

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

96-1168

LAWRENCE B. LOCKWOOD

Plaintiff-Appellant,

v.

AMERICAN AIRLINES, INC.,

Defendant-Appellee.

Robert M. Taylor, Jr., Lyon & Lyon, of Costa Mesa, California, argued for plaintiff- appellant.

Don W. Martens, Knobbe, Martens, Olson & Bear, of Newport Beach, California, argued for defendant-appellee. With him on the brief were Joseph R. Re and Paul A. Stewart.

Appealed from: U.S. District Court for the Southern District of California

Judge Enright

United States Court of Appeals for the Federal Circuit

96-1168

LAWRENCE B. LOCKWOOD,

Plaintiff-Appellant,

v.

AMERICAN AIRLINES, INC.,

Defendant-Appellee.

DECIDED: March 4, 1997

Before MAYER, LOURIE, and RADER, Circuit Judges.

LOURIE, Circuit Judge.

Lawrence B. Lockwood appeals from the final judgment of the United States District Court for the Southern District of California, Lockwood v. American Airlines, Inc., No. 91-1640E (CM) (S.D. Cal. Dec. 19,

1995), granting summary judgment in favor of American Airlines, Inc. In that summary judgment, the court held that (1) U.S. Patent Re. 32,115, U.S. Patent 4,567,359, and U.S. Patent 5,309,355 were not infringed by American's SABREvision reservation system, and that (2) the '355 patent and the asserted claims of the '359 patent were invalid under 35 U.S.C. § 102 and 35 U.S.C. § 103, respectively. Lockwood v. American Airlines, Inc., 834 F. Supp. 1246, 28 USPQ2d 1114 (S.D. Cal. 1993), req. for reconsideration denied, 847 F. Supp. 777 (S.D. Cal. 1994) (holding the '115 and '359 patents not infringed); Lockwood v. American Airlines, Inc., 877 F. Supp. 500, 34 USPQ2d 1290 (S.D. Cal. 1994) (holding the asserted claims of the '355 patent invalid and not infringed); Lockwood v. American Airlines, Inc., 37 USPQ2d 1534 (S.D. Cal. 1995) (holding the '359 patent invalid). Because the district court correctly determined that there were no genuine issues of material fact in dispute and that American was entitled to judgment as a matter of law, we affirm.

BACKGROUND

The pertinent facts are not in dispute. Lockwood owns the '115, '355, and '359 patents, all of which relate to automated interactive sales terminals that provide sales presentations to customers and allow the customers to order goods and services. Lockwood sued American asserting that American's SABREvision airline reservation system infringed all three patents. SABREvision is used by travel agents to access schedule and fare information, to book itineraries, and to retrieve photographs of places of interest, including hotels, restaurants, and cruises, for display to consumers. It improves upon American's SABRE reservation system, which originated in the 1960s and which cannot display photographs.

The '115 patent, reissued in 1986, relates to a self-service sales terminal that presents audio-visual travelogs to customers. Claim 11, the only asserted claim, reads in pertinent part:

A substantially self-contained apparatus dimensioned to be easily transported and installed at a commercial location comprising:

an audio-visual means for selectively dispensing information from a plurality of data sources;

customer operated means for selecting information to be dispensed on said audio-visual means, including means for sequentially and interactively displaying alternate selections of information on said audio-visual means in response to customer's commands;

...

at least one electromechanical means for accepting payment for said item from the customer;

.....

The district court held that American's SABREvision did not infringe the '115 patent because it lacked four limitations of the asserted claim. Specifically, the court found that SABREvision was not a "substantially self-contained apparatus dimensioned to be easily transported" and that it lacked the claimed "audio-visual means," "customer operated means," and "means for collecting payment."

The '359 patent discloses a system of multiple interactive self-service terminals that provide audio-visual sales presentations and dispense goods and services from multiple institutions. Claim 1, the only independent claim,

reads in pertinent part:

A system for automatically dispensing information, goods, and services for a plurality of institutions in a particular industry, comprising:

...

at least one customer sales and information terminal . . .

...

said sales and information terminal including:

audio-visual means for interaction with a customer, comprising:

means for storing a sequence of audio and video information to be selectively transmitted to a customer;

means for transmitting a selected sequence of said stored information to the customer;

customer operated input means for gathering information from a customer

The district court held that SABREvision did not infringe the '359 patent because it lacked the "audio-visual means" and "customer operated input means." The court also held the '359 patent invalid because it would have been obvious in light of the original SABRE system in combination with the self- service terminal disclosed in U.S. Patent 4,359,631, which issued in 1982 and was subsequently reissued as the '115 patent.

Finally, the '355 patent, which issued in 1994, discloses a system for augmenting the sales and marketing capabilities of travel agents, in conjunction with airline reservation systems, by allowing travel agents to compose individual customized sales presentations for their clients. Claim 1, the only independent claim, reads in pertinent part:

A system for automatically dispensing information, goods or services for a plurality of institutions in a particular industry, comprising:

a central data processing center including means for storing service, price rate information or sales information for each institution;

at least one merchandising apparatus . . .

