

Filed on behalf of ST Reproductive Technologies, LLC.
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Paper No. 43
Date Filed:
September 4, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SMAXTEC INC. and
SMAXTEC ANIMAL CARE GMBH,
Petitioners

v.

ST REPRODUCTIVE TECHNOLOGIES, LLC,
Patent Owner

Case IPR2024-00875
Patent No. 9,844,206

PATENT OWNER'S DEMONSTRATIVE EXHIBITS

Inter Partes Reviews of U.S. Patent No. 9,844,206

Case IPR2024-00875

U.S. Patent No. 8,823,515

Case IPR2024-00885

Oral Hearing: September 9, 2025
Patent Owner's Demonstrative Exhibits



(10) Patent No.: US 9,844,206 B2
(15) Date of Patent: 6 Dec. 2017

ABSTRACT

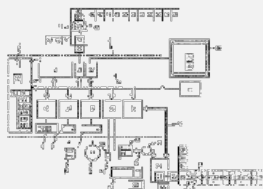
Specifically, a computer implemented animal management program having modules which function to match animal information retrieved from a radiofrequency identification device(s) implanted in an animal(s) with animal information retrieved from a database of at least one computer to assess animal condition and time treatment events.

'206 Abstract

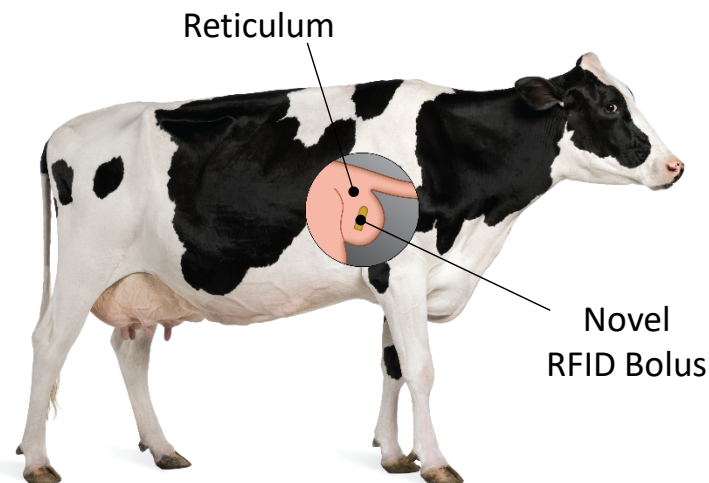
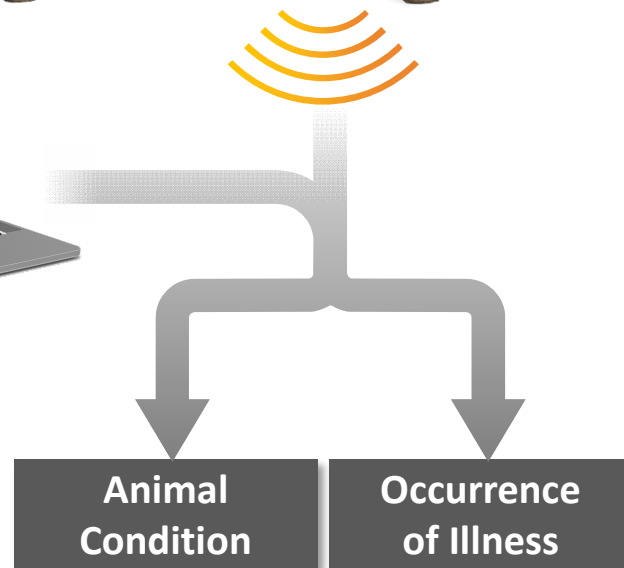
Int. Cl.
G06F 47/00 (2006.01)
A01B 17/00 (2006.01)

(Continued)

24 Claims, 18 Drawing Sheets



Source: Intel. © ST. Regenerative Tech. LLC
Page 6 of 26



OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

PETITIONERS FAIL TO PROVE PUBLIC ACCESSIBILITY OF TREVARTHEN

Petitioners Contend Trevarthen Was Available as Electronic Reference

“Research Online ensures that ‘a digital copy’ of each reference of published in the digital repository ‘is available universally on the Internet and located through search engines such as Google and Yahoo.’”

’206 Pet., 8

“Trevarthen on Research Online could have been located by keyword searching on a search engine, such as Google or Yahoo, by entering terms found in the full text of Trevarthen.”

’206 Ex. 1031, Munford Decl., ¶ 20



Establishing accessibility via search engines requires “evidence that a query of a search engine before the critical date, using any combination of search words, would have led to [the reference] appearing in the search results.”

Blue Calypso, LLC v. Groupon, Inc., 815 F.3d 1331, 1350 (Fed. Cir. 2016).

PETITIONERS FAIL TO PROVE PUBLIC ACCESSIBILITY OF TREVARTHEN

Trevarthen Not Found Using PTAB Recognized “Custom Date Range” Tool



Ms. Knoff

34. I also performed keyword searches using Google’s custom date range functionality and could not locate Trevarthen, which supports my opinion that Trevarthen would not have been findable on Google before September 15, 2009.

’206 Ex. 2011, Knoff Decl., ¶ 34



Dr. Bowser

96. For this declaration, I again personally attempted to recreate the search that Petitioners suggest would have been conducted by a POSA on or before September 15, 2009 or September 15, 2008, and, in doing so, I was unable to locate Trevarthen.

’206 Ex. 2009, Bowser POR Decl., ¶ 96

BLD Servs. v. LMK Techs., No. IPR2014-00770, 2015 WL 7304016, at *7 (P.T.A.B. Nov. 18, 2015), affirmed *per curiam*, 676 F. App’x 1009 (Fed. Cir. 2017)

PETITIONERS FAIL TO PROVE PUBLIC ACCESSIBILITY OF TREVARTHEN

Petitioners' Expert Failed to Find Trevarthen Using Date-Limited Search

5 Q So in your paragraph 8 search, you did not
6 locate Trevarthen, right?

7 A Like I said, we didn't go through every
8 page, but in the pages we did not find Trevarthen.

Ex. 2024, Brown-Brandl Reply Dep., 85:5-8

6 Q And in your review of the results of your
7 paragraph 9 search, you didn't locate Trevarthen,
8 right?

9 A I didn't go through all the pages, but I
10 did not see Trevarthen.

Ex. 2024, Brown-Brandl Reply Dep., 91:6-10

PETITIONERS FAIL TO PROVE PUBLIC ACCESSIBILITY OF TREVARTHEN

International Search Report Does Not Support Petitioners' Argument

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI, internet, AusPat, Patent Lens, PCT Gazette, Esp@cenet, GetThePatent "cattle, rfid, gate etc."		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Trevarthen, A., 'The Importance of Utilising Electronic Identification for Total Farm Management: A Case Study of Dairy Farms on the South Coast of NSW', 2005. See url: < http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1000&context=thesesinfo >. Entire document.	1-25

'206 Ex. 1055, Brown-Brandl Reply Decl., ¶ 16

Brown-Brandl

DWPI, AusPat, Patent Lens, PCT Gazette, Esp@cenet, and GetThePatent "are databases for searching patents or patent applications, not scholarly publications like Trevarthen."

'206 Ex. 1055, ¶ 16.

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'206 Ex. 1055, Brown-Brandl Reply Decl., ¶ 16

Petitioners' Theory Based on Mere Speculation

"Thus, based on the disclosure of the ISR, a POSA would understand that the examiner most likely located Trevarthen through internet searches using terms such as 'cattle,' 'rfid,' 'gate,' etc."

'206 Ex. 1055, ¶ 16.

PETITIONERS FAIL TO PROVE PUBLIC ACCESSIBILITY OF TREVARTHEN

New “Google Scholar” Argument Fails to Show Public Accessibility at Relevant Time

Petitioners Acknowledge It Is “Not Possible” to Show Trevarthen Was Locatable on Google Scholar Before 2009

While it is not possible to recreate what a search of Google Scholar would have revealed back in 2009, these searches support that Trevarthen has been indexed and is locatable on search engines.

