

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DELAVAL INTERNATIONAL AB,  
Petitioner,

v.

LELY PATENT N.V.,  
Patent Owner.

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Case IPR2013-00575  
Patent 6,443,094 C2

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Before TONI R. SCHEINER, BENJAMIN D. M. WOOD, and  
SCOTT E. KAMHOLZ, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a) and 37 C.F.R. § 42.73*

## I. INTRODUCTION

### A. Background

Petitioner DeLaval International AB (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–10 of U.S. Patent No. 6,443,094 C2 (Ex. 1001, “the ’094 patent”). Lely Patent N.V. (“Patent Owner”) filed a Preliminary Response (Paper 11, “Prelim. Resp.”). We instituted an *inter partes* review on the following grounds of unpatentability:<sup>1</sup>

Reference[s]	Basis	Claims Challenged
Rose <sup>2</sup>	§ 102(b)	1 and 4–9
Rose and Chandler <sup>3</sup>	§ 103(a)	1 and 4–9
Rose, Chandler, and Ornerfors <sup>4</sup>	§ 103(a)	2 and 3
Rose, Chandler, and Phillips <sup>5</sup>	§ 103(a)	10

After the Board instituted trial, Patent Owner filed a Patent Owner Response (Paper 26, “PO Resp.”), as well as a contingent Motion to Amend seeking to substitute claims 11–20 for original claims 1–10. Paper 27 (“Mot. to Amend”). Petitioner filed a Reply to Patent Owner’s Response (Paper 31, “Pet. Reply”), and an Opposition to the Motion to Amend (Paper 32, “Opp. to Mot. to Amend”). Patent Owner then filed a Reply in support of its Motion to Amend. Paper 34 (“Reply to Opp. to Mot. to Amend”).

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<sup>1</sup> Decision to Institute (Paper 13, “Dec.”) 23.

<sup>2</sup> British Patent No. 1,415,318 to Rose (Nov. 26, 1975) (Ex. 1002).

<sup>3</sup> British Patent No. 1,398,596 to Chandler (June 25, 1975) (Ex. 1004).

<sup>4</sup> WO 97/15183 to Ornerfors (May 1, 1997) (Ex. 1005).

<sup>5</sup> US 3,765,373 to Phillips (Oct. 16, 1973) (Ex. 1007).

Oral Hearing was held on September 12, 2014, and the Hearing Transcript (Paper 41, “Tr.”) has been entered in the record.

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). We determine that Petitioner has shown by a preponderance of the evidence that the challenged claims are unpatentable. We deny Patent Owner’s Motion to Amend.

*B. Related Proceedings*

The ’094 patent has been asserted in an infringement action titled *Daritech, Inc. v. Green Source Automation, LLC*, Case No. 1:11-cv-156 (C.D. Cal. Jan. 27, 2011). Pet. 54. Daritech is Patent Owner’s predecessor-in-interest. Paper 10, 1. Patent Owner informs us that this matter has been resolved. *Id.* The defendant in that proceeding, Green Source Automation, initiated two *ex parte* reexaminations of the ’094 patent (Appl. Nos. 90/011,755 and 90/012,285), which also have been resolved. *Id.* The first reexamination resulted in no amendments to the claims. Ex. 1001, ’094 C1. The second reexamination resulted in amendments to claim 1. *Id.* at ’094 C2. Finally, Petitioner informs us that Patent Owner filed U.S. Appl. No. 14/476,979 seeking reissue of the ’094 patent. Paper 40, 1.

C. The '094 Patent

The '094 patent relates to an apparatus for automatically sanitizing the udder of a cow, after it has been milked. Ex. 1001, Abstract. The system is implemented on a circular, rotating milking parlor. *Id.* at 1:26–27, Fig. 1.

Figure 1 of the '094 patent is reproduced below:

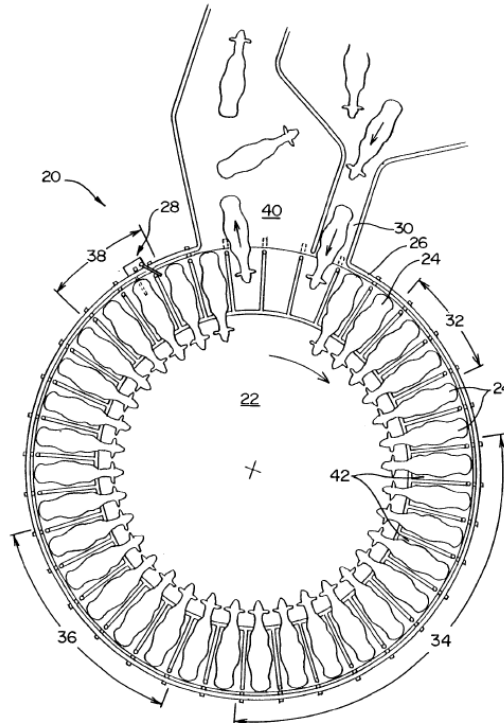
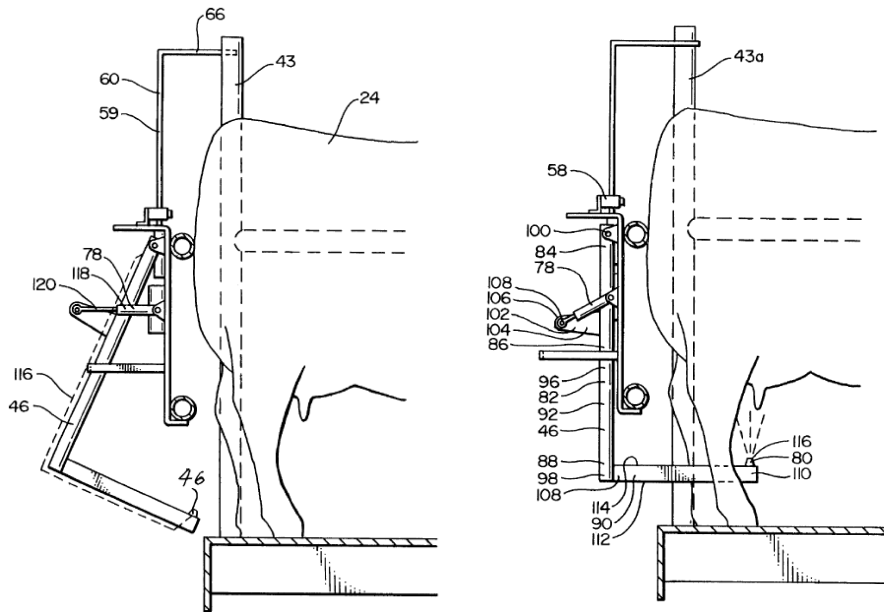


Figure 1 depicts “conventional” milking parlor 20 on which the automatic cleaning device 28 is installed. *Id.* at 3:47. Milking parlor 20 comprises platform 22, which continuously rotates at a relatively low speed so that cows can step onto and off of the platform with little difficulty; perimeter railing 26 surrounding the platform; and inwardly facing stalls 42, which hold cows 24. *Id.* at 3:47–55. As platform 22 rotates, the stalls pass by six locations where portions of the milking operation occur. *Id.* at 3:56–59. Each cow 24 enters at entry location 30, where a milking operator washes its udder before milking. *Id.* at 3:62–66. A “claw,” used to draw

milk from an udder using low pressure, is attached to the cow's udder at location 32. *Id.* at 1:14–16, 3:66–67. Milk is extracted at milking location 34, and a spring-loaded device withdraws the claw at removal location 36. *Id.* at 4:2–7. At udder cleaning location 38, cleaning device 28 sprays the cow's udder with disinfectant. *Id.* at 4:7–10. The cow backs out of stall 42 at exit location 40. *Id.* at 4:10–11.

Figures 2 and 4 of the '094 patent are reproduced below:



Figures 2 and 4 depict in greater detail udder cleaning device 28. Each stall 42 is defined by two posts 43 at the perimeter of platform 22. *Id.* at 4:21–23.<sup>6</sup> As platform 22 rotates, each vertical post 43 contacts horizontal arm 66 of contact sensor 56 (shown in figure 3), which indicates that a stall has reached the cleaning location in front of the cleaning apparatus. *Id.* at 4:23–26, 58–62. An optical sensor 58 detects whether a

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<sup>6</sup> Although Figure 2 uses reference number 43 to refer to the posts, the written description refers to “posts 44.” Ex. 1001, 4:21. We will conform to Figure 2’s reference number.

cow is occupying stall 42, and if so, arm 46 moves between the cow's hind legs, sprays the udder with disinfectant from nozzle 47 (not depicted but part of dispersion portion 80), and then retracts. *Id.* at 4:20–31.

*D. Illustrative Claims*

Sole independent claim 1 of the '094 patent is reproduced below:<sup>7</sup>

1. A system for cleaning udders of cows in a milking parlor, where there is a plurality of milking stalls arranged on a moving platform to move through a milking cycle, and said parlor comprises a milk extracting location where milking machines extract milk, and an exit location, said system comprising:
  - a) an udder cleaning apparatus positioned at a cleaning location intermediate the milk extracting location and the exit location, with said stalls passing by said cleaning location, said cleaning apparatus comprising:
    - i) a mounting structure at the cleaning location;
    - ii) a cleaning section which is movable between a retracted position which is out of a path of travel of the stalls and a cleaning position when the cleaning section discharges cleaning fluid to clean an udder of the cow which is in one of said stalls which is at the cleaning location;
  - b) a control section comprising a location sensor responsive to location of the stalls and to provide signals identifying arrival times at which each of the stalls is at the cleaning location, said control section being arranged to cause the cleaning section to move, relative to the arrival times, from the retracted position to the cleaning position to discharge said cleaning fluid toward the udder of the cow, then to retract the cleaning section from the cleaning position to complete a cleaning cycle, and when the stall in the cleaning location moves from the cleaning location, to again

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<sup>7</sup> Claim 1 appears as amended in Reexamination No. 90/012,285. *See* Ex. 1001, '094 C2.

cause the cleaning section to move to the cleaning position to initiate a subsequent cleaning cycle as a following stall is arriving at the cleaning location.