...

said merchandising apparatus including:

a means for composing and displaying individualized sales presentations according to determinants entered into said apparatus and based on a customer's profile and requests . . .

storage means holding a plurality of randomly accessible segments of data;

...

means for selectively combining said determinants to address and retrieve at least one of said segments

The district court held that SABREvision did not infringe the '355 patent because, *inter alia*, it did not compose "individualized sales presentations" or "selectively combine" customer information to retrieve its photographs. The court further held the '355 patent invalid under 35 U.S.C. § 102(b) on the ground that its claims were anticipated by the '359 patent. The '355 patent issued from a chain of applications originating with the application that issued as the '359 patent. The district court held that the '355 patent is not entitled to the filing date of the original parent application and thus concluded that the '359 patent is anticipating prior art. Lockwood now appeals to this court arguing that the district court erred in its construction of the claims of all three patents and contending that summary judgment in favor of American on each issue is precluded because genuine issues of material fact remain in dispute.

DISCUSSION

We review a district court's grant of summary judgment *de novo*. Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed. Cir. 1994). Summary judgment is appropriate when no genuine issue as to any material fact exists and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). Thus, summary judgment may be granted when no "reasonable jury could return a verdict for the nonmoving party." See Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986); Conroy, 14 F.3d at 1575, 29 USPQ2d at 1377 ("The moving party . . . may discharge its burden by showing the district court that there is an absence of evidence to support the nonmoving party's case."). In determining whether there is a genuine issue of material fact, we view the evidence in the light most favorable to the party opposing the motion with doubts resolved in favor of the opponent. Transmatic, Inc. v. Gulton Indus., Inc., 53 F.3d 1270, 1274, 35 USPQ2d 1035, 1038 (Fed. Cir. 1995).

A. Validity

The district court held that the asserted claims of the '359 patent would have been obvious in light of the prior art '631 patent and the original SABRE system. A determination of obviousness under 35 U.S.C. § 103 is a legal conclusion involving factual inquiries. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988). Lockwood argues that the subject matter of the '359 claims would not have been obvious and that the district court impermissibly drew adverse factual inferences in concluding that the patent was invalid. Lockwood first argues that the district court erred in concluding that the SABRE system qualified as prior art.

American submitted an affidavit averring that the SABRE system was introduced to the public in 1962, had over one thousand connected sales desks by 1965, and was connected to the reservation systems for most of the other airlines by 1970. Lockwood does not dispute these facts, but argues that because "critical aspects" of the SABRE system were not accessible to the public, it could not have been prior art. American's expert conceded that the essential algorithms of the SABRE software were proprietary and confidential and that those aspects of the system that were readily apparent to the public would not have been sufficient to enable one skilled in the art to duplicate the system. However, American responds that the public need not have access to the "inner workings" of a device for it to be considered "in public use" or "used by others" within the meaning of the statute.

We agree with American that those aspects of the original SABRE system relied on by the district court are prior art to the '359 patent. The district court held that SABRE, which made and confirmed reservations with

multiple institutions (e.g., airlines, hotels, and car rental agencies), combined with the terminal of the '631 patent rendered the asserted claims of the '359 patent obvious. The terminal of the '631 patent admittedly lacked this "multiple institution" feature. It is undisputed, however, that the public was aware that SABRE possessed this capability and that the public had been using SABRE to make travel reservations from independent travel agencies prior to Lockwood's date of invention.

If a device was "known or used by others" in this country before the date of invention or if it was "in public use" in this country more than one year before the date of application, it qualifies as prior art. See 35 U.S.C. § 102(a) and (b) (1994). Lockwood attempts to preclude summary judgment by pointing to record testimony that one skilled in the art would not be able to build and practice the claimed invention without access to the secret aspects of SABRE. However, it is the claims that define a patented invention. See Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571, 7 USPQ2d 1057, 1064 (Fed. Cir. 1988). As we have concluded earlier in this opinion, American's public use of the high-level aspects of the SABRE system was enough to place the claimed features of the '359 patent in the public's possession. See In re Epstein, 32 F.3d 1559, 1567-68, 31 USPQ2d 1817, 1823 (Fed. Cir. 1994) ("Beyond this 'in public use or on sale' finding, there is no requirement for an enablement-type inquiry."). Lockwood cannot negate this by evidence showing that other, unclaimed aspects of the SABRE system were not publicly available. Moreover, the '359 patent itself does not disclose the level of detail that Lockwood would have us require of the prior art. For these reasons, Lockwood fails to show a genuine issue of material fact precluding summary judgment.

Lockwood further argues that even if the SABRE system is effective prior art, the combination of that system and the '631 patent would not have yielded the invention of the '359 patent. The terminal in the claims of the '359 patent includes a number of means-plus-function limitations, subject to 35 U.S.C. § 112, 6, including "means for gathering information from a customer" and "means for storing a sequence of audio and video information to be selectively transmitted to a customer." Means-plus-function clauses are construed "as limited to the corresponding structure[s] disclosed in the specification and equivalents thereof." In re Donaldson Co., 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (in banc); see 35 U.S.C. § 112, 6 (1994). Lockwood argues that the structures disclosed in the '359 patent differ substantially from the terminal disclosed in the '631 patent and that, at the very least, his expert's declaration raised genuine issues of material fact sufficient to preclude summary judgment.