'206 Reply, 3

OVERVIEW

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Slides 3-40

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'515 GROUND 1: TREVARTHEN FAILS TO ANTICIPATE CLAIMS 1-2

Petitioners Rely on Combination of Topics in Trevarthen

Claim Element	Trevarthen Topic
"Connecting a computer to an RFID device reader"	Cochrane Farm (Ch. 5)
"RFID device implanted in an animal"	Combination of Literature Review (Ch.2) and Theoretical Framework (Ch. 6)
Reading an RFID device "with a reader"	Combination of Cochrane Farm (Ch.5) and Theoretical Framework (Ch. 6)
Using "milk production" in a "logical expression"	Theoretical Framework (Ch. 6)

'515 GROUND 1: TREVARTHEN FAILS TO ANTICIPATE CLAIMS 1-2

Petitioners' Expert Admits Reliance on Combination of Trevarthen's "Different Systems"

16 Q Now, chapters 4, 5, and 6 of the
17 Trevarthen thesis are describing different
18 systems; right?

19 A Yes.

Ex. 2010, Brown-Brandl Dep., 118:16-19

12 Q (BY MR. LANDERS) All right. So
13 chapters 4, 5, and 6 of Trevarthen are describing
14 three different RFID systems; right?

15 A Three different -- different approaches to
16 using RFID.

EX2010, Brown-Brandl Dep., 119:12-16

'515 GROUND 1: TREVARTHEN FAILS TO ANTICIPATE CLAIMS 1-2



“When a prior-art reference discloses every limitation of the challenged claim only through a combination of multiple embodiments, it does not anticipate the challenged claim.”

Samsung Electronics Co., Ltd. v. Nanoco Technologies, Ltd., IPR2021-00182, Paper 42, 8-12 (P.T.A.B. May 16, 2022) (citing *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370–71 (Fed. Cir. 2008))



To anticipate, reference must “clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.”

In re Arkley, 455 F.2d 586, 587 (C.C.P.A. 1972).

'515 GROUND 1: PETITIONERS' SINGLE REFERENCE OBVIOUSNESS ARGUMENT IS DEFECTIVE

Petitioners Do Not Make Independent Single-Reference Obviousness Argument

“[T]he anticipation and obviousness challenges are grouped together under Ground 1 because ‘it is well settled that ‘a disclosure that anticipates under § 102 also renders the claim invalid under § 103, for anticipation is the epitome of obviousness.’”

'515 Pet., 7

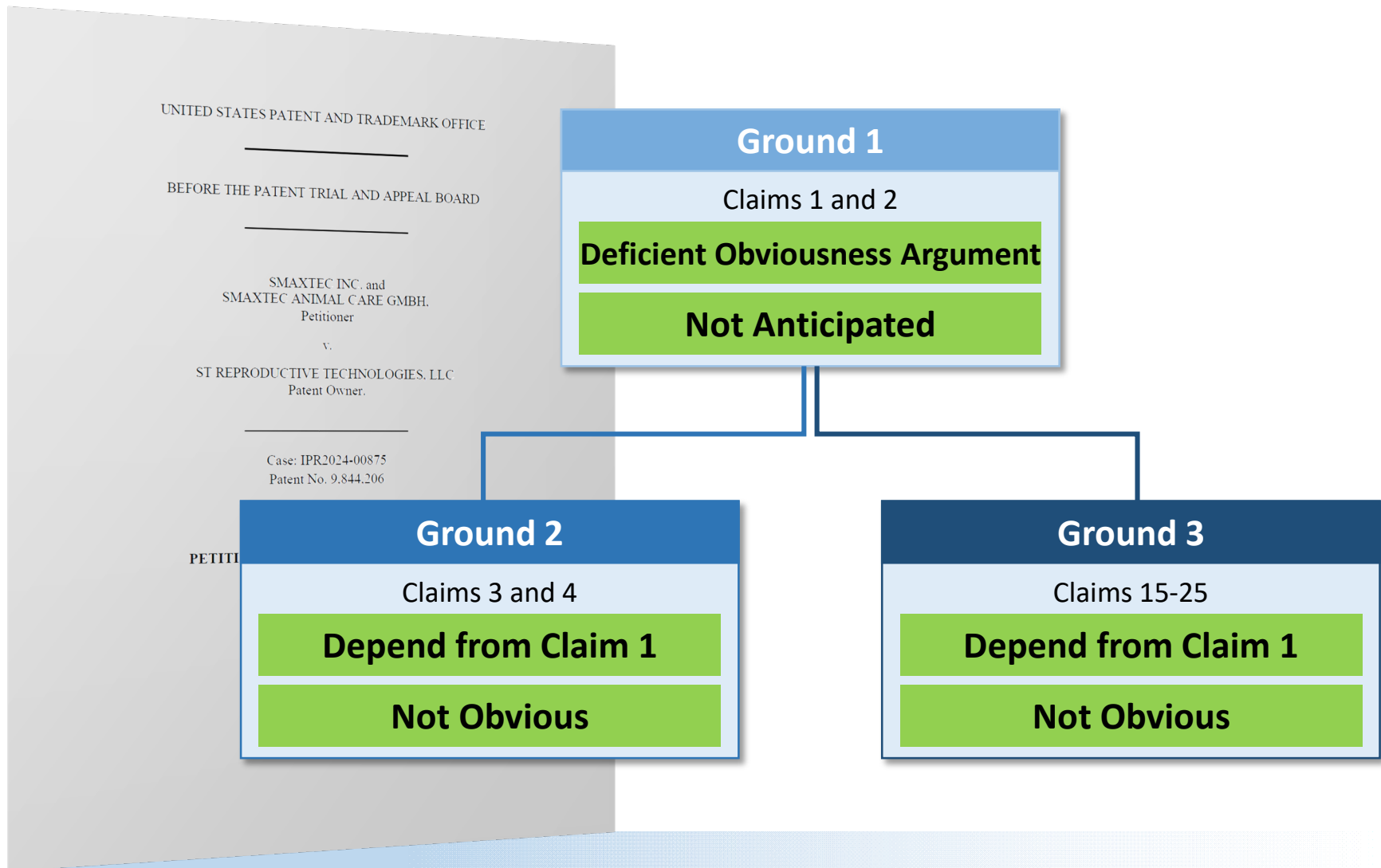
'515 GROUND 1: PETITIONERS' SINGLE REFERENCE OBVIOUSNESS ARGUMENT IS DEFECTIVE

Single-Reference Obviousness Argument Fails as a Matter of Law

Identify primary and secondary embodiments	X
Identify missing elements from primary embodiment	X
Identify elements to add from secondary embodiment	X
Identify motivation to make the combination	X
Show a reasonable expectation that the combination would be successful	X

Sisvel Int'l S.A. v. Sierra Wireless, Inc., 82 F.4th 1355, 1364 (Fed. Cir. 2023);
In re Stepan Co., 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017)

DEFICIENCIES IN '515 GROUND 1 CARRY OVER INTO GROUNDS 2-3



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TREVARTHEN DOES NOT TEACH COMBINING “TEMPERATURE” AND “MILK”

'206 Patent

United States Patent
Patent No. US 9,841,286 B2
Date of Patent: Dec. 15, 2017

1. A computer implemented animal management system, comprising:
a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:
retrieve animal identification information from an RFID device;
retrieve sensed animal information from said RFID device; said sensed animal information generated by a sensor coupled to said RFID device;
match said sensed animal information retrieved from said RFID device to animal information of said animal stored in a database including an amount of milk production or a number of days in milk;
enter said sensed animal information retrieved from said RFID device and said animal information stored in said database as logical variables into at least one logical expression; and
solve said at least one logical expression to obtain a corresponding at least one logical value.

'206 Ex. 1001, '206 Patent, Claim 1

Claims 1-4, 6

'515 Patent

United States Patent
Patent No. US 8,823,515 B2
Date of Patent: Sep. 2, 2014

1. A computer implemented method of animal tracking, comprising:
connecting a computer to an RFID device reader;
reading an RFID device implanted in an animal with said RFID device reader;
retrieving an amount of animal identification information from said RFID device implanted in an animal;
linking an amount of animal information of said animal stored in a data base of said computer to said amount of information retrieved from said RFID device implanted in said animal, said amount of animal information stored in said data base of said computer comprising an amount of milk production information or an amount of days milked;

'515 Ex. 1001, '515 Patent, Claim 1

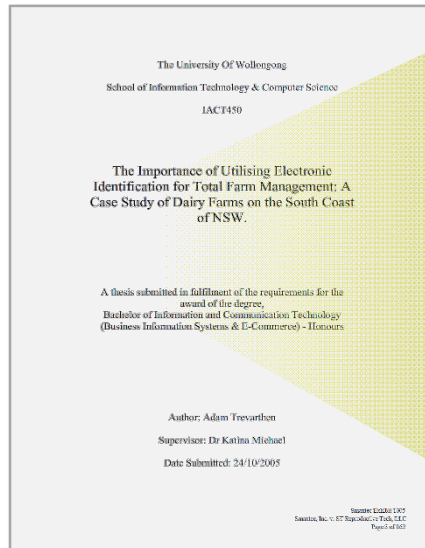
4. The computer implemented method of animal tracking as described in claim 3, further comprising retrieving an amount of sensed animal information from said plurality of RFID devices implanted in said plurality of animals.