## II. ANALYSIS

### A. *Claim Construction*

“A claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see In re Cuozzo Speed Tech., LLC*, ---F.3d---, 2015 WL 448667, \*7 (Fed. Cir. Feb. 4, 2015) (“We conclude that Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA.”). Under that standard, the claim language should be read in light of the specification, as it would be interpreted by one of ordinary skill in the art. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010). Thus, we generally give claim terms their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.”) (internal quotation marks omitted).

We expressly interpret below only those claim terms that require analysis to resolve arguments related to the patentability of the challenged claims; all other terms will be accorded their ordinary and customary meaning as would be understood by one of ordinary skill at the time of the invention.

#### 1. *“stalls passing by said cleaning location”*

In its Preliminary Response, Patent Owner argued that the phrase “said stalls passing by said cleaning location” requires that the stalls, and the

platform on which they are mounted, be in “continuous” motion past the cleaning location. Prelim. Resp. 2. In other words, under Patent Owner’s interpretation, the language would not encompass intermittent movement in which a stall arrives at the cleaning location, pauses, and then moves past the cleaning location. But in the decision to institute, the panel construed “stalls passing by said cleaning location” according to its ordinary and customary meaning and not to required continuous rotation of the stalls. Dec. 11.<sup>8</sup>

Patent Owner renewed its proposed construction at trial, primarily relying, as it did before institution, on the Specification’s description of an embodiment in which “platform 22 *rotates continuously.*” PO Resp. 18. (citing Ex. 2001, 4:12–14 (emphasis added)). Patent Owner also relies on the May 5, 2013 “Notice of Intent to Issue Ex Parte Reexamination Certificate,” (“NIRC”), issued in *ex parte* reexamination no. 90/012,285 (“the ’285 Reexam”), in which the Examiner confirmed the patentability of the ’094 patent claims. *Id.* (citing Ex. 2010, 5). Patent Owner cites the NIRC for the proposition that “[the ’094 patent] specifically requires that the insertion and retraction of the cleaning section occur ‘with said stalls passing by said cleaning location,’” i.e., that the cleaning section moves while the stalls are moving. *Id.* According to Patent Owner, such continuous movement of the platform is necessary to allow “the carousel itself as a timing unit to synchronize movement of the cleaning section relative to the

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<sup>8</sup> Patent Owner also argued, in its Preliminary Response, that claim 1 requires that the retraction of the cleaning section be triggered by the location sensor. Prelim. Resp. 10–11. But in the Institution Decision, the panel determined that claim 1 only requires that the *deployment* of the cleaning section be triggered by the location sensor. *Id.* at 11–13. Patent Owner does not challenge this determination in its Response.



stall so as to avoid tripping up the cow standing therein.” *Id.* Petitioner disagrees with Patent Owner’s proposed construction, arguing, *inter alia*, that the construction improperly imports a feature from the specification into the claims. Pet. Reply 7 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

“As with any claim construction analysis, we begin with the claim language.” *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)). We find nothing in claim 1—or, for that matter, any of its dependent claims—that requires the stalls to be capable of moving past the cleaning location in a continuous manner, or that excludes intermittent movement past the cleaning location. For example, claim 1 refers several times to the stalls being “at” the cleaning location, which seems to encompass the possibility that the stalls are briefly stopped at the cleaning location. Ex. 1001, 9:14–15, 18–19, 29.

Further, we agree with Petitioner that the Specification does not mandate the narrower construction that Patent Owner proposes. Patent Owner is correct that the Specification describes an embodiment in which the platform “rotates continuously.” Ex. 1001, 4:11–12. But “while the specification [should be used] to interpret the meaning of a claim, courts must not import[] limitations from the specification into the claim.” *In re Trans Texas Holdings Corp.*, 498 F.3d 1290, 1299 (Fed. Cir. 2007) (alterations in original) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted)). It is only when “the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction” that the scope of a

claim is properly restricted to that of a disclosed embodiment. *Liebel-Flarsheim*, 358 F.3d at 906. Patent Owner does not direct us to any language in the Specification that it asserts demonstrates such a clear intention to limit the claim scope. Nor do we find any such language. We are also unable to find support in the Specification for Patent Owner's contention that continuous movement of the platform is required to "avoid tripping up the cows" when the cleaning section deploys and retracts. As for the NIRC, although statements made during the prosecution history, including reexamination proceedings, may be relevant to determining claim scope, *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1439 (Fed. Cir. 1988), we are unable to find anything in the NIRC that disclaims the scope of claim 1 to exclude intermittent motion, or that otherwise supports Patent Owner's interpretation.

Accordingly, we construe the language "said stalls passing by said cleaning location" according to its ordinary and customary meaning, which encompasses both continuous and intermittent motion.