We do not agree. We believe that American has met its burden, even in light of the presumption of patent validity, to show that the means limitations relating to the terminal in the claims of the '359 patent appear in the '631 specification. Lockwood has failed to respond by setting forth specific facts that would raise a genuine issue for trial. Specifically, Lockwood has not alleged that the '631 disclosure lacks the structures disclosed in the '359 patent specification or their equivalents. As the district court noted, Lockwood's expert, Dr. Tuthill, relied on structures that are not mentioned in either the '631 or the '359 patents. For example, Tuthill states that the claimed invention differs from the '631 patent because the terminal described in the '631 patent uses a "backward-chaining" system to solve problems while the '359 patent uses a "forward-chaining" system. Yet neither the '359 nor the '631 patents mentions backward- or forward-chaining. Nor does the '359 specification describe any hardware or software structure as being limited to any particular problem-solving technique. In addition, Lockwood argues that the hardware and software disclosed in the two patents are not equivalent to each other. However, the '359 patent claims the hardware and software in broad terms, and the patents both describe similar computer controlled self- service terminals employing video disk players that store and retrieve audio-visual information. For example, with regard to the "means for controlling said

storage and transmitting means," Lockwood's expert avers that the "structure described in the '359 patent which corresponds to this means is the processor unit and the application program which the processor executes." Yet, the only software descriptions in the '359 patent consist of high level exemplary functional flowcharts. Lockwood's arguments and his expert's statements are thus conclusory. They fail to identify which structures in the '359 patent are thought to be missing from the '631 patent disclosure. Accordingly, we agree with the district court that Lockwood's and his expert's declarations have not adequately responded to American's motion by raising genuine issues of material fact, and we therefore conclude that the district court properly held the asserted claims of the '359 patent to have been obvious as a matter of law.

Lockwood also argues that the district court erred in holding the '355 patent invalid as anticipated by the '359 patent. The '359 patent issued in 1986 from the first application in a chain of five applications which ultimately issued as the '359 patent. It is undisputed that the '359 patent discloses the invention ultimately claimed in the '355 patent. Because the third, fourth, and fifth applications were filed more than one year after the '359 patent issued, the validity of the '355 patent turns on whether it is entitled to the filing date of the second application, the relevant subject matter of which is undisputedly entitled to the benefit of the original application.

In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112. *In re Hogan*, 559 F.2d 595, 609, 194 USPQ 527, 540 (CCPA 1977). The district court held that two of the three intervening applications failed to maintain the continuity of disclosure and thus concluded that the '355 patent was not entitled to the necessary earlier filing date.

Lockwood argues that the district court erred by looking solely at the applications themselves. We do not agree. It is the disclosures of the applications that count. Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed. While the meaning of terms, phrases, or diagrams in a disclosure is to be explained or interpreted from the vantage point of one skilled in the art, all the limitations must appear in the specification. The question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought. *See Martin v. Mayer*, 823 F.2d 500, 504, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987) (stating that it is "not a question of whether one skilled in the art might be able to construct the patentee's device from the teachings of the disclosure Rather, it is a question whether the application necessarily discloses that particular device.") (quoting *Jepson v. Coleman*, 314 F.2d 533, 536, 136 USPQ 647, 649-50 (CCPA 1963)). Lockwood argues that all that is necessary to satisfy the description requirement is to show that one is "in possession" of the invention. Lockwood accurately states the test, *see Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), but fails to state how it is satisfied. One shows that one is "in possession" of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious. *Id.* ("[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed.") (emphasis in original). One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention. Although the exact terms need not be used *in haec verba*, *see Eiselstein v. Frank*, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995) ("[T]he prior application need not describe the claimed subject matter in exactly the same terms as used in the claims"), the specification must contain an

equivalent description of the claimed subject matter. A description which renders obvious the invention for which an earlier filing date is sought is not sufficient.

Lockwood further argues that his expert's declaration was sufficient to raise a genuine issue of material fact regarding what the intervening applications disclosed to one skilled in the art. However, as American argues, one intervening application failed to disclose a computer system connected to multiple vendors and another, while disclosing a central computer with a video disk player, failed to disclose individual merchandising apparatus that contained video disk players or other equivalent storage means. Lockwood's expert averred that the disclosed terminal in the former application "can be connected" to multiple vendors and that, although the latter application only "discusses the use of a television set and a keypad at a consumer's home," it would have been apparent to one skilled in the art that "Lockwood also envisioned the use of a terminal" containing a video disk player. That does not solve Lockwood's problem. Lockwood claimed a distinct invention from that disclosed in the specification. It is not sufficient for purposes of the written description requirement of § 112 that the disclosure, when combined with the knowledge in the art, would lead one to speculate as to modifications that the inventor might have envisioned, but failed to disclose. Each application in the chain must describe the claimed features. It is undisputed that one of the intervening applications does not describe an individual terminal containing a video disk player. Therefore, the declaration by Lockwood's expert does not raise a genuine issue of material fact. The district court correctly held that the '355 patent was invalid as anticipated by the '359 patent.