'515 Ex. 1001, '515 Patent, Claim 4

Claim 4

TREVARTHEN DOES NOT TEACH COMBINING “TEMPERATURE” AND “MILK”

“Milk” and “Temperature” Are Separate Components in Trevarthen



6.3. Optional Components for RFID-Enabled Dairy Farms	106
6.3.1. Portable RFID Reader	106
6.3.2. Weight Scales on Entry to Dairy	107
6.3.3. Automated Feed-Dropping Control Units (Feed Bins)	108
6.3.4. Feed Troughs with Measuring Capability	110
6.3.5. Milk Meters	111
6.3.6. Milking Controller Unit.....	115
6.3.7. Automatic Drafting Gates.....	121
6.3.8. Temperature monitoring within RFID.....	121
6.3.9. GPS Tracking	123
6.3.10. Automatic Calf Feeding Machine.....	125



Ex. 1005 at 121. In that statement, Trevarthen acknowledges that the temperature sensors are not part of any actual system, including one that employs milk meters, because the technology has not yet been “extended to the livestock industry.” EX1005, 121. In the pages that follow, Trevarthen continues the discussion and describes hypothetical “approaches” to using temperature sensors. *Id.* at 122–123 (§§ 6.3.8.1–3). In those discussions, Trevarthen never mentions or suggests to a POSA using temperature-sensing devices in a system with milk meters.

‘206 Ex. 2009, Bowser POR Decl., ¶ 138

TREVARTHEN DOES NOT TEACH COMBINING “TEMPERATURE” AND “MILK”

No Reason to Add Implanted Sensor or Expectation of Success

Trevarthen:

“Under the skin” sensor not yet “extended to the livestock industry.”

Ex. 1005, Trevarthen Thesis 2005, 24,121

Dr. Bowser:

Trevarthen’s sensor “would have been likely to cause tissue damage, possible infection, discomfort, and animal welfare issues.”

’206 Ex. 2009, Bowser POR Decl., ¶ 157

Dr. Brown-Brandl:

POSAs concerned with “migrating” sensor causing temperature to “change depending on where it is located.”

Ex. 2010, Brown-Brandl Dep., 63:8-65:9

TREVARTHEN DOES NOT TEACH COMBINING “TEMPERATURE” AND “MILK”

Van den Berg Does Not Provide Reason to Combine

No “Express Teaching” to Combine

According to the invention, a more reliable indication signal of heat or illness is obtainable from parameters including one or more of the following: the milk rate of flow, the temperature of a milk flow, the milk yield, and/or the number of times per given time period that an animal pays a visit to the milking parlor or the food quantity consumed in the milking parlor.

Ex. 1023, van den Berg, 4:13-19

“Higher Accuracy” Does Not Refer to Illness Detection

In doing so, to achieve a higher accuracy, especially the temperatures of each of the flows of milk from the various teats can be determined. For the determination of the temperature, use is made of temperature-sensitive sensors to be arranged in the flow of milk.

Ex. 1023, van den Berg, 4:22-27

TREVARTHEN DOES NOT TEACH COMBINING “TEMPERATURE” AND “MILK”

De Mol Does Not Disclose Combining Animal Temperature and Milk

De Mol Does Not Disclose Measuring Animal Temperature

A new model has been developed to process the measured variables in a combined way. It is based on time series models for milk yield, milk temperature, electrical conductivity of quarter milk and the cow's activity, and a probability distribution for the concentrates leftovers.

Ex. 1033, de Mol, 171

De Mol's Method Generates “Too Many False Positive Alerts”

The results of the detection model are based on a comparison with reference data. The sensitivity is high (but depending on the chosen criterion). The specificity also seems high but may be too low for practical application, therefore additional research is directed to a reduction of the number of false positive alerts.

Ex. 1033, de Mol, 184

OVERVIEW

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Slides 3-40

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Slides 63-66

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Petition Fails to Establish Trevarthen Uses “Health Information” to “Indicate an Occurrence of an Illness”



US009844206B2

(12) **United States Patent**
Rettedal et al.

(10) **Patent No.:** US 9,844,206 B2
(45) **Date of Patent:** *Dec. 19, 2017

(54) **COMPUTER IMPLEMENTED ANIMAL MANAGEMENT SYSTEM**

(71) **Applicant:** Bella Technologies, LLC, Kersey, CO (US)

(72) **Inventors:** Nicholas P. Rettedal, Loveland, CO (US); Stephen M. Weitman, Greeley, CO (US); Scott R. Cockroft, Greeley, CO (US); Billy J. Yeager, Gilbert, AZ (US)

(73) **Assignee:** Bella Technologies, LLC, Kersey, CO (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 14/474,013

(22) **Filed:** Aug. 29, 2014

(65) **Prior Publication Data**
US 2014/0368338 A1 Dec. 18, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/391,614, filed as application No. PCT/US2010/002509 on Sep. 14, 2010, now Pat. No. 8,823,515.
(Continued)

(51) **Int. Cl.**
G06S 1/08 (2006.01)
A01K 11/00 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC A01K 11/008 (2013.01); A01K 11/006 (2013.01); A01K 29/005 (2013.01); A61B 5/0002 (2013.01); G06F 19/3418 (2013.01)
(58) **Field of Classification Search**
CPC : A61B 5/0002; G06F 19/3418; A01K 11/006; A01K 11/007; A01K 11/008;
(Continued)

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,483,098 A 1/1996 Stafford et al.
5,532,692 A 7/1996 Taseya
(Continued)

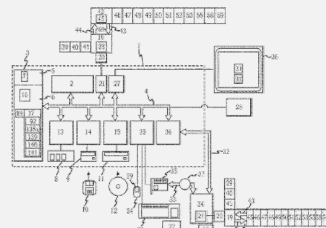
FOREIGN PATENT DOCUMENTS
EP 2314154 A1 4/2011
JP 2007089892 4/2007
(Continued)

OTHER PUBLICATIONS
Corresponding AU Patent Application No. 2010296053, Patent Examination Report No. 1, dated Jul. 16, 2014, 3 total pages.
(Continued)

Primary Examiner—John A. Twest, Jr.
(74) **Attorney, Agent, or Firm**—Craig R. Miles; CR Miles PC.

(57) **ABSTRACT**
Specifically, a computer implemented animal management program having modules which function to match animal information retrieved from a radiofrequency identification device(s) implanted in an animal(s) with animal information retrieved from a database of at least one computer to assess animal condition and time treatment events.

24 Claims, 13 Drawing Sheets



Smartec Exhibit 1001
Smartec, Inc. v. ST Reproductive Tech, LLC
Page 1 of 26

4. The system of claim 1, wherein said sensed animal information comprises sensed physiological information of said animal, and wherein said animal information stored in said database comprises health information associated with said animal, and wherein said logical value indicates an occurrence of an illness of said animal.