2. *a plurality of milking stalls arranged on a moving platform*

Petitioner contended in its Petition that the phrase "a plurality of milking stalls arranged on a moving platform" constitutes "structural limitations of the claims," even though the phrase appears in claim 1's preamble. Pet. 7–8. Patent Owner did not dispute this contention in either its Preliminary Response or Patent Owner Response. We agree with Petitioner that the body of claim 1 "expressly refers and relies upon both the plurality of stalls and the moving platform on which they are arranged to

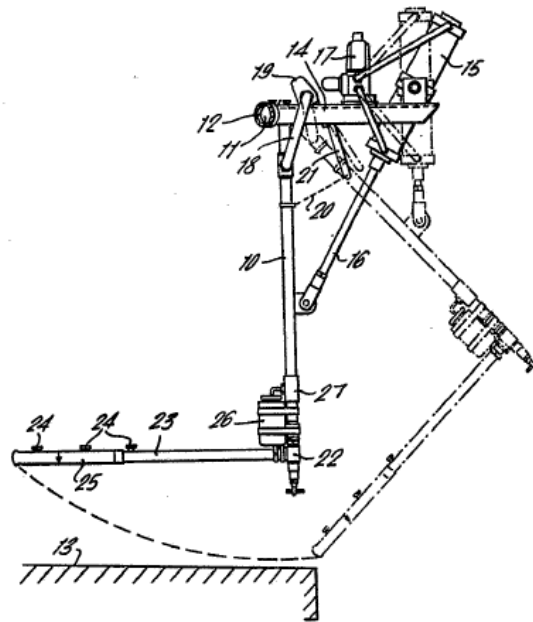
define structural recitations in the claim.” *Id.* Accordingly, we agree that claim 1 calls for a moving platform having a plurality of stalls.

*B. Claims 1 and 4–9, Anticipation by Rose*

Petitioner contends that Rose describes each limitation in claims 1 and 4–9, and therefore anticipates the claims under 35 U.S.C. § 102(b). Pet. 11–23. In support of this contention, Petitioner provides a claim chart demonstrating where Rose discloses each limitation of the claims, as well as the declaration testimony of Jonathan Cagan, Ph.D, P.E. *Id.*; Ex. 1011 (Cagan Decl.).

*1. Rose*

Rose describes a spray device for automatically disinfecting cows’ udders after milking. Ex. 1002, 1:9–26. The device is intended to be installed at “one or more locations around the periphery of the rotatable platform” of a “rotary type animal milking and/or treatment apparatus.” Ex. 1002, 1:27–41. Figure 1 of Rose, reproduced below, depicts Rose’s automated spray device.



As shown in Rose Figure 1, Rose's automated spray device comprises swing arm 10 pivotally mounted to rump rail 12 of a rotary type milking apparatus, the milking apparatus including rotatable platform 13 that rotates about a vertical axis relative to rump rail 12. *Id.* at 1:69–75. Piston and cylinder device 15, pivotally mounted to support 14, extends from rump rail 12 and actuates swingable spray arm 23. *Id.* at 1:78–83.

In operation, a cam on rotating platform 13 contacts actuating switch 33, which activates solenoid 31 via timing relay 32. *Id.* at 2:29–32, Fig. 4. Solenoid 31 in turn activates vacuum control valve 17, causing piston and cylinder device 15 to pivot swing arm 10 from a retracted position (indicated in dotted lines) to a cleaning position between the hind legs of the cow standing on platform 13. *Id.* at 2:25–39. Spray nozzles 24 dispense a sanitizing liquid over the cow's udders. *Id.* at 2:42–46. After a period of time determined by timing relay 32, solenoid 31 deenergizes, activating vacuum control valve 17 to cause piston and cylinder device 15 to pivot swing arm 10 back into the inoperative position. *Id.* at 2:49–55.

Two spray devices may be provided on the rotary-type milking apparatus, one of which is located near the position where the cows exit platform 13. *Id.* at 2:58–65. Rose twice refers to UK Patent 1,398,596 (i.e., Chandler, described below) as an example of a rotary-type milking apparatus suitable for use with Rose’s automated spray device. *Id.* at 1:75–78; 2:74–77.

2. *Analysis*

a. Claim 1

A prior art reference anticipates a patent claim under 35 U.S.C. § 102 if it discloses every claim limitation in the claimed arrangement. *In re Montgomery*, 677 F.3d 1375, 1379–80 (Fed. Cir. 2012). Patent Owner makes two arguments against a determination that Rose anticipates claim 1. First, Patent Owner argues that Rose does not disclose the “plurality of milking stalls.” PO Resp. 9. Second, Patent Owner argues that Rose does not disclose a cleaning location that is “intermediate to the milk extracting location and the exit location.” *Id.* at 9–10. We disagree on both counts.

