, Kojiro Toyoshima, and Yoshitaka Ezaki (Appellants) seek review under 35 U.S.C. § 134 (2002) of a final rejection of claims 11-14, 21-36, and 38, the only claims pending in the application on appeal.

We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

The Appellants invented a way of distribution change management that allows a single entity to control distribution through warehouses controlled by multiple entities. (Specification 1:¶ 001).

An understanding of the invention can be derived from a reading of exemplary claims 11 and 26, which are reproduced below [bracketed matter and some paragraphing added].

11. A system for supply chain management comprising:

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1 Our decision will make reference to the Appellants’ Appeal Brief (“App. Br.,” filed February 23, 2007) and Reply Brief (“Reply Br.,” filed February 3, 2009), and the Examiner’s Answer (“Answer,” mailed December 24, 2008).
[1] an order controller system

including reverse logistics means for generating transfer
data; and

[2] a warehouse system

receiving the transfer data and generating shipping data.

26. A method for supply chain management comprising:

[1] receiving

warehouse inventory data and
distribution center inventory data and
generating reverse logistics data
to modify a distribution of inventory at a first warehouse
and a second warehouse;

[2] receiving the reverse logistics data

at a first warehouse system and
generating shipping data; and

[3] receiving the reverse logistics data

at a second warehouse system and
generating shipping data.

THE REJECTIONS

The Examiner relies upon the following prior art:

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<th>Inventor</th>
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Claims 26-36 and 38 stand rejected under 35 U.S.C. § 101 as directed to
non-statutory subject matter.
Claims 11-14, 21-24, 26, and 31 stand rejected under 35 U.S.C. § 102(a) as anticipated by Yang.


Claim 38 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Yang.

ARGUMENTS

Claims 26-36 and 38 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

The Examiner raised this rejection for the first time in the Answer at 3-5, finding that these claims failed the Bilski machine or transformation test. The Appellants argue that the claims require the use of data processing equipment and transform the location of inventory. Reply Br. 9-13.

Claims 11-14, 21-24, 26, and 31 rejected under 35 U.S.C. § 102(a) as anticipated by Yang.

The Appellants argue several limitations as missing from Yang in claims 11-13, 21-24, 26, and 31. The principal argument regarding independent claims 11 and 26 is with regard to the reverse logistics means and data. App. Br. 11-18.


Claim 38 rejected under 35 U.S.C. § 103(a) as unpatentable over Yang.
The Appellants argue the Examiner failed to present a prima facie basis for these rejections. App. Br. 18-22).

ISSUES

The issue of whether the Appellants have sustained their burden of showing that the Examiner erred in rejecting claims 26-36 and 38 under 35 U.S.C. § 101 as directed to non-statutory subject matter turns on whether the claims transform something or are tied to a particular machine or apparatus.

The issue of whether the Appellants have sustained their burden of showing that the Examiner erred in rejecting claims 11-14, 21-24, 26, and 31 under 35 U.S.C. § 102(a) as anticipated by Yang turns on the construction of reverse logistics means and whether Yang describes the argued limitations.

The issues of whether the Appellants have sustained their burden of showing that the Examiner erred in rejecting claims 25, 27-30, and 32-36 under 35 U.S.C. § 103(a) as unpatentable over Yang and Singh and in rejecting claim 38 under 35 U.S.C. § 103(a) as unpatentable over Yang turn on the construction of reverse logistics means and whether the claims were predictable to one of ordinary skill in view of the art.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to Claim Construction
01. The disclosure contains no lexicographic definition of “reverse logistics.”

Facts Related to Appellants’ Disclosure

02. Figure 8 is a flowchart of a method 800 for reverse logistics in accordance with an exemplary embodiment. Specification ¶ 0088. Figure 8 contains a series of decision boxes each containing a decision of whether to transfer product and if so, transferring control to a box to generate shipping data.

03. There is no structure or algorithm for generating transfer data disclosed in the discussion of Figure 8 at Specification paragraphs’ 0088-93. These paragraphs do discuss generating shipping data, but again without disclosing any structure or algorithm for doing so.

04. The only disclosed apparatus for generating shipment data or for receiving inventory data is a system for supply chain management. Specification ¶ 0006. This shipping data can be generated by order controller systems, warehouse systems and distribution systems. Specification ¶ 0027.

05. The shipping data can be generated based upon order data, order allocation data to warehouses, inventory data, and other suitable data. Specification ¶ 0069. Thus, the basis for generating shipping data is open ended.