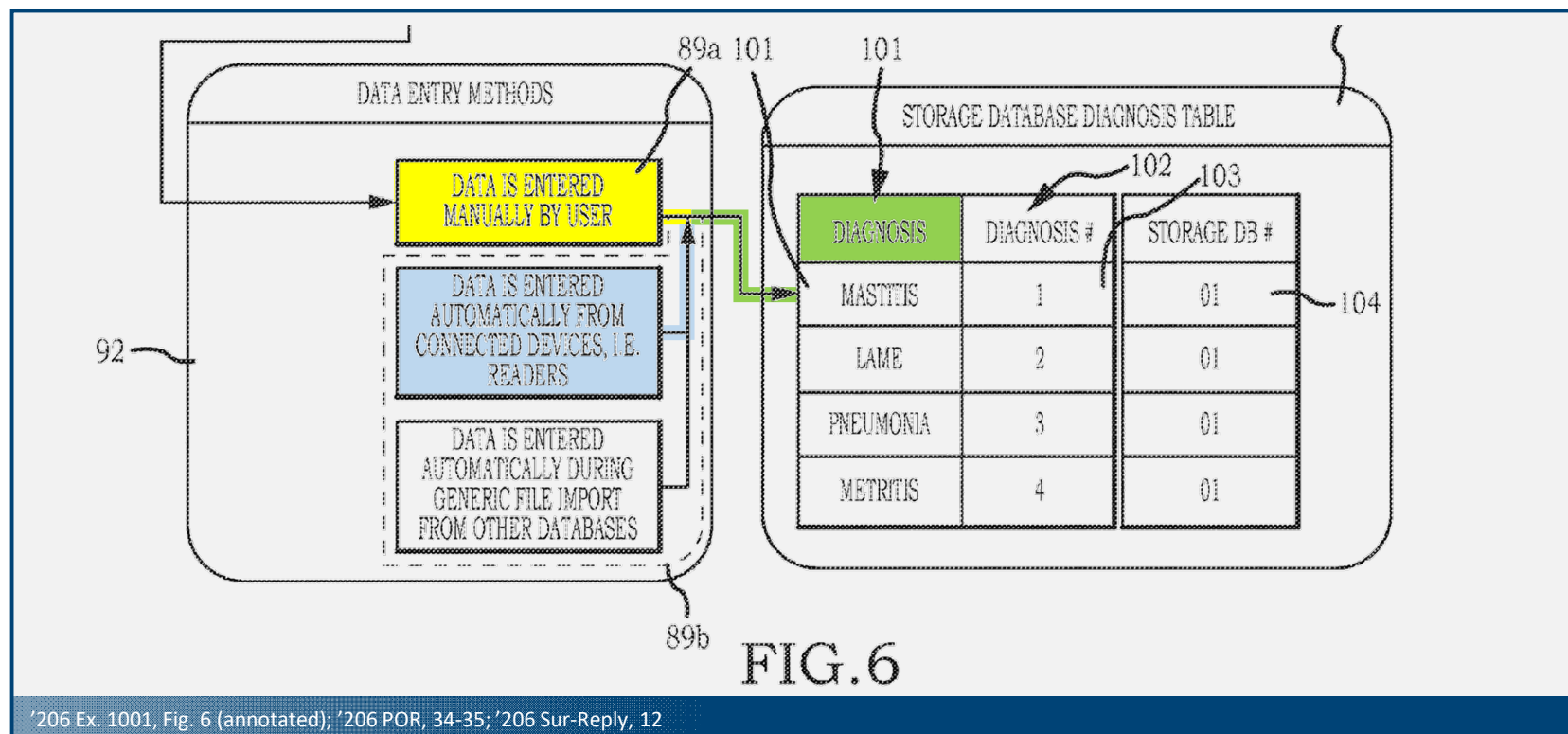
'206 Ex. 1001, '206 Patent, Claim 4

18. The system of claim 17, wherein said sensed animal information comprises sensed physiological information of said animal, and wherein said animal information stored in said database comprises health information associated with said animal, and wherein as to a selected period of time said at least one logical value indicates occurrence of an illness of said animal associated with said animal identification information.

'206 Ex. 1001, '206 Patent, Claim 18

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Embodiments of Claims 4 and 18 Are Depicted in the Patent



'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Embodiments of Claims 4 and 18 Are Depicted in the Patent



Dr. Bowser

The data that is entered manually by the user could include, for example, information related to an animal's current health condition, while the data entered automatically from connected devices is physiological data collected from RFID devices. As shown in the figure, this data is used to determine a “diagnosis,” i.e., an occurrence of illness.

'206 Ex. 2009, Bowser POR Decl., ¶ 172; '206 POR, 34

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Petition Relies Solely on Trevarthen’s “Treatments” as “Health Information”

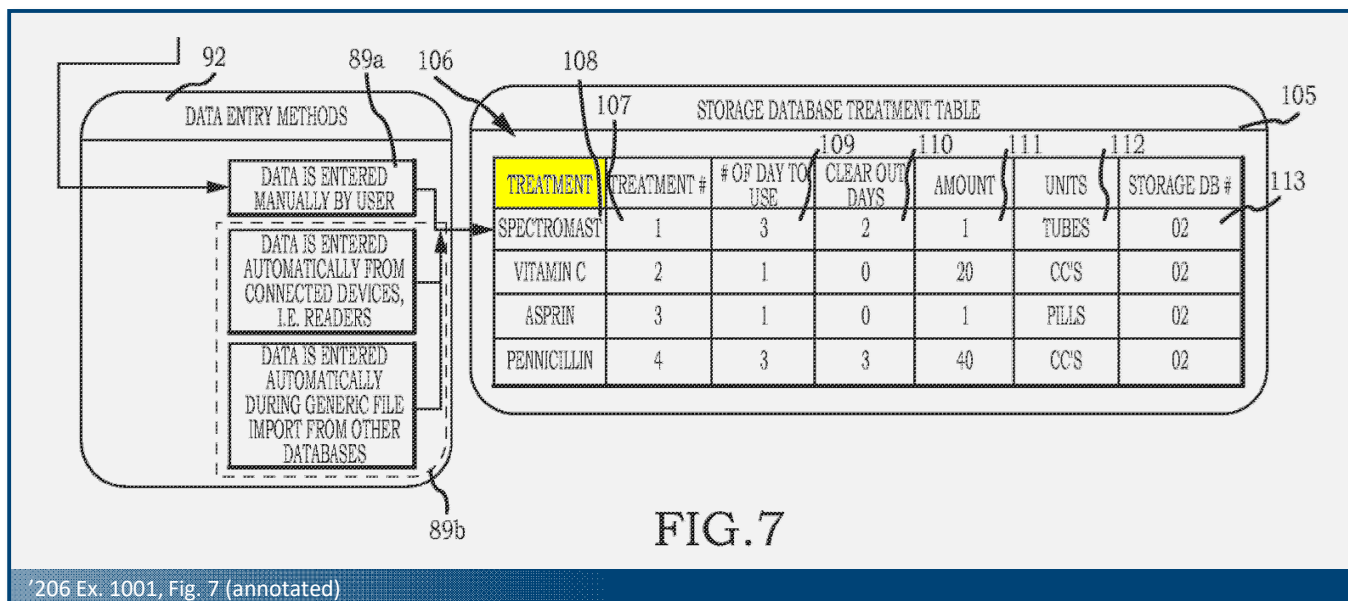
- b. 4[B]: “wherein said animal information stored in said database comprises health information associated with said animal”

In addition to temperature and milk production information, Trevarthen discloses using the herd management software to store and to view cow health information such as “treatments”: “[F]armers are able to easily and immediately view information on individual cattle, view an entire cows history (calving date, artificial insemination dates, treatments etc.), produce reports on individual cows, selected cows or the herd as a whole etc.” Trevarthen, 101; *see also id.*, 65, 89, 93; Brown-Brandl, ¶¶133-134.

'206 Pet., 25

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Specification Distinguishes “Treatment” from Claimed “Health Information”



Dr. Bowser

Ex. 1001 at Fig. 7; *see also id.* at 3:36-40, 13:9-29. As shown, the treatment plan is identified as an output of the Figure 7 system. The treatments are not an input to the “diagnosis” functionality of the Figure 6 system.

'206 Ex. 2009, Bowser POR Decl., ¶ 175

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Trevarthen’s “Treatments” Are Not Suitable for Use as Claimed “Health Information”

Trevarthen

Subsequently, farmers are able to easily and immediately view information on individual cattle, view an entire cows history (calving date, artificial insemination dates, treatments etc.), produce reports on individual cows, selected cows or the herd as a whole etc.

Ex. 1005, Trevarthen, 113



Dr. Bowser

175. A POSA would have further understood that such historical treatment data is not applicable in a logical expression. The log is merely a list of the cow’s treatments, not a data point that could be inserted into a logical expression with physiological data and other health information.

’206 Ex. 2009, Bowser POR Decl., ¶ 175

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Petitioners’ Expert: Unaware of Any System Using “Treatments” as Claimed

17 Q (BY MR. LANDERS) But, specifically,
18 you're not aware of any livestock management
19 software that uses information from the treatment
20 log to indicate illness; right?
1 A I am not.