B. Infringement

Determining whether a patent claim has been infringed requires a two-step analysis: "First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process." Carroll Touch, Inc. v. Electro Mechanical Sys., Inc., 15 F.3d 1573, 1576, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993). Claim construction is to be determined by the court. Markman v. Westview Instruments, Inc., 116 S. Ct. 1384, 1387, 38 USPQ2d 1461, 1463 (1996) ("We hold that the construction of a patent, including terms of art within its claim, is exclusively within the province of the court."). In construing the claims, the court looks to the claims, the specification, the prosecution history, and, if necessary, extrinsic evidence. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996). Application of the properly construed claim to the accused device is a question of fact.

Lockwood argues that the district court misconstrued all four elements of the '115 patent claims cited by the district court. First, Lockwood contends that, properly construed, the term "self-contained" means an "apparatus or collection of components which includes the materials necessary for the apparatus to function on its own" and that the language "easily transported" includes a collection of components of comparable size and weight to those disclosed.

American argues that Lockwood's interpretation of these terms is flatly inconsistent with his interpretation before the Patent and Trademark Office (PTO). We agree. The limitation "self-contained apparatus dimensioned to be easily transported" was added after the PTO rejected Lockwood's claims as obvious in light of a business transaction computer system disclosed in U.S. Patent 3,705,384. In response to the rejection, Lockwood distinguished the prior art system, which was composed of multiple cabinets that filled a room, stating, "[a]pplicant's device, on the other hand, is a free-standing self contained unit which can be moved from location to location." During the prosecution of the patent, Lockwood thus differentiated his

device from the prior art because of its compact physical dimensions, not because of its ability to "function on its own." In fact, the interpretation of the words "self-contained" that Lockwood now advances is insufficient to distinguish his invention from the prior art because the prior art patent also discloses a system that can function independently. Lockwood cannot now argue for an interpretation inconsistent with this earlier representation. "Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers." Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576, 34 USPQ2d 1673, 1677 (Fed. Cir.), cert. denied, 116 S.Ct. 515 (1995); see Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562, 19 USPQ2d 1500, 1504 (Fed. Cir. 1991).

Second, Lockwood asserts that the term "audio-visual" refers to either video presentations or audio presentations, but not necessarily to both. We disagree. The '115 patent specification states that the unit displays travel documentaries and that a "high-quality audio-visual travelog can utilize practically all the human senses to motivate and influence a customer." During prosecution, Lockwood argued:

Although certain alpha numeric data are presented in the [prior art] reference, and such as in airport terminals which display schedules, etc., these are to be distinguished from applicant's device which actually presents brief travelogues and other movie-quality audio visual presentations to sell a product.

Although Lockwood correctly notes that the disclosed terminal displays an initial selection menu that does not produce any sound, this menu is not referred to as an "audio-visual" presentation. Rather, the selection menu is merely a method used for choosing an "audio-visual" presentation. Examination of the claims, specification, and prosecution history leads us to conclude that the district court correctly interpreted this term as requiring a device that produces both audio and video. It is undisputed that the SABREvision system cannot produce audio presentations.

Third, Lockwood argues that the word "customer" should be construed to mean "someone with whom you do business" and therefore that American's "customers" are the travel agents that use SABREvision. American counters that the patent itself explicitly excludes travel agents from the definition of "customer." We agree. The specification states that the purpose of the invention is to replace travel agents so that the customer can purchase travel-related goods and services directly. It is "a new device capable of performing the promotion and sales of services such as those commonly dispensed by travel agencies, in a fully automated fashion and from easily accessible locations." Given the patent specification's use of the term "customer," it is clear that the accused device lacks this essential limitation. SABREvision is not used by, nor is it designed to be used by, the customers who are purchasing the goods and services. Lockwood does not genuinely dispute American's contention that SABREvision uses a command structure that requires experience to operate, nor does he argue that SABREvision is suitable for self-service operation by the consumers of the travel related goods and services.

Finally, Lockwood argues that a genuine issue of fact was raised regarding whether SABREvision has a structure equivalent to the disclosed structures relating to the claimed "means for accepting payment." With SABREvision, a travel agent enters credit card information through the keyboard, which does not contain a magnetic card reader as disclosed in the patent. American argues that, as a matter of law, a keyboard which requires manual labor is not equivalent to a card reader. Lockwood replies that the card reader also requires manual labor; the user must pass the card through the reader. Even if SABREvision's keyboard were arguably structurally equivalent to the card reader disclosed in the specification, we disagree that this would raise a genuine issue of material fact. We have already determined that the district court correctly concluded

that at least three limitations in claim 11 are not found in the accused device. Any error with regard to the presence or absence of additional limitations would be harmless. Thus, any dispute relating to those limitations is immaterial. Accordingly, we conclude that the district court did not err in holding that as a matter of law SABREvision does not literally infringe claim 11.

Lockwood also argues that the district court erred in concluding on summary judgment that there was no infringement under the doctrine of equivalents. Lockwood first argues that the district court impermissibly imposed an equitable threshold before applying the doctrine. Because the court proceeded to apply the doctrine notwithstanding its statements regarding equitable factors, see Hebert v. Lisle Corp., 99 F.3d 1109, 1117, 40 USPQ2d 1611, 1616 (Fed. Cir. 1996) ("As discussed in Hilton Davis, 62 F.3d at 1521, 35 USPQ2d at 1647-48, infringement by technologic equivalents, like literal infringement, does not have an equitable threshold."), this error was harmless. After analyzing the prosecution history, the court correctly concluded that prosecution history estoppel precludes a finding of infringement under the doctrine of equivalents.