Facts Related to the Prior Art

Yang
06. Yang is directed to electronic commercial transactions and in particular to an electronic marketplace providing service parts inventory planning and management. Yang ¶ 0002.

07. Yang specifically describes reverse logistics. Yang describes a growing requirement for many enterprises as the ability to better manage the "reverse logistics" flow of service parts that are defective or are otherwise returned for replacement or repair. The flow of such aftermarket service parts may often provide a valuable source of re-salable service parts, potentially reducing the need to purchase or manufacture new service parts. Enterprises which effectively manage reverse logistics flows can reduce their costs significantly. Yang ¶ 0004.

08. Yang uses a parts inventory management system to control parts inventory at many locations. Parts are transferred among stocking locations to meet planned inventory needs. Yang’s system receives inventory level data at one or more stocking locations in a supply chain. Yang ¶ 0007.

09. Yang’s supply chain includes those that use, manufacture, distribute or sell parts. Yang ¶ 0008.

10. Yang describes a "reverse logistics" or other returns supply chain as used for eventual insertion of parts back into a supply chain. Yang ¶ 0021.

11. Yang describes how excess inventory and inventory needed to meet plans can be transferred among inventory stocking locations. Yang ¶ 0037.
12. Where traceability is important, traceability documents are provided for parts transfers. Yang ¶ 0043.


14. Yang describes iterating inventory transfers until stocking levels at one or more stocking locations within the supply chain are consistent with the optimal inventory plan. Yang ¶ 0053.

15. Yang describes how an internal distribution network of a supply chain forms an internal warehouse hierarchy. The lower levels of the warehouse hierarchy place demands on higher levels. There is often a need to move inventory between distribution centers within the supply chain to offset needs using excesses. Distribution centers may need to be replenished from outside the internal warehouse hierarchy of distributor if a distribution center at a first level cannot meet the demand from one or more distribution centers at a second higher level. Distribution centers at the second level may need to procure service parts from outside supply chain due to the lack of supply from the distribution center at the first level. A primary difference between reliance on other distribution centers within the supply chain and reliance on such "out-of-network" sources is the lack of visibility into and control over inventory associated with the "out-of-network" sources. Yang ¶ 0019-20.

Singh
16. Singh is directed to supply chain planning and demand forecasting for proactively predicting demand across multiple levels of the supply chain so as to avoid costly mismatches of demand and supply. Singh ¶ 0002.

17. Singh describes taking new product promotions into consideration for planning inventory levels. Singh ¶'s 0080 – 82.

Facts Related To The Level Of Skill In The Art

18. Neither the Examiner nor the Appellants have addressed the level of ordinary skill in the pertinent arts of systems analysis and programming, inventory controls systems and distribution system design. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. See Okajima v. Bourdeau, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown’”) (quoting Litton Indus. Prods., Inc. v. Solid State Sys. Corp., 755 F.2d 158, 163 (Fed. Cir. 1985)).

19. One of ordinary skill knew that any inventory management system that tracked parts at various locations necessarily had to document transfers or shipments among locations to accurately maintain inventory data.

PRINCIPLES OF LAW

Patentable Subject Matter – Statutory Processes

The en banc court in *Bilski* held that "the machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under 101." *Bilski*, 545 F.3d at 956. The court in *Bilski* further held that "the 'useful, concrete and tangible result' inquiry is inadequate [to determine whether a claim is patent-eligible under 101.]" *Bilski*, 545 F.3d at 959-60.

The court explained the machine-or-transformation test as follows: "A claimed process is surely patent-eligible under 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." *Bilski*, 545 F.3d at 954 (citations omitted). The court explained that "the use of a specific machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility" and "the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity." *Bilski*, 545 F.3d at 961-62 (citations omitted). As to the transformation branch of the inquiry, the court explained that transformation of a particular article into a different state or thing "must be central to the purpose of the claimed process." *Id.*

**Anticipation**

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art
A claimed invention is unpatentable if the differences between it and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).

In *Graham*, the Court held that that the obviousness analysis is bottomed on several basic factual inquiries: “[1] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.” *Graham*, 383 U.S. at 17. *See also KSR*, 550 U.S. at 406. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416.
ANALYSIS

Claims 26-36 and 38 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

We apply the machine-or-transformation test, as described in *Bilski*, to determine whether the subject matter of process claims 26-36 and 38 are patent-eligible under 35 U.S.C. § 101.