Ex. 2010, Brown-Brandl Dep., 83:17-84:1

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Petitioners’ New Argument That “Milk Production” Is “Health Information” Should be Rejected

Raised for the first time in Petitioners’ Reply.

Yita LLC v. MacNeil IP LLC, 69 F.4th 1356, 1367 (Fed. Cir. 2023).

Dr. Bowser: “Milk production is an economic metric and not a direct indicator of a cow’s current health status.”

EX2009, ¶ 233.

Dr. Brown-Brandl: Milk production deviations “could be caused by a lot of factors” and peak milk yield “is considered an economic performance metric.”

EX2010, 87:1-2; EX2024, 41:19-22.

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Slides 63-66

'206 – TREVARTHEN DOES NOT DISCLOSE “PROGRAM INSTRUCTIONS” FOR CLAIMED PROCESSES

Petition Never Identifies “Program Instructions” for Executing Processes in Claims

- b. 1[A]: “a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to ...”

The POSA would have understood that Trevarthen’s herd management “software” (*id.*, 100) necessarily comprises executable program instructions stored on computer-readable media that runs on a processor. Brown-Brandl, ¶¶90-91 (citing Exs. 1013, 13:6-9; 1014, [0044]-[0045], [0081]). Trevarthen explains that the operator may interface with the software using a “computer” (Trevarthen, 101, 104), which the POSA would have understood to meet the element of “a processor communicatively coupled to a non-transitory computer readable media containing program instructions.” *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1338 (Fed. Cir. 2020) (holding an obviousness determination can rely “on general knowledge of a skilled artisan.”); *see also Dow Jones & Co. v. Abblaise Ltd.*, 606

'206 Pet., 29

'206 – TREVARTHEN DOES NOT DISCLOSE “PROGRAM INSTRUCTIONS” FOR CLAIMED PROCESSES

Petitioners’ Conclusory Assertions Regarding “Program Instructions” Are Insufficient Under Federal Circuit Law



“Both Garmin’s petition and expert declaration ... assumed, without explanation or evidence, that microprocessor 123 is the component in Richardson that performs the[] [claimed] processes.”

Garmin Int’l, Inc. v. Logantree, LP, 825 F. App’x 894, 898-99 (Fed. Cir. 2020)

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

'206 / '515 – RETRIEVING DATE-TIME FROM RFID DEVICE NOT OBVIOUS

Claims Require the RFID Device to Provide Date-Time Information

'206 Patent



17. A computer implemented animal management system, comprising:
a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:
retrieve animal identification information from an RFID device implanted in an animal;
retrieve sensed animal information from said RFID device;
retrieve date-time information from said RFID device;
match said sensed animal information retrieved from said RFID device to animal information stored in a database;
enter said sensed animal information retrieved from said RFID device and said animal information stored in said database as logical variables into at least one logical expression; and
solve said at least one logical expression to obtain a corresponding at least one logical value.

'206 Ex. 1001, claim 17

Claims 17-20

'515 Patent



3. The computer implemented method of animal tracking as described in claim 2, further comprising retrieving an amount of date-time information from said plurality of RFID devices implanted in said plurality of animals.

'515 Ex. 1001, claim 3

4. The computer implemented method of animal tracking as described in claim 3, further comprising retrieving an amount of sensed animal information from said plurality of RFID devices implanted in said plurality of animals.

'515 Ex. 1001, claim 4

Claims 3-4

'206 /'515 – RETRIEVING DATE-TIME FROM RFID DEVICE NOT OBVIOUS

Trevarthen Retrieves “Date-Time Information” from Reader

Trevarthen Uses “Fixed Readers” to Record “Time and Date”

For example, fixed readers may be utilised for the purposes of identifying a cow as she enters the milking parlour, and subsequently recording the time and date of this read to the central herd management database (indicating the milking time for this cow).

Ex. 1005, Trevarthen, 114

Dr. Brown-Brandl

151. Trevarthen, however, teaches having the RFID reader provide date-time information, rather than retrieving date-time information from the RFID device itself.

'206 Ex. 1003, Brown-Brandl Decl., 151

'206 /'515 – RETRIEVING DATE-TIME FROM RFID DEVICE NOT OBVIOUS

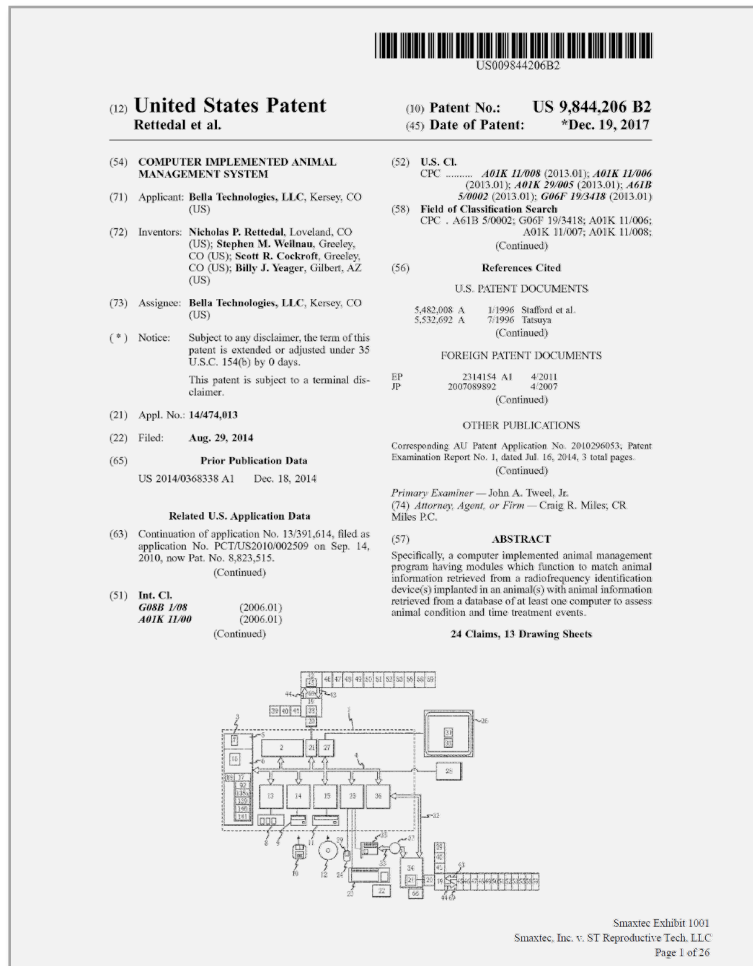
No Reason to Modify Trevarthen to Operate as Claimed

Brown-Brandl: Trevarthen's Approach Was "Ideal"

4 So -- so having a centralized point that
5 you're reading the date-time is advantageous,
6 especially, like, in this -- in my paragraph, I
7 talk about as the cow enters a milking parlor. So
8 that time-date stamp would be ideal to be read at
9 the reader.

Ex. 2010, Brown-Brandl Dep., 152:4-9

'206 CLAIMS 6 AND 18 – INDICATING ILLNESS OVER “SELECTED PERIOD OF TIME” NOT OBVIOUS



6. The system of claim 4, wherein said animal identification information further comprises said animal identification information correspondingly generated by a plurality of RFID devices implanted in a plurality of animals, wherein said sensed animal information comprises said sensed animal information generated by said plurality of RFID devices implanted in said plurality of animals, wherein said at least one **logical expression solves as to a selected period of time** as to said plurality of animals correspondingly associated with said animal identification information **if a greater than selected number of said illness have occurred.**

'206 Ex. 1001, '206 Patent, Claim 6

18. The system of claim 17, wherein said sensed animal information comprises sensed physiological information of said animal, and wherein said animal information stored in said database comprises health information associated with said animal, and wherein **as to a selected period of time** said at least one logical value **indicates occurrence of an illness** of said animal associated with said animal identification information.

'206 Ex. 1001, '206 Patent, Claim 18

'206 CLAIMS 6 AND 18 – INDICATING ILLNESS OVER “SELECTED PERIOD OF TIME” NOT OBVIOUS

Trevarthen’s “Basic” and “Advanced” Systems Unable to Indicate Illness as to a “Selected Period of Time”

Trevarthen’s “Basic” System

Measures temp only at milking.

Ex1005, 122

Unable to detect illness from temps at milking times.