Prosecution history estoppel precludes a patentee from obtaining in an infringement suit protection for subject matter which it relinquished during prosecution in order to obtain allowance of the claims. Zenith Lab., Inc. v. Bristol-Myers Squibb Co., 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed. Cir. 1994). "Whenever prosecution history estoppel is invoked as a limitation to infringement under the doctrine of equivalents, 'a close examination must be made as to, not only what was surrendered, but also the reason for such a surrender.'" Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc., 906 F.2d 698, 703, 15 USPQ2d 1295, 1298 (Fed. Cir. 1990) (quoting Bayer Aktiengesellschaft v. Duphar Int'l Research B.V., 738 F.2d 1237, 1243, 222 USPQ 649, 653 (Fed. Cir. 1984)).

During prosecution, Lockwood stressed the "audio-visual means" limitation to overcome a rejection over the prior art. As noted by the district court, Lockwood distinguished his invention from another prior art patent which used an alpha-numeric display, stating that it "does not feature any means to promote the goods or services by audio or audio-visual means." Lockwood did not draw a distinction between alpha-numeric displays and graphical displays. Rather, he drew a distinction between purely visual displays and those that contained audio as well. Thus, Lockwood is estopped from asserting that the SABREvision display, which does not produce audio or audio-visual presentations, is equivalent to his audio-visual means.

Lockwood makes similar arguments challenging the district court's construction of the terms "customer" and "audio-visual" in the '359 patent. We find these arguments equally unpersuasive. The claims of the '359 patent explicitly state that the audio-visual means comprises means for "transmitting a selected sequence of said stored information to a customer" and that the stored information is "a sequence of audio and video information." Clearly, the claims require that both video and audio information be presented to the customer.

In addition, the '359 patent specification states that an object of the invention is to dispense "services to the general public on a self-service basis from remote terminals." An additional object of the invention is to provide services "by means of [a] simulated personal interview with a factitious agent created by audio-visual devices from prerecorded sound, images and synthesized data." The terminal is programmed to "audiovisually elicit from the customer the information necessary to provide an insurance quotation," thereby saving time and money because "the companies do not have to provide so many sales personnel to deal with such multitude of queries on a one-to-one basis." Although "[r]eferences to a preferred embodiment, such as those often present in a specification, are not claim limitations," Laitram Corp. v. Cambridge Wire Cloth Co., 863 F.2d

855, 865, 9 USPQ2d 1289, 1299 (Fed. Cir. 1988), "[w]e look to the specification for assistance in construing a claim." Carroll Touch, Inc. v. Electro Mechanical Sys., Inc., 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). As with the '115 patent, this specification clearly indicates that the term "customer" refers to the prospective purchaser of the services and excludes the sales agent whom the invention is intended to replace. Accordingly, the district court correctly held as a matter of law that SABREvision does not infringe the '359 patent.

Likewise, the district court correctly concluded that prosecution history estoppel precludes a finding of infringement under the doctrine of equivalents. During prosecution, Lockwood explicitly distinguished the prior art, stating, "[t]his system is thus not simply a self-service sales center linked to a central computer, as is known in the prior art, but completely replaces the sales person's role in soliciting the necessary information from the customer." (emphasis added). Lockwood argues that there can be no estoppel because the statement was not made in response to a rejection over the prior art. We disagree. Lockwood made this statement before any claims in the '359 patent were allowed. To the extent that prior art self-service sales centers employed sales personnel, Lockwood distinguished his invention on the basis that it did not require any sales personnel to collect customer information. The court properly determined that Lockwood surrendered coverage by drawing this distinction between his invention and the prior art. See Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1304, 41 USPQ2d 1364, 1368 (Fed. Cir. 1997) ("[S]ince, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover, he is by implication surrendering such protection."). Therefore, Lockwood is estopped from asserting that SABREvision, which requires travel agents to collect customer information, contains an equivalent to the claimed "customer operated input means."

Lockwood also challenges the district court's conclusion that SABREvision lacks "automated merchandising apparatus" including "a means for composing and displaying individualized sales presentations" and "means for selectively combining" as claimed in the '355 patent. Lockwood argues that his expert's affidavit raised a genuine issue of material fact by demonstrating the equivalency between the SABREvision structure and the structure disclosed in the '355 patent specification. Lockwood does not dispute that a travel agent, when operating SABREvision, must manually select and view one photograph at a time from a generated list. The court held that this type of operation is not "composing" a sales presentation within the literal meaning of the claims. The functionality of SABREvision is undisputed. Because SABREvision does not perform the functions required by the properly construed claims, e.g., it does not "compose" an "individualized sales presentation" within the meaning of the claims, there is no need to compare the structure of the accused device to the structure disclosed in the patent. Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993) ("The accused device must . . . perform the identical function as specified in the claims"). Thus, no doctrine of equivalents issue having been raised, the district court correctly held as a matter of law that SABREvision does not infringe the claims of the '355 patent.