Regarding the plurality of milking stalls, Rose teaches attaching its spray device to the rump rail of the rotary type milking apparatus described in Chandler, which apparatus has a plurality of milking stalls. Ex. 1004, 1:9–22, Fig. 1. Because Rose teaches using its spray device with Chandler’s milking apparatus, and Chandler’s milking apparatus comprises a rotating platform with a plurality of milking stalls, a person of ordinary skill would have known that Rose teaches attaching its spray device to a milking apparatus having a plurality of milking stalls. *See In re Baxter Travenol Labs*, 952 F.2d 388, 390 (Fed. Cir. 1991) (holding that because a prior-art reference “referred to Baxter’s commercial system and Baxter’s commercial

systems utilized a DEHP-plasticized primary bag, it is clear that one skilled in the art would have known that [the reference] was referring to a DEHP-plasticized primary bag”).

We also agree with Petitioner that Rose describes a cleaning location between the milking location and exit locations. Rose teaches that one of the purposes of its automated spray device is to replace the manual udder cleaning that occurs on a rotating platform after the cows are milked. Ex. 1002, 1:19–24, 2:7–12. Such cleaning necessarily would take place after the milking location and before the exit location. Moreover, Rose teaches locating the spray device near to the position where the cows leave the platform 13, i.e., before the exit location. *Id.* at 2:62–65. Therefore, Rose makes clear that its device is to be installed between the milking location and the exit location.

After considering Petitioner’s and Patent Owner’s positions, as well as their supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 102(b) as anticipated by Rose.

b. Claims 4–6

Claim 4 depends from claim 1 and additionally recites that “said location sensor responds to location elements which are arranged to move synchronously with said moving platform and are at spaced locations corresponding to spacing of said stalls.” Claim 5 depends from claim 4 and additionally recites that “said location sensor is a contact sensor and said location elements are arranged to come into contact with said location sensor as said platform moves.” Claim 6 depends from claim 5 and additionally recites that “said location elements are physical components of the milking

parlor which move sequentially into engagement with the location sensor during movement of the platform.” Petitioner contends that Rose’s actuating switch 33, 31’ corresponds to the claimed location sensor, and that cams mounted to the moving platform at each stall location, which contact the actuating switch to actuate the spray device, correspond to the claimed location elements. Pet. 17; *see* Pet. 21–22 (citing Ex. 1002, 2:19–24, 74–77, 3:2–3, Fig. 5: Ex. 1004, 2:62–67). Patent Owner does not argue separately the patentability of claims 4–6, and thus does not dispute these contentions. We agree with Petitioner, and find that Rose discloses the claimed location sensor and location elements. Accordingly, we determine that the preponderance of the evidence of record demonstrates that Rose anticipates each of claims 4–6.

c. Claims 7–9

Claim 7 depends from claim 1 and additionally requires that “said cleaning section comprises an extension arm on which a cleaning fluid dispensing portion is positioned, and said extension arm moves on a path of travel from the retracted position to the cleaning position where at least a portion of said extension arm is beneath the cow which is in the stall at the cleaning location.” Claim 8 depends from claim 7 and additionally recites that “said extension arm is arranged so that the path of travel extends between two legs of the cow.” Claim 9 depends from claim 8 and additionally requires that “said path of travel extends between two hind legs of the cow.” Petitioner contends that Rose’s spray arm 23 and spray nozzles 24 correspond to the claimed extension arm and cleaning fluid dispensing portion, respectively. Pet. 18 (citing Fig. 1). According to Petitioner, Rose teaches that the path of travel for the spray device is between the cow’s hind

legs. *Id.* (citing Ex. 1002, 2:37). Patent Owner does not separately argue the patentability of claims 7–9, and thus does not dispute these contentions. We agree with Petitioner, and find that Rose discloses the claimed extension arm and cleaning fluid dispensing portion, arranged so that the path of travel extends between the two hind legs of the cow. Accordingly, we determine that the preponderance of the evidence of record demonstrates that Rose anticipates claims 7–9.

*C. Claims 1 and 4–9, Obviousness over Rose and Chandler*

Petitioner argues that claims 1 and 4–9 would have been obvious over Rose and Chandler. Pet. 26–36.

*1. Chandler (Ex. 1004)*

Chandler is a British patent relating to an animal milking apparatus. The animals are carried in stalls provided on a platform that rotates intermittently, each stop bringing one animal in line with an exit and another in line with an entry. Figure 1, reproduced below, depicts Chandler’s milking apparatus.