Process claims 26-36 and 38 recite a series of process steps that are not tied in any manner to a machine. In other words, these claims do not limit the process steps to any specific machine or apparatus. Each of the steps receives and generates data. The steps do not recite any machine or algorithm for receiving and generating such data. The Appellants argue that the claims require the use of data processing equipment (Reply Br. 10), but no such equipment is recited in the claims. Thus, the claims fail the first prong of the machine-or-transformation test because they are not tied to a particular machine or apparatus. The steps of these process claims also fail the second prong of the machine-or-transformation test because the data does not represent physical and tangible objects. Rather, the data represents information about inventory, which is an asset category rather than any specific physical item. Inventory data may be no more than item identifiers, which themselves are intangible. Thus, the processes of claims 26-36 and 38 fail the machine-or-transformation test and are not patent-eligible under 35 U.S.C. § 101.

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2 Because the data does not represent physical and tangible objects, we need not reach the issue of whether mere calculation of a number based on inputs of other numbers is a sufficient “transformation” of data to render a process patent-eligible under § 101.
Claims 11-14, 21-24, 26, and 31 rejected under 35 U.S.C. § 102(a) as anticipated by Yang.

Claim 11.

The Appellants argue that Yang fails to describe a reverse logistics means as described by process 800 in the Specification. Claim 11 specifies that the reverse logistic means is for generating transfer data. This limitation is expressed as a means plus function, and the Appellants have confirmed that the limitation is to be construed as such. App. Br. 12-13.

The first step in construing a means-plus-function claim limitation is to define the particular function of the claim limitation. Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1376 (Fed.Cir.2001). “The court must construe the function of a means-plus-function limitation to include the limitations contained in the claim language, and only those limitations.” Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002). [] Ordinary principles of claim construction govern interpretation of this claim language, see id., [].

The next step in construing a means-plus-function claim limitation is to look to the specification and identify the corresponding structure for that function. “Under this second step, ‘structure disclosed in the specification is “corresponding” structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.’ ” Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1210 (Fed.Cir.2003) (quoting B. Braun Med. Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed.Cir.1997)).
The reverse logistics means then must be construed to cover the corresponding structure, material, or acts described in the specification and equivalents for performing the recited function, viz. generating transfer data. The claim does not further narrow the nature of the transfer data, nor the manner of generation. The Appellants cite the disclosure regarding reference 800 in Fig. 8 and paragraphs 0088-93 in the Specification as showing the support for the claimed function. We construe the function of generating transfer data according to its plain meaning, which is creating data concerned with some transfer.

We agree that Fig. 8 portrays an exemplary embodiment of a reverse logistics method. However, the only disclosure related to generating transfer data is the set of steps labeled as generating shipping data. The disclosed structure for generating shipping data is a system for supply chain management that might contain order controller, warehouse, or distribution systems for generating such shipping data. Thus the issue is whether Yang describes such a system for generating shipping data.

The Appellants argue that Yang fails to describe receiving warehouse and distribution inventory data, comparing warehouse and distribution center data, and determining whether to transfer product as in the Fig. 8 flowchart. All of these functions argued by the Appellants are beyond generating transfer data, and thus “are superfluous to our claim construction analysis because they are not required for performing the claimed function.” While these functions may decide which data to generate, they are separate
from the function of generating that data once decided. The flowchart in the
Appellants’ Fig. 8 implicitly acknowledges this dichotomy my presenting
the generation in boxes separate from the decisions.

The Examiner found that Yang described a reverse logistics process in
an inventory management system. Answer 5. We agree that Yang describes
an inventory management system (FF 08) and a reverse logistics process
with that system (FF 07 & 10). Parts are transferred among locations within
the system according to decisions based on planned needs and actual levels.
FF 08 & 11. One of ordinary skill knew that any inventory management
system that tracked parts at various locations had to document transfers or
shipments among locations. FF 19. Thus, we agree with the Examiner that
Yang described a reverse logistics process in a distribution system that had
structure equivalent to that disclosed in the Specification for generating
transfer data. As this is the only issue argued with regard to claim 11, this is
dispositive.

Claims 12 and 21.