CONCLUSION

The district court correctly concluded that the '359 patent was invalid as obvious and that the '355 patent was invalid as anticipated by the '359 patent. In addition, the district court correctly concluded that there were no genuine disputes over any issues of material fact and correctly concluded that American Airlines' SABREvision reservation system did not infringe any of the patents in suit as a matter of law. Accordingly, the judgment of the district court in favor of American Airlines is affirmed.

AFFIRMED

Footnotes

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Before MAYER, LOURIE, and RADER, Circuit Judges.

LOURIE, Circuit Judge.

Lawrence B. Lockwood appeals from the final judgment of the United States District Court for the Southern District of California, Lockwood v. American Airlines, Inc., No. 91-1640E (CM) (S.D. Cal. Dec. 19, 1995), granting summary judgment in favor of American Airlines, Inc. In that summary judgment, the court held that (1) U.S. Patent Re. 32,115, U.S. Patent 4,567,359, and U.S. Patent 5,309,355 were not infringed by American's SABREvision reservation system, and that (2) the '355 patent and the asserted claims of the '359 patent were invalid under 35 U.S.C. § 102 and 35 U.S.C. § 103, respectively. Lockwood v. American Airlines, Inc., 834 F. Supp. 1246, 28 USPQ2d 1114 (S.D. Cal. 1993), req. for reconsideration denied, 847 F. Supp. 777 (S.D. Cal. 1994) (holding the '115 and '359 patents not infringed); Lockwood v. American Airlines, Inc., 877 F. Supp. 500, 34 USPQ2d 1290 (S.D. Cal. 1994) (holding the asserted claims of the '355 patent invalid and not infringed); Lockwood v. American Airlines, Inc., 37 USPQ2d 1534 (S.D. Cal. 1995) (holding the '359 patent invalid). Because the district court correctly determined that there were no genuine issues of material fact in dispute and that American was entitled to judgment as a matter of law, we affirm.

BACKGROUND

The pertinent facts are not in dispute. Lockwood owns the '115, '355, and '359 patents, all of which relate to automated interactive sales terminals that provide sales presentations to customers and allow the customers to order goods and services. Lockwood sued American asserting that American's SABREvision airline reservation system infringed all three patents. SABREvision is used by travel agents to access schedule and fare information, to book itineraries, and to retrieve photographs of places of interest, including hotels, restaurants, and cruises, for display to consumers. It improves upon American's SABRE reservation system, which originated in the 1960s and which cannot display photographs.

The '115 patent, reissued in 1986, relates to a self-service sales terminal that presents audio-visual travelogs to customers. Claim 11, the only asserted claim, reads in pertinent part:

A substantially self-contained apparatus dimensioned to be easily transported and installed at a commercial location comprising:

an audio-visual means for selectively dispensing information from a plurality of data sources;

customer operated means for selecting information to be dispensed on said audio-visual means, including means for sequentially and interactively displaying alternate selections of information on said audio-visual means in response to customer's commands;

...

at least one electromechanical means for accepting payment for said item from the customer;

....

The district court held that American's SABREvision did not infringe the '115 patent because it lacked four limitations of the asserted claim. Specifically, the court found that SABREvision was not a "substantially self-contained apparatus dimensioned to be easily transported" and that it lacked the claimed "audio-visual means," "customer operated means," and "means for collecting payment."

The '359 patent discloses a system of multiple interactive self-service terminals that provide audio-visual sales presentations and dispense goods and services from multiple institutions. Claim 1, the only independent claim, reads in pertinent part:

A system for automatically dispensing information, goods, and services for a plurality of institutions in a particular industry, comprising:

...

at least one customer sales and information terminal . . .

...

said sales and information terminal including:

audio-visual means for interaction with a customer, comprising:

means for storing a sequence of audio and video information to be selectively transmitted to a customer;

means for transmitting a selected sequence of said stored information to the customer;

customer operated input means for gathering information from a customer

The district court held that SABREvision did not infringe the '359 patent because it lacked the "audio-visual means" and "customer operated input means." The court also held the '359 patent invalid because it would have been obvious in light of the original SABRE system in combination with the self- service terminal disclosed in U.S. Patent 4,359,631, which issued in 1982 and was subsequently reissued as the '115 patent.

Finally, the '355 patent, which issued in 1994, discloses a system for augmenting the sales and marketing capabilities of travel agents, in conjunction with airline reservation systems, by allowing travel agents to compose individual customized sales presentations for their clients. Claim 1, the only independent claim, reads in pertinent part:

A system for automatically dispensing information, goods or services for a plurality of institutions in a particular industry, comprising:

a central data processing center including means for storing service, price rate information or sales information for each institution;

at least one merchandising apparatus . . .