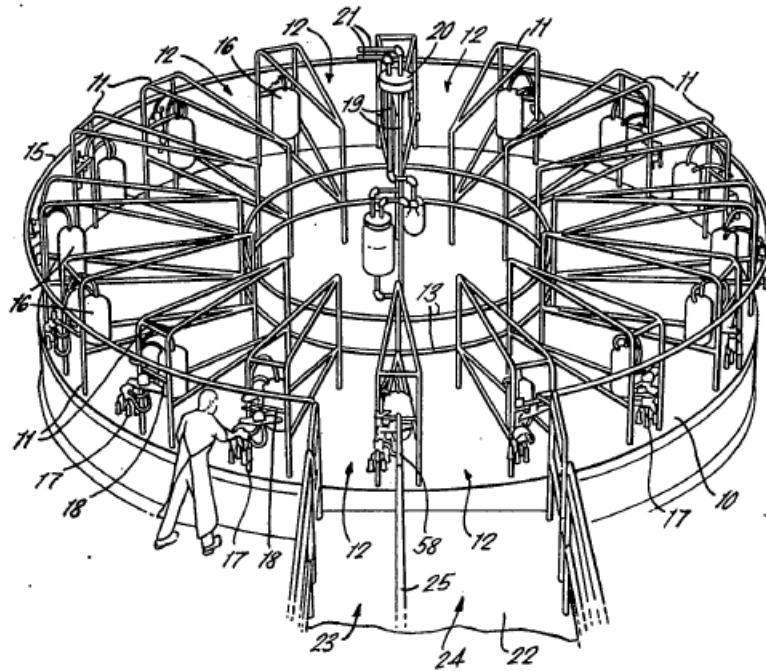


Figure 1 of Chandler.

As shown in Figure 1, when platform 10 is stationary, stall 12 is presented in line with entry 23, and a cow enters via a ramp. Platform 10 is rotated, carrying the cow to the next station where operator No. 1 washes the cow's udders and applies teat cups 17. As the platform continues to be rotated, the cow is automatically milked. Eventually, the cow reaches operator No. 2 (*see* Fig. 9), who removes the teat cups. *Id.* at 3:34–37. With each stop of platform 10, another cow enters via entry bridge 23, while another exits via bridge 24. *Id.* at 3:29–33. Chandler discloses using cam members 57, mounted below each stall 12 on track 26, to engage stop/start switch 55 as platform 10 is rotated from one center of a stall to the next. *Id.* at 2:60–67, Fig. 4. While the figures of Chandler depict the cows facing in toward the center of the platform hub, the Specification indicates that stalls 12 may be arranged in a herringbone pattern, where the cows face outwardly. *Id.* at 3:61–67.

2. *Analysis*

a. Principles of Law

A claim is unpatentable under 35 U.S.C. § 103(a) “if the differences between the subject matter sought to be patented 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 to which the subject matter pertains.” 35 U.S.C. § 103; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). The level of ordinary skill in the art usually is evidenced by the references themselves. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

b. Claim 1

Petitioner contends that “[i]t would have been obvious to one skilled in the art to provide Rose’s platform with Chandler’s platform mounted stalls to achieve the same and predictable result of securing and orienting cows when they are present on the rotating platform.” Pet. 25. Petitioner further argues that it would have been obvious “in light of Chandler to provide Rose’s described switch-actuating cam as one of a plurality of such cams spaced in correspondence with the spacing of the stalls, in order to provide the same and predictable result of triggering the desired automatic operation of Rose’s automated spray device each time a cow is presented to the cleaning location.” *Id.* Moreover, according to Petitioner, a person of

ordinary skill would have been motivated to combine Rose and Chandler because, *inter alia*, “Rose expressly points the skilled artisan to the disclosure in Chandler.” *Id.*

Patent Owner argues that Petitioner—or at least Petitioner’s expert, Dr. Cagan—based the obviousness analysis on an incorrect level of ordinary skill. *See* PO Resp. 13 (“Dr. Cagan is urging the creation of a person with extraordinary skill in the art . . . and tailored to create the exact invention he has been asked to examine.”). Patent Owner urges us to adopt Dr. Mein’s opinion as to the level of ordinary skill. *Id.* at 16. Dr. Mein, however, advocates a higher level of ordinary skill than does Dr. Cagan. Dr. Mein criticizes Dr. Cagan’s proposed level of ordinary skill as “[m]ere mastery of automation,” which Dr. Mein states is “not sufficient.” Ex. 2012 ¶ 29. Instead, argues Dr. Mein, “the true definition of a person skilled in the art . . . is one with an unusually wide range of skills including design engineering, dairy science, cow behavior, dairy microbiology, the chemistry of cleaning of milking equipment and, preferably, a practical appreciation of the working conditions and attitudes of milking staff with (typically) limited education.” *Id.* But the challenged claims are at least as likely to have been obvious to someone having this level of skill than to someone having the level of skill that Dr. Cagan advocates. *See Innovention Toys, LLC v. MGA Entertainment, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse”). Thus, we need not resolve the parties’ dispute over the level of ordinary skill because our obviousness determination would be the same under either

standard. In any event, we determine that the level of ordinary skill is best evidenced by the references themselves, particularly Rose and Chandler.

Patent Owner also argues that the combination of Rose and Chandler does not teach all of claims 1's limitations, because the combination does not teach that the plurality of milking stalls must be in continuous motion as they pass by the cleaning location. *See* PO Resp. 18 (asserting that "Dr. Cagan's conclusion of obviousness cannot be upheld" because Dr. Mein concludes that the combination of Rose and Chandler "could only work in the context of an intermittent carousel"). But we determined above that claim 1 does not require the milking stalls to move continuously past the cleaning location. Therefore, this argument is unpersuasive.