Ex2009, ¶ 193

Trevarthen’s “Advanced” System

Measures temp when cows visit feeders and water troughs.

Ex1005, 122

Unable to detect illness from temps at unpredictable times.

Ex2024, 28:14-17; Reply, 16.

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

'515 Patent



United States Patent
Reinhold et al.

Patent No.: US 8,825,515 B2
Date of Patent: Sep. 2, 2014

1. A computer implemented method of animal tracking, comprising:
connecting a computer to an RFID device reader;
reading an RFID device implanted in an animal with said RFID device reader;
retrieving an amount of animal identification information from said RFID device implanted in an animal;
linking an amount of animal information of said animal stored in a data base of said computer to said amount of information retrieved from said RFID device implanted in said animal, said amount of animal information stored in said data base of said computer comprising an amount of milk production information or an amount of days milked;

'515 Ex. 1001, claim 1

All Challenged Claims

'206 Patent



United States Patent
Reinhold et al.

Patent No.: US 9,044,206 B2
Date of Patent: May 19, 2017

2. The system of claim 1, wherein said animal identification information further comprises said animal identification information correspondingly generated by a plurality of RFID devices implanted in a plurality of animals.

'206 Ex. 1001, claim 2

17. A computer implemented animal management system, comprising:
a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:
retrieve animal identification information from an RFID device implanted in an animal;
retrieve sensed animal information from said RFID device;

'206 Ex. 1001, claim 17

Claims 2, 3, 6, and 17-20

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

The Board's Construction of "Implanted in Animal" at Institution Is Correct

c) Analysis

At this preliminary stage, we agree with Patent Owner's arguments as to the plain and ordinary meaning of "implanted in an animal," meaning implanted *within* the animal rather than *on* the animal. Although we agree with Petitioner that the '206 patent Specification defines implanted as encompassing RFIDs attached or implanted "on or within" an animal, the plain language of the claim expressly recites "in," which, on the present record, we determine corresponds to "within" as described by the '206 patent Specification. We apply that understanding to our discussion of Petitioner's challenge based on Laitinen below.⁹

⁹'206 Paper 18, Institution Decision, 23.

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

Intrinsic Record Shows "Implanted RFID Device" Must Be Within the Animal

Claim Language

1. A computer implemented method of animal tracking, comprising:
connecting a computer to an RFID device reader;
reading an **RFID device implanted in an animal** with said
RFID device reader;

'515 Ex. 1001, claim 1

Specification

Now referring primarily to FIGS. 1 and 3, as to certain embodiments of the computer implemented animal management system, **the RFID (19) can be located in the hollow inside of a bolus (79)**. Certain configurations of the bolus (79) can be ingested by certain RFID objects (39), such as cattle and be retained **in a part of the stomach**; although the invention is not so limited. A first bit segment (71) of **the RFID device (19) implanted in an animal (40)** can be encoded or re-encoded with an amount of RFID object identification information (80) (which can be a bolus identification number (81), animal identification number (82), or the like).

'515 Ex. 1001, 10:21-27

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

Petitioners' Two Combinations Rely Solely on Temperature and Movement

Laitinen's "Heat Detection" System

Relies on **temperature and movement** as sensed animal information

'206 Pet., 48; '515 Pet., 47

Laitinen's "Medical Treatment" Function

Relies on **temperature** as sensed animal information

'206 Pet., 49-50; '515 Pet., 47-48

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

Only Laitinen's "External" Device Measures Temperature or Movement

FIG. 2 exemplifies two different pico level devices connected to a local information system. The pico level control device can be either external (100a) or implanted inside the animal's tissue (100b). The device comprises sensors of the sensor unit (225 or 235) connected to a micro controller (222 or 232).

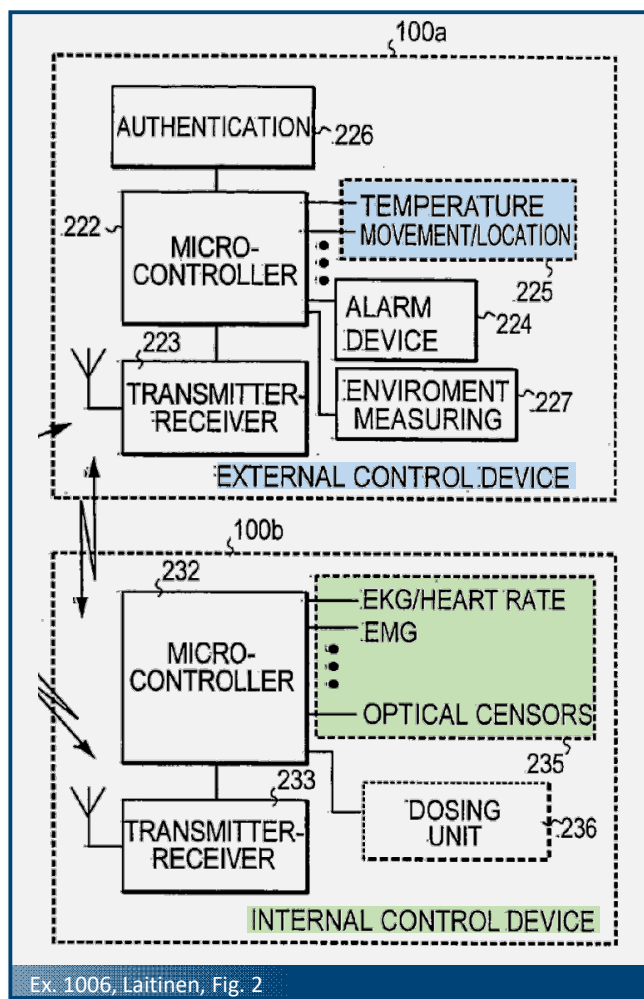
The external device can, for instance, measure the animal's body temperature (with a temperature sensor) or movements (various motion sensors, such as acceleration sensors), or determine the animal's location. These results can be elaborated by, e.g., integrating with the information received from the acceleration sensor.

The internal device enables, for example, the use of an EKG analysis for the surveillance of the animal's heart rate or an EMG (Electromyography) conveying its muscular tension or level of fatigue. Particularly the internal pico device permits the use of optical sensors for the measuring of oxygen saturation, for instance.

Ex. 1006, Laitinen, 5:38-55

'515/'206 – PETITIONERS' COMBINATIONS LACK RFID DEVICE "IMPLANTED IN AN ANIMAL"

Only Laitinen's "External" Device Measures Temperature or Movement



External RFID Device

- Temperature
- Movement
- Location

Internal RFID Device

- EKG/Heart Rate
- EMG
- Optical Sensors

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN TO INCORPORATE MILK INFORMATION

'515 Patent



1. A computer implemented method of animal tracking, comprising:
connecting a computer to an RFID device reader;
reading an RFID device implanted in an animal with said RFID device reader;
retrieving an amount of animal identification information from said RFID device implanted in an animal;
linking an amount of animal information of said animal stored in a data base of said computer to said amount of information retrieved from said RFID device implanted in said animal, said amount of animal information stored in said data base of said computer comprising an amount of milk production information or an amount of days milked;

'515 Ex. 1001, claim 1

All Challenged Claims

'206 Patent



1. A computer implemented animal management system, comprising:
a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:
retrieve animal identification information from an RFID device;
retrieve sensed animal information from said RFID device, said sensed animal information generated by a sensor coupled to said RFID device;
match said sensed animal information retrieved from said RFID device to animal information of said animal stored in a database including an amount of milk production or a number of days in milk;
enter said sensed animal information retrieved from said RFID device and said animal information stored in said database as logical variables into at least one logical expression; and
solve said at least one logical expression to obtain a corresponding at least one logical value.

'206 Ex. 1001, '206 Patent, Claim 1

Claims 1-4 and 6

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN TO INCORPORATE MILK INFORMATION

No Dispute Laitinen's Alleged "Logical Expressions" Do Not Include Milk

Laitinen's "Heat Monitoring" System

"[T]he POSA would have been motivated to modify Laitinen's [first] logical expression, or create a new expression, to include milk production and/or DIM information ... to improve its accuracy and reliability at determining whether a cow is in heat."

'206 Pet., 48

Laitinen's "Medical Treatment" Function

"[T]he POSA would have been motivated to modify the second logical expression of Laitinen, or create a new expression, to include milk production as an input ... to improve the reliability of its logical expression determining whether a cow is ill and advising on medical treatments."