...

said merchandising apparatus including:

a means for composing and displaying individualized sales presentations according to determinants entered into said apparatus and based on a customer's profile and requests . . .

storage means holding a plurality of randomly accessible segments of data;

. . .

means for selectively combining said determinants to address and retrieve at least one of said segments

The district court held that SABREvision did not infringe the '355 patent because, *inter alia*, it did not compose "individualized sales presentations" or "selectively combine" customer information to retrieve its photographs. The court further held the '355 patent invalid under 35 U.S.C. § 102(b) on the ground that its claims were anticipated by the '359 patent. The '355 patent issued from a chain of applications originating with the application that issued as the '359 patent. The district court held that the '355 patent is not entitled to the filing date of the original parent application and thus concluded that the '359 patent is anticipating prior art. Lockwood now appeals to this court arguing that the district court erred in its construction of the claims of all three patents and contending that summary judgment in favor of American on each issue is precluded because genuine issues of material fact remain in dispute.

DISCUSSION

We review a district court's grant of summary judgment *de novo*. Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed. Cir. 1994). Summary judgment is appropriate when no genuine issue as to any material fact exists and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). Thus, summary judgment may be granted when no "reasonable jury could return a verdict for the nonmoving party." See Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986); Conroy, 14 F.3d at 1575, 29 USPQ2d at 1377 ("The moving party . . . may discharge its burden by showing the district court that there is an absence of evidence to support the nonmoving party's case."). In determining whether there is a genuine issue of material fact, we view the evidence in the light most favorable to the party opposing the motion with doubts resolved in favor of the opponent. Transmatic, Inc. v. Gulton Indus., Inc., 53 F.3d 1270, 1274, 35 USPQ2d 1035, 1038 (Fed. Cir. 1995).

A. Validity

The district court held that the asserted claims of the '359 patent would have been obvious in light of the prior art '631 patent and the original SABRE system. A determination of obviousness under 35 U.S.C. § 103 is a legal conclusion involving factual inquiries. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988). Lockwood argues that the subject matter of the '359 claims would not have been obvious and that the district court impermissibly drew adverse factual inferences in concluding that the patent was invalid. Lockwood first argues that the district court erred in concluding that the SABRE system qualified as prior art.

American submitted an affidavit averring that the SABRE system was introduced to the public in 1962, had over one thousand connected sales desks by 1965, and was connected to the reservation systems for most of the other airlines by 1970. Lockwood does not dispute these facts, but argues that because "critical aspects" of the SABRE system were not accessible to the public, it could not have been prior art. American's expert conceded that the essential algorithms of the SABRE software were proprietary and confidential and that those aspects of the system that were readily apparent to the public would not have been sufficient to enable one skilled in the art to duplicate the system. However, American responds that the public need not have access to the "inner workings" of a device for it to be considered "in public use" or "used by others" within the meaning of the statute.

We agree with American that those aspects of the original SABRE system relied on by the district court are prior art to the '359 patent. The district court held that SABRE, which made and confirmed reservations with multiple institutions (e.g., airlines, hotels, and car rental agencies), combined with the terminal of the '631 patent rendered the asserted claims of the '359 patent obvious. The terminal of the '631 patent admittedly lacked this "multiple institution" feature. It is undisputed, however, that the public was aware that SABRE possessed this capability and that the public had been using SABRE to make travel reservations from independent travel agencies prior to Lockwood's date of invention.

If a device was "known or used by others" in this country before the date of invention or if it was "in public use" in this country more than one year before the date of application, it qualifies as prior art. See 35 U.S.C. § 102(a) and (b) (1994). Lockwood attempts to preclude summary judgment by pointing to record testimony that one skilled in the art would not be able to build and practice the claimed invention without access to the secret aspects of SABRE. However, it is the claims that define a patented invention. See Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571, 7 USPQ2d 1057, 1064 (Fed. Cir. 1988). As we have concluded earlier in this opinion, American's public use of the high-level aspects of the SABRE system was enough to place the claimed features of the '359 patent in the public's possession. See In re Epstein, 32 F.3d 1559, 1567-68, 31 USPQ2d 1817, 1823 (Fed. Cir. 1994) ("Beyond this 'in public use or on sale' finding, there is no requirement for an enablement-type inquiry."). Lockwood cannot negate this by evidence showing that other, unclaimed aspects of the SABRE system were not publicly available. Moreover, the '359 patent itself does not disclose the level of detail that Lockwood would have us require of the prior art. For these reasons, Lockwood fails to show a genuine issue of material fact precluding summary judgment.

Lockwood further argues that even if the SABRE system is effective prior art, the combination of that system and the '631 patent would not have yielded the invention of the '359 patent. The terminal in the claims of the '359 patent includes a number of means-plus-function limitations, subject to 35 U.S.C. § 112, 6, including "means for gathering information from a customer" and "means for storing a sequence of audio and video information to be selectively transmitted to a customer." Means-plus-function clauses are construed "as limited to the corresponding structure[s] disclosed in the specification and equivalents thereof." In re Donaldson Co., 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (in banc); see 35 U.S.C. § 112, 6 (1994). Lockwood argues that the structures disclosed in the '359 patent differ substantially from the terminal disclosed in the '631 patent and that, at the very least, his expert's declaration raised genuine issues of material fact sufficient to preclude summary judgment.