Claim 12 further requires a distribution system receiving the transfer
data and generating shipping data. The Examiner found that Yang’s
inventory management system did so. Answer 6. The Appellants argue that
Yang’s reverse logistics data is not transfer data. The Appellants first
contend that reverse logistics within the claims is defined as process 800.
App. Br. 13. We do not agree, since the Specification provides no definition
of reverse logistics (FF 01) and the reverse logistics process shown as
reference 800 in Fig. 8 is an exemplary embodiment only. FF 02.
The Appellants further contend that the reverse logistics disclosed is hierarchical where Yang is not and that Yang fails to disclose structure that facilitates product rollout. App. Br. 13-14. The pertinence of these arguments is unknown since nothing in claim 12 refers to hierarchical structures or product rollouts. Thus, we must disagree with the Appellants.

Claim 21 is another independent claim that again contains the reverse logistics means limitation as in claim 11, but whose function also includes receiving warehouse inventory data and distribution center inventory data. As with generating data, the structure disclosed for receiving data is a system for supply chain management that might contain an order controller, a warehouse, or distribution systems. FF 04. As we found with claim 11, Yang describes this. The Appellants again argue the absence of a hierarchical distribution system (App. Br. 14) which is not pertinent in view of the lack of any claim limitation regarding hierarchy.

Claim 13.

Claim 13 further requires the order controller system having an internal warehouse order system receiving the shipping data and modifying internal warehouse order data in response to the shipping data. The Examiner found that Yang’s inventory management system did so. Answer 6. The Appellants argue that Yang does not describe internal warehouses. App. Br. 14. We do not agree, since Yang describes multiple inventory locations (FF 08) and any inventory location warehouses inventory at that location.

Claims 14 and 22-24.

Claims 14 and 24 further require receiving the shipping data and modifying inventory data in response to the shipping data. The Examiner
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found that Yang’s inventory management system did so. Answer 6 & 7. The Appellants repeat their argument that Yang does not describe hierarchical distribution (App. Br. 15-16) which is not pertinent in view of the lack of any claim limitation regarding hierarchy.

Claims 14 and 22-24.

Claims 14 and 22-24 further require receiving the shipping data and modifying inventory data in response to the shipping data. The Examiner found that Yang’s inventory management system did so. Answer 6-7. The Appellants repeat their argument that Yang does not describe hierarchical distribution (App. Br. 15-16) which is not pertinent in view of the lack of any claim limitation regarding hierarchy.

Claims 26 and 31.

The Appellants argue that Yang fails to describe warehouse or distribution center inventory data, two separate generations of shipping data, use of reverse logistics to generate shipping data, or even a warehouse in independent method claim 26. App. Br. 16-17. The Examiner found that Yang’s inventory management system did so. Answer 7-8.

The Appellants’ arguments appear to rely on two premises: (1) that the reverse logistics data is generated in response to receiving warehouse inventory data and distribution center data and that shipping data is generated in response to reverse logistics data and (2) that Yang fails to describe such transactions at a warehouse, being a long term storage facility.

We agree with the Examiner that the features upon which Appellant relies, *viz.* the reverse logistics data generated in response to receiving data and shipping data generated in response to reverse logistics data, are not
recited in claim 26. Although the claims are interpreted in light of the
specification, limitations from the specification are not read into the claims.

*See In re Van Geuns*, 988 F.2d 1181, 1184-5 (Fed. Cir. 1993). Although
limitation [1] recites receiving warehouse and distribution center data and
generating reverse logistics data, nothing in that limitation recites any causal
connection between the two operations. Similarly, although limitations [2]
and [3] recite receiving reverse logistics data and generating shipping data,
nothing in those limitations recites any causal connection between the two
operations.

Clearly any reverse logistics data used by Yang to record receipts of
inventory requires accessing, i.e. receiving inventory quantity data to be
updated, fulfilling limitation [1], and any shipping data used to update
inventory data requires some inventory movement transaction that
necessitated the shipment. This sequence in Yang of receiving the inventory
data prior to generating reverse logistics data also answers the Appellants’
follow up argument that Yang fails to use this sequence. Reply Br. 13. For
those transactions that involved Yang’s reverse logistics data, such reverse
logistics data are the transactional records to record that inventory
movement and which necessitate shipping data to record the movement, thus
fulfilling limitations [2] and [3].