'206 Pet., 49-50

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN'S "HEAT DETECTION" SYSTEM TO INCORPORATE MILK

Liao's "Peak Yield" Used to Identify Breeding Candidates, Not Improve Heat Detection

DIM	D _{rand}						Dec _U
	Peak Yield	Av.# Ins./ conception.	Heat	Last Heat	Lactation	BCS	Insem.
26	50	2,0	Yes	—	2	3,0	No
60	40	2,5	Yes	21	3	3,5	Yes
120	60	3,0	Yes	23	1	2,0	Yes
70	20	1,5	Yes	22	6	3,3	No
80	40	2,0	Yes	20	4	2,3	Yes
100	50	1,0	Yes	21	5	3,2	No
...							
200	55	4,4	No	23	3	3,1	Yes

Ex. 1010, Liao, 10

Peak Yield (input):

- Highest amount of milk produced by cow (in liters)

Heat (input):

- Whether cow is in heat

Insem. (output):

- Whether cow is a candidate for breeding

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN'S "HEAT DETECTION" SYSTEM TO INCORPORATE MILK

Liao's "Peak Yield" Used to Identify Breeding Candidates, Not Improve Heat Detection

D _{rand}							Dec _U
<u>DIM</u>	<u>Peak Yield</u>	<u>Av.# Ins./ conception.</u>	<u>Heat</u>	<u>Last Heat</u>	<u>Lactation</u>	<u>BCS</u>	<u>Insem.</u>
70	20	1,5	Yes	22	6	3,3	No
200	55	4,4	No	23	3	3,1	Yes

Ex. 1010, Liao, 10

Low Producing Cow:

- In heat
- Not selected for insemination

High Producing Cow:

- Not in heat
- Selected for insemination

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN'S "HEAT DETECTION" SYSTEM TO INCORPORATE MILK

Mere Relation Between Heat and Insemination Not a Reason to Combine



Affirmed: No motivation to combine references merely because they “addressed the same technical issues and disclosed closely related subject matters.”

Microsoft Corp. v. Enfish, LLC, 662 F. App'x 981, 990 (Fed. Cir. 2016) (brackets omitted)

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN'S "MEDICAL TREATMENT" FUNCTION TO INCORPORATE MILK

Milk Production Not Useful in "Medical Treatment" Function



228. Specifically, Laitinen's system is designed to analyze an animal's past physiological responses to medical treatments to determine the appropriate treatment for the animal's present physiological condition. Laitinen does not use Milk production in this analysis. POSAs would have been aware of good reasons not to include such data in Laitinen's inverse function. Milk production does not exhibit a consistent or predictable response to medical treatment.

'206 Ex. 2009, Bowser POR Decl., ¶ 228

Even if lowered milk production were an indicator of illness, the fact that it does not consistently or predictably respond to medication renders it unreliable and useless in Laitinen's function.

'206 Ex. 2009, Bowser POR Decl., ¶ 234

'515/'206 – NOT OBVIOUS TO MODIFY LAITINEN TO INCORPORATE MILK INFORMATION

Petitioners' Reliance on "New Expression" Is Conclusory and Outside the Scope of This Proceeding

Therefore, a POSA would also have been motivated to modify Laitinen or "create a new" expression that included both temperature and milk production information as input variables to detect estrus or illness. Pet., 48–51; Brown-Brandl Reply, ¶¶31–32; Ex1033, 172.

'206 Reply, 23



“A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent ... only on the basis of prior art consisting of patents or printed publications.”

35 U.S.C. § 311(b)

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

Laitinen's Unspecified “Data” Is Not “Health Information” Used to “Indicate an Occurrence of an Illness” as Claimed

Petitioners' Only Allege Laitinen's “Data” Is Stored in a Database for “Surveillance”

- b. 4[B]: “wherein said animal information stored in said database comprises health information associated with said animal”

Laitinen discloses storing animal health information in the database.

Laitinen, for example, explains that “[g]athering, assessing and presenting data concerning the animal’s health, the production environment and the farm are the functions of the local system.” Laitinen, 4:12-15; *see also id.*, 5:4-8 (“Thanks to collected *historical data* and improved diagnosis methods, the system also enables individual *health surveillance* and the creation of remote health care services. Veterinarians can collect local level information with their server 140 and refine that data in their own database 145.”); Brown-Brandl, ¶198.

Pet., 53-54

Petitioners Never Allege Laitinen's “Data” Is Used to Indicate Illness

- c. 4[C]: “wherein said logical value indicates an occurrence of an illness of said animal”

As explained for 1[E]-1[F] (*supra* §§VI.C.4.f-VI.C.4.g), Laitinen renders obvious solving a logical expression by entering temperature and milk production information into Laitinen’s second logical expression to solve for a logical value indicating an occurrence of illness and the appropriate medical treatment. Brown-Brandl, ¶199.

Pet., 54

'206 CLAIMS 4 AND 18 – “HEALTH INFORMATION” AND “OCCURRENCE OF ILLNESS” NOT DISCLOSED

New Argument That “Temperature” Is “Health Information” Conflates Claim Elements

1. A computer implemented animal management system, comprising:
a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:
retrieve animal identification information from an RFID device;
retrieve sensed animal information from said RFID device, said sensed animal information generated by a sensor coupled to said RFID device;
match said sensed animal information retrieved from said RFID device to animal information of said animal stored in a database including an amount of milk production or a number of days in milk;
enter said sensed animal information retrieved from said RFID device and said animal information stored in said database as logical variables into at least one logical expression; and
solve said at least one logical expression to obtain a corresponding at least one logical value.

'206 Ex. 1001, '206 Patent, Claim 1

4. The system of claim 1, wherein said sensed animal information comprises sensed physiological information of said animal, and wherein said animal information stored in said database comprises health information associated with said animal, and wherein said logical value indicates an occurrence of an illness of said animal.

'206 Ex. 1001, '206 Patent, Claim 4

“Sensed animal information,” e.g., temperature

Animal information “stored in a database,” e.g., milk production

“Health information” is animal information “stored in said database”

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

'206 – LAITINEN DOES NOT DISCLOSE “PROGRAM INSTRUCTIONS” FOR CLAIMED PROCESSES

(12) **United States Patent**
Rettedal et al.

(10) **Patent No.:** US 9,844,206 B2
(45) **Date of Patent:** *Dec. 19, 2017

(54) **COMPUTER IMPLEMENTED ANIMAL MANAGEMENT SYSTEM**

(71) **Applicant:** Bella Technologies, LLC, Kersey, CO (US)

(72) **Inventors:** Nicholas P. Rettedal, Loveland, CO (US); Stephen M. Weitman, Greeley, CO (US); Scott R. Cockcroft, Greeley, CO (US); Billy J. Yeager, Gilbert, AZ (US)

(73) **Assignee:** Bella Technologies, LLC, Kersey, CO (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 14/474,013

(22) **Filed:** Aug. 29, 2014

(65) **Prior Publication Data**
US 2014/0368338 A1 Dec. 18, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/391,614, filed as application No. PCT/US2010/002509 on Sep. 14, 2010, now Pat. No. 8,823,515.
(Continued)

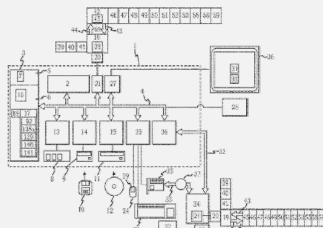
(51) **Int. Cl.**
G08B 1/08 (2006.01)
A01K 11/00 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC A01K 11/008 (2013.01); A01K 11/006 (2013.01); A01K 29/005 (2013.01); A61B 5/0002 (2013.01); G06F 19/3418 (2013.01)
(58) **Field of Classification Search**
CPC : A61B 5/0002; G06F 19/3418; A01K 11/006; A01K 11/007; A01K 11/008;
(Continued)

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,482,098 A 1/1996 Stafford et al.
5,532,692 A 7/1996 Tatsuya
(Continued)
FOREIGN PATENT DOCUMENTS
EP 2314154 A1 4/2011
JP 2007089892 4/2007
(Continued)
OTHER PUBLICATIONS
Corresponding AU Patent Application No. 2010296053, Patent Examination Report No. 1, dated Jul. 16, 2014, 3 total pages.
(Continued)
Primary Examiner — John A. Tweed, Jr.
(74) **Attorney, Agent, or Firm** — Craig R. Miles; CR Miles P.C.