We do not agree. We believe that American has met its burden, even in light of the presumption of patent validity, to show that the means limitations relating to the terminal in the claims of the '359 patent appear in the '631 specification. Lockwood has failed to respond by setting forth specific facts that would raise a genuine issue for trial. Specifically, Lockwood has not alleged that the '631 disclosure lacks the structures disclosed in the '359 patent specification or their equivalents. As the district court noted, Lockwood's expert, Dr. Tuthill, relied on structures that are not mentioned in either the '631 or the '359 patents. For example, Tuthill states that the claimed invention differs from the '631 patent because the terminal described in the '631 patent uses a "backward-chaining" system to solve problems while the '359 patent uses a "forward-chaining" system. Yet neither the '359 nor the '631 patents mentions backward- or forward-chaining. Nor does the '359 specification describe any hardware or software structure as being limited to any particular problem-solving technique. In addition, Lockwood argues that the hardware and software disclosed in the two patents are not equivalent to each other. However, the '359 patent claims the hardware and software in broad terms, and the

patents both describe similar computer controlled self- service terminals employing video disk players that store and retrieve audio-visual information. For example, with regard to the "means for controlling said storage and transmitting means," Lockwood's expert avers that the "structure described in the '359 patent which corresponds to this means is the processor unit and the application program which the processor executes." Yet, the only software descriptions in the '359 patent consist of high level exemplary functional flowcharts. Lockwood's arguments and his expert's statements are thus conclusory. They fail to identify which structures in the '359 patent are thought to be missing from the '631 patent disclosure. Accordingly, we agree with the district court that Lockwood's and his expert's declarations have not adequately responded to American's motion by raising genuine issues of material fact, and we therefore conclude that the district court properly held the asserted claims of the '359 patent to have been obvious as a matter of law.

Lockwood also argues that the district court erred in holding the '355 patent invalid as anticipated by the '359 patent. The '359 patent issued in 1986 from the first application in a chain of five applications which ultimately issued as the '359 patent. It is undisputed that the '359 patent discloses the invention ultimately claimed in the '355 patent. Because the third, fourth, and fifth applications were filed more than one year after the '359 patent issued, the validity of the '355 patent turns on whether it is entitled to the filing date of the second application, the relevant subject matter of which is undisputedly entitled to the benefit of the original application.

In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112. In re Hogan, 559 F.2d 595, 609, 194 USPQ 527, 540 (CCPA 1977). The district court held that two of the three intervening applications failed to maintain the continuity of disclosure and thus concluded that the '355 patent was not entitled to the necessary earlier filing date.

Lockwood argues that the district court erred by looking solely at the applications themselves. We do not agree. It is the disclosures of the applications that count. Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed. While the meaning of terms, phrases, or diagrams in a disclosure is to be explained or interpreted from the vantage point of one skilled in the art, all the limitations must appear in the specification. The question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought. See Martin v. Mayer, 823 F.2d 500, 504, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987) (stating that it is "not a question of whether one skilled in the art might be able to construct the patentee's device from the teachings of the disclosure Rather, it is a question whether the application necessarily discloses that particular device.") (quoting Jepson v. Coleman, 314 F.2d 533, 536, 136 USPQ 647, 649-50 (CCPA 1963)). Lockwood argues that all that is necessary to satisfy the description requirement is to show that one is "in possession" of the invention. Lockwood accurately states the test, see Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), but fails to state how it is satisfied. One shows that one is "in possession" of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious. Id. ("[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed.") (emphasis in original). One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention. Although the exact terms need not be used in haec verba, see Eiselstein v. Frank, 52 F.3d 1035,

1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995) ("[T]he prior application need not describe the claimed subject matter in exactly the same terms as used in the claims . . ."), the specification must contain an equivalent description of the claimed subject matter. A description which renders obvious the invention for which an earlier filing date is sought is not sufficient.

Lockwood further argues that his expert's declaration was sufficient to raise a genuine issue of material fact regarding what the intervening applications disclosed to one skilled in the art. However, as American argues, one intervening application failed to disclose a computer system connected to multiple vendors and another, while disclosing a central computer with a video disk player, failed to disclose individual merchandising apparatus that contained video disk players or other equivalent storage means. Lockwood's expert averred that the disclosed terminal in the former application "can be connected" to multiple vendors and that, although the latter application only "discusses the use of a television set and a keypad at a consumer's home," it would have been apparent to one skilled in the art that "Lockwood also envisioned the use of a terminal" containing a video disk player. That does not solve Lockwood's problem. Lockwood claimed a distinct invention from that disclosed in the specification. It is not sufficient for purposes of the written description requirement of § 112 that the disclosure, when combined with the knowledge in the art, would lead one to speculate as to modifications that the inventor might have envisioned, but failed to disclose. Each application in the chain must describe the claimed features. It is undisputed that one of the intervening applications does not describe an individual terminal containing a video disk player. Therefore, the declaration by Lockwood's expert does not raise a genuine issue of material fact. The district court correctly held that the '355 patent was invalid as anticipated by the '359 patent.

B. Infringement

Determining whether a patent claim has been infringed requires a two-step analysis: "First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process." Carroll Touch, Inc. v. Electro Mechanical Sys., Inc., 15 F.3d 1573, 1576, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993). Claim construction is to be determined by the court. Markman v. Westview Instruments, Inc., 116 S. Ct. 1384