As to any distinction between a warehouse and a distribution center,
there is none so defined in the Specification. The Appellants cite
Specification ¶ 0056 (App. Br. 17), but this paragraph merely describes an
exemplary embodiment of a distribution system. Certainly, Yang describes
stocking locations (FF 08) used by manufacturers, distribution centers and
customers. FF 07 - 08. Stocking locations at customers, manufacturers and
users would generally be considered warehouses, as they warehouse stock at such locations. Yang also describes distribution centers. FF 13. Yang’s system maintains transactions among various entities including these stocking locations at customers, users, manufacturers, and distribution centers. Yang also describes creating multiple shipments among stocking locations. FF 14. Thus, Yang describes limitation [1] of receiving warehouse and distribution center inventory data and limitations [2] and [3] of generating shipping data. In those instances that the transaction involves parts returns, Yang creates reverse logistics data. FF 07. Although the Appellants contend the Examiner misconstrued the term reverse logistics data (App. Br. 16), Yang explicitly recites using reverse logistics that creates data for updating inventory levels. FF 07. Again, claim 26 recites no specific connection between the reverse logistics data and the inventory data and shipping data. Thus, we conclude that the Examiner did not err in rejecting claim 26.

Claim 31 further requires giving priority in maintaining predetermined inventory levels at a warehouse that is operated by an operator of a supply chain management system relative to warehouses not so operated. The Examiner found that Yang uses an internal warehouse and only looks to an external warehouse when supply is unavailable internally. Answer 8. The Appellants argue that this does not describe maintaining inventory levels at a first relative to a second warehouse. Reply Br. 15. The Appellants appear to be contending that because claim 31 incorporates the two warehouses from claim 26, an external warehouse is irrelevant to the claim.

We agree with the Appellants. Yang’s system would not provide reverse logistics information and create shipping information for a warehouse.
outside the system, if only by definition of a system. Thus, we agree with the
Appellants that as to this rejection, the inclusion of claim 31 was in error.

Claims 25, 27-30, and 32-36 rejected under 35 U.S.C. § 103(a) as
unpatentable over Yang and Singh.

Although the Appellants argue each of these claims individually, the
arguments are largely repeated among all these claims. These claims are
marked by the introduction of promotional product data, particularly for new
product roll outs. The Examiner applied Singh for these limitations. We
find that Singh does in fact describe taking new product promotions into
consideration for planning inventory levels. FF 17. The Appellants argue
that Singh is not directed to supply chain management and that neither
reference describes retail locations. App. Br. 18-21. As to whether Singh is
directed to supply chain management,

Claim 38 rejected under 35 U.S.C. § 103(a) as unpatentable over Yang.

Claim 38 further requires using regularly scheduled vehicles to transfer
inventory. The Examiner took official notice of the practice of using such
vehicles. Ans.10-11. The Appellants argue that it is not the use of such
vehicles per se that is the key limitation, but rather the limitations of claim
26, from which claim 38 depends. Reply Br. 21. We agree with the
Examiner that the use of regularly scheduled vehicles is notoriously well
known and was a predictable mode of transport, even for deliveries that were
unplanned, because the virtue of regular scheduling is that there will always
be a regularly scheduled vehicle available some time after an unplanned
need arises. As to claim 26, we found the Appellants’ argument
unpersuasive supra.
CONCLUSIONS OF LAW

The Appellants have not sustained their burden of showing that the Examiner erred in rejecting claims 26-36 and 38 under 35 U.S.C. § 101 as directed to non-statutory subject matter.

The Appellants have not sustained their burden of showing that the Examiner erred in rejecting claims 11-14, 21-24, and 26 under 35 U.S.C. § 102(a) as anticipated by Yang.

The Appellants have sustained their burden of showing that the Examiner erred in rejecting claim 31 under 35 U.S.C. § 102(a) as anticipated by Yang.

The Appellants have not sustained their burden of showing that the Examiner erred in rejecting claims 25, 27-30, and 32-36 under 35 U.S.C. § 103(a) as unpatentable over Yang and Singh.

The Appellants have not sustained their burden of showing that the Examiner erred in rejecting claim 38 under 35 U.S.C. § 103(a) as unpatentable over Yang.

DECISION

To summarize, our decision is as follows.

- The rejection of claims 26-36 and 38 under 35 U.S.C. § 101 as directed to non-statutory subject matter is sustained.
- The rejection of claims 11-14, 21-24, and 26 under 35 U.S.C. § 102(a) as anticipated by Yang is sustained.
• The rejection of claim 31 under 35 U.S.C. § 102(a) as anticipated by Yang is not sustained.

• The rejection of claims 25, 27-30, and 32-36 under 35 U.S.C. § 103(a) as unpatentable over Yang and Singh is sustained.

• The rejection of claim 38 under 35 U.S.C. § 103(a) as unpatentable over Yang is sustained.

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

AFFIRMED-IN-PART

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