(57) **ABSTRACT**
Specifically, a computer implemented animal management system having modules which function to match animal information retrieved from a radiofrequency identification device(s) implanted in an animal(s) with animal information retrieved from a database of at least one computer to assess animal condition and time treatment events.

24 Claims, 13 Drawing Sheets



SmarteX Exhibit 1001
SmarteX, Inc. v. ST Reproductive Tech, LLC
Page 1 of 26

1. A computer implemented animal management system, comprising:

a processor communicatively coupled to a non-transitory computer readable media containing program instructions executable to:

retrieve animal identification information from an RFID device;

retrieve sensed animal information from said RFID device, said sensed animal information generated by a sensor coupled to said RFID device;

match said sensed animal information retrieved from said RFID device to animal information of said animal stored in a database including an amount of milk production or a number of days in milk;

enter said sensed animal information retrieved from said RFID device and said animal information stored in said database as logical variables into at least one logical expression; and

solve said at least one logical expression to obtain a corresponding at least one logical value.

'206 Ex. 1001, '206 Patent, Claim 1

'206 – LAITINEN DOES NOT DISCLOSE “PROGRAM INSTRUCTIONS” FOR CLAIMED PROCESSES

Petition Never Identifies Specific “Program Instructions” That Execute Claimed Processes

- **Argues Laitinen’s “personal computer” and “computer” include a processor**
'206 Pet., 42
- **Argues Laitinen’s “software” required unspecified “program instructions”**
'206 Pet., 42-43
- **Argues unspecified “program instructions” necessarily stored on “some computer-readable media”**
'206 Pet., 43



Affirming non-obviousness finding even though “the Board agreed that the processes disclosed in Richardson meet the [claim] limitation” because “the Board found that there was no explicit disclosure from Richardson that microprocessor 123 executed these processes.”

Garmin Int'l, Inc. v. Logantree, LP, 825 F. App'x 894, 898 (Fed. Cir. 2020)

'515 - LAITINEN DOES NOT DISCLOSE "RETRIEVING ANIMAL IDENTIFICATION INFORMATION" AS CLAIMED

Petitioners Alleged RFID Device That Retrieves Animal Identification Information Is Not "Implanted"

Petitioners' Argument

- d. 1[C]: "retrieving an amount of animal identification information from said RFID device implanted in an animal"

Laitinen discloses this element. Laitinen describes its system as "a system of individual *animal identification*." Laitinen, 2:47-48; *see also id.* 6:2-4 ("Each surveillance device includes a *personalized identifier for the correct identification of the animal* in question."). Laitinen explains that its "pico level device is attached permanently to [an animal], and it *functions like [a] conventional identification tool*." Laitinen, 3:28-35; *see also id.*, 3:53-57; Brown-Brandl, ¶¶151-152.

'515 Pet., 43

Laitinen's Disclosure

The Pico level, i.e., the lowest level comprises the technology used directly with the animals. A pico level device is attached permanently to, e.g., the animal's ear after its birth, and it functions like conventional identification tool.

Ex. 1006, 3:28-31

OVERVIEW

Trevarthen Grounds

Slides 3-40

Trevarthen Is Not Prior Art

'515 – No Anticipation or Single-Reference Obviousness

'206/'515 – Not Obvious to Combine Animal Temperature and Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

'206 – No Disclosure of “Program Instructions” for Claimed Processes

Additional Limitations Not Rendered Obvious

Laitinen Grounds

Slides 41-62

'515/'206 – Petitioners' Combinations Lack RFID Device “Implanted in an Animal”

'515/'206 – Not Obvious to Modify Laitinen to Incorporate Milk Information

'206 Claims 4 and 18 – “Health Information” and “Illness Occurrence” Never Disclosed

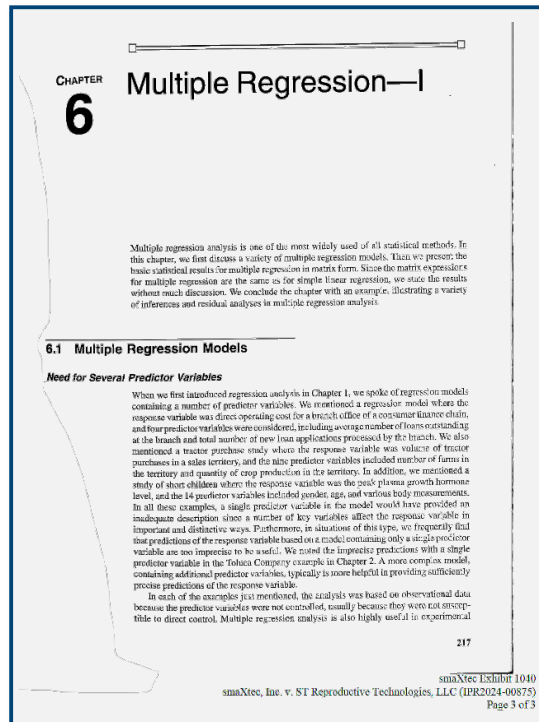
Additional Limitations Not Rendered Obvious

Exhibits 1040, 1041, and 1044 Should be Excluded

Slides 63-66

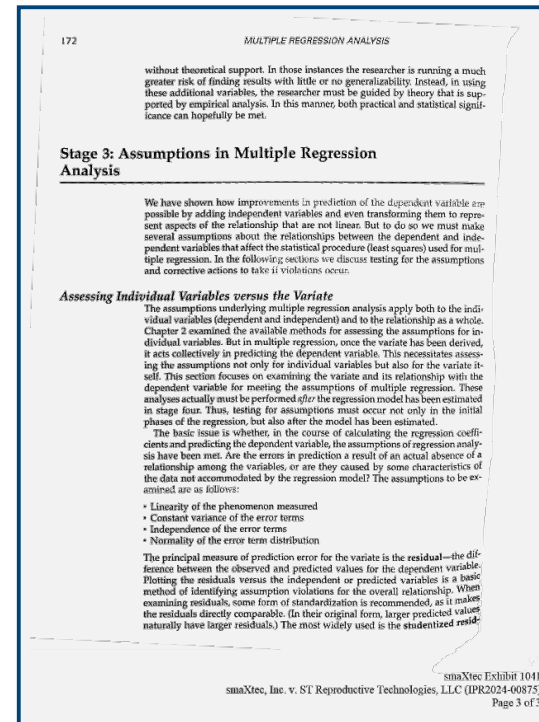
INCOMPLETE EXHIBITS 1040 AND 1041 SHOULD BE EXCLUDED UNDER FED. R. EVID. 403

Exhibit 1040



Single page from textbook

Exhibit 1041



Single page from textbook

Fed. R. Evid. 106 Recognizes Incomplete Exhibits Are Prejudicial

“If a party introduces all or part of a statement, an adverse party may require the introduction, at that time, of any other part — or any other statement — that in fairness ought to be considered at the same time.”

EXHIBIT 1044 IS HEARSAY

Petitioners Rely on Ex. 1044 for the Truth of the Matter Asserted

Google explains that only “[s]ometimes, Google shows dates next to listings in its search results,” which is merely a “best estimate of when a page was published or significantly updated.” Ex1044.

'206 Reply, 2-3

Residual Hearsay Exception Does Not Apply



Petitioners “made no showing that reasonable efforts could not have produced’ more probative evidence”

Conoco Inc. v. DOE, 99 F.3d 387, 392 (Fed. Cir. 1996)

EXHIBIT 1044 WAS NOT AUTHENTICATED



“Printouts from a web site do not bear the indicia of reliability demanded for other self-authenticating documents under Fed. R. Evid. 902.”

In re Homestore.com, Inc. Sec. Litig., 347 F. Supp. 2d 769, 782 (C.D. Cal. 2004)

***Homestore* evidence (insufficient):**

- “URL address”
- “date stamp”
- “Plaintiffs’ Declaration”

Petitioners’ evidence (insufficient):

- “URL”
- “date it was captured”

’206 Paper 41, Pet.’s Opp. to Motion to Exclude, 4

Date: September 4, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Demonstrative Exhibits was served on counsel of record on September 4, 2025, by filing this document through the Patent Trial and Appeal Case Tracking System (P-TACTS), as well as delivering a copy via electronic mail to counsel of record for the Petitioners at the following addresses:

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