Finally, Patent Owner argues that any evidence of obviousness is overcome by its showing of long-felt but unmet need for "automated teat sanitization." PO Resp. 22. According to Patent Owner, "if *Rose* or the *Rose/Chandler* combination were such as to render the instant Claim 1 obvious, economic forces would have created a commercial race to the teat sprayer." PO Resp. 22. Relying on the testimony of its expert, Dr. Mein, Patent Owner asserts that the need for an automated udder sanitizer became apparent when dairies in New Zealand and Australia adopted automated cluster pullers, which would have eliminated the need for one laborer but for the continued need to disinfect the udders manually after milking. *Id.* at 22–23; Ex. 2012 ¶ 36. Petitioner responds that Patent Owner does not support its assertion of long-felt but unmet need with objective evidence, and does not identify any claimed features that are responsible for satisfying the need. Pet. Reply 11–12.

“Evidence that an invention satisfied a long-felt and unmet need that existed on the patent’s filing date is a secondary consideration of nonobviousness.” *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1332 (Fed. Cir. 2009). In the present case, however, we are not persuaded that there was a long-felt but unmet need for “automated teat sanitization” that existed on the patent’s filing date, as Patent Owner argues, because any such need would have been met by Rose’s automated teat spray device. *See Geo. M. Martin Co. v. Alliance Machine Systems Int’l, LLC*, 618 F.3d 1294, 1304–05 (Fed. Cir. 2010) (“Where the differences between the prior art and the claimed invention are as minimal as they are here, however, it cannot be said that any long-felt need was unsolved.”).

As discussed above (Sec. II.B.2.a), we find that Rose and Chandler disclose all of the limitations of claim 1, arranged as in the claim. Further, we agree with Petitioner that a person of ordinary skill would have been motivated to combine Rose and Chandler because, *inter alia*, “Rose expressly points the skilled artisan to the disclosure in Chandler.” Pet. 25. After considering Petitioner’s and Patent Owner’s positions, as well as their supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 103(a) over Rose and Chandler.

c. Claims 4–9

Patent Owner does not separately argue the patentability of claims 4–9. As discussed above (Sec. II.B.2.b–c), Rose and Chandler teach all of the additional limitations of claims 4–9. Therefore, upon review of claims 4–9, as well as the contentions and evidence relied upon by Petitioner, we

determine that the preponderance of the evidence of record demonstrates that claims 4–9 would have been obvious over Rose and Chandler.

*D. Claims 2 and 3, Obviousness over Rose, Chandler, and Ornerfors*

Claim 2 depends from claim 1 and further recites “a presence detector to detect the presence of a cow in a stall which is at the cleaning location.” Claim 3 depends from claim 2 and further requires that “said presence detector comprises an electromagnetic detector which directs an electromagnetic wave toward the stall at the cleaning location and responds to the electromagnetic wave encountering a cow in the stall at the cleaning location to permit the cleaning cycle to take place.” Petitioner relies on Ornerfors to teach these additional limitations. Ornerfors describes an apparatus for automatically detecting the location of a cow’s teat to facilitate, e.g., cleaning the teat after milking. Ex. 1005, 2:1–4, 4:21–23, 7:3–5, Figs. 1a, 1d. In one embodiment, a signal reflecting means, such as a metal plate or microchip, is applied onto or near the end of the teat. *Id.* at 7:3–5, 10:5–8, Fig. 5. Sensing means 8, such as a combined transmitter/receiver, sends a signal to the signal reflecting means, which returns the signal to the transmitter receiver to identify the teat’s location. *Id.* at 10:8–13.

Petitioner contends that the signal transmitter/receiver necessarily sends electromagnetic radiation to the signal reflecting means and receives reflected electromagnetic radiation from the signal reflecting means. Pet. 38. Petitioner further contends that “Ornerfors and Rose address the same technical feature of automatically positioning a spray arm beneath a cow’s udder for post-milking treatment with a disinfecting spray,” and that “[o]ne

skilled in the art would have recognized Ornerfors' electromagnetic teat location sensor as useful in Rose for the same purpose it is described in Ornerfors—to guide the spray arm to a precise position beneath each teat.” *Id.* at 39–40.

Patent Owner does not dispute Petitioner's characterization of Ornerfors or its contention that one of ordinary skill would be motivated to combine Ornerfors with Rose and Chandler. Instead, Patent Owner argues that Ornerfors “discloses nothing that would set forth a moving carousel, nor any of the sensing electronics which would indicate when a stall had arrived for teat sanitation.” PO Resp. 25. But Ornerfors is not relied to teach a moving carousel or a device that determines when a stall moves into the cleaning location; Rose and Chandler are relied on for those teachings. Pet. 18–20 (claim chart). Therefore, Patent Owner's argument is not persuasive. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”).

After considering Petitioner's and Patent Owner's positions, as well as their supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 2 and 3 are unpatentable under 35 U.S.C. § 103(a) over Rose and Chandler.

*E. Claim 10, Obviousness over Rose, Chandler, and Phillips*

Claim 10 depends from claim 8, which depends from claim 1. Claim 8 additionally recites that the “extension arm is arranged so that the path of travel extends between two legs of the cow.” Claim 10 further recites that the “extension arm is arranged so that the path of travel extends between a

front leg and a hind leg of the cow.” Petitioner relies on Phillips to teach these additional limitations. Pet. 43–45.

Patent Owner does not separately argue the patentability of claim 10, but instead relies on arguments raised in support of the patentability of claim 1 (PO Resp. 25), which we found unpersuasive. Upon review of claim 10, as well as the contentions and evidence relied upon by Petitioner, we determine that the preponderance of the evidence of record demonstrates that claim 10 would have been obvious over Rose, Chandler, and Phillips.

*F. Motion to Amend*

Patent Owner moves to substitute claims 11–20 for challenged claims 1–10 if we determine that the challenged claims are unpatentable. Mot. to Amend. 2–3. As stated above, we determine that Petitioner has demonstrated by a preponderance of the evidence that all of the challenged claims are unpatentable. Therefore, Patent Owner’s motion is before us for consideration. For the reasons set forth below, Patent Owner’s motion is *denied*.

Proposed substitute claim 11 is an amended version of independent claim 1. *Id.* at 2. Proposed substitute claims 12–20 are identical to and would replace claims 2–10, but would depend from claim 11 rather than claim 1. *Id.* at 3. Proposed substitute claim 11, with changes to claim 1 indicated, is reproduced below:

11. A system for cleaning udders of cows in a milking parlor, where there is a plurality of milking stalls arranged on a moving platform to move through a milking cycle, and said parlor comprises a milk extracting region where milking machines extract milk, and an exit location, said system comprising:

- a) an udder cleaning apparatus positioned at a cleaning location intermediate the milk extracting location and



the exit location, with said stalls passing by said cleaning location in continuous motion throughout the milking cycle, said cleaning apparatus comprising:

- i) a mounting structure at the cleaning location;
  - ii) a cleaning section which is movable between a retracted position which is out of a path of travel of the stalls and a cleaning position when the cleaning section discharges cleaning fluid to clean an udder of the cow which is in one of said stalls which is at the cleaning location;
- b) a control section comprising a location sensor responsive to location of the stalls and to provide signals identifying arrival times at which each of the stalls is at the cleaning location, said control section being arranged to cause the cleaning section to move, relative to the arrival times, from the retracted position to the cleaning position to discharge said cleaning fluid toward the udder of the cow, then to retract the cleaning section [form] from the cleaning position to complete a cleaning cycle, and when the stall in the cleaning location moves from the cleaning location, to again cause the cleaning section to move to the cleaning position to initiate a subsequent cleaning cycle as a following stall is arriving at the cleaning location.

Mot. to Amend. 8–9.

As the movant, Patent Owner bears the burden of demonstrating, by a preponderance of the evidence, that the proposed substitute claims are patentable. 37 C.F.R. § 42.20(c); *see* 37 C.F.R. § 42.1(d) (noting that the “default evidentiary standard [in proceedings before the Board] is a preponderance of the evidence”). To demonstrate patentability, Patent Owner must, *inter alia*, demonstrate that the proposed substitute claims are patentable over the prior art of record, as well as prior art not of record but

known to the patent owner. *Idle Free Sys., Inc. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 7 (PTAB June 11, 2013) (Paper 26).

In its Motion, Patent Owner asserts that the proposed claims are patentable over two references not of record, but does not address the patentability of the proposed claims over the prior art for which trial was instituted, primarily Rose and Chandler. Mot. to Amend. 12–13. Patent Owner’s failure to address the art of record is fatal to its motion, as the patentability of substitute claim 11 over Rose and Chandler is far from self-evident. It is undisputed that the feature that Patent Owner seeks to add to claim 1, a continuously rotating milking platform, was “conventional” at the time of the invention. *See* Ex. 1001, 3:47–48, 4:11–12 (continuously rotating platform 22 part of “conventional” milking parlor 22). Indeed, Patent Owner’s expert testifies that at the time the ’094 patent was filed, “the overwhelming majority of rotary parlors in all major dairying nations incorporated continuously moving platforms.” Ex. 2012 ¶ 35. Thus, proposed claim 11 would represent the combination of a known and commonly used milking apparatus with Rose’s automated spray device. Neither Patent Owner nor its expert contend that it would have been beyond ordinary skill at the time of the invention to modify Rose’s automated spray device so that it could be used on a milking apparatus with a continuously rotating platform. *See* Tr. 36:12–17. Patent Owner has not given us any reason not to conclude that proposed claim 11 is simply the “combination of familiar elements according to known methods . . . yield[ing] predictable results.” *KSR*, 550 U.S. at 416. Thus, based on the current record, Patent Owner has not carried its burden of demonstrating that proposed claim 11 is patentable over the prior art of record.

### III. CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–10 of the '094 patent are unpatentable under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). Patent Owner's Motion to Amend is denied.

### IV. ORDER

Accordingly, it is

ORDERED that claims 1–10 of the '094 patent are held unpatentable; and

FURTHER ORDERED that Patent Owner's Motion to Amend is *denied*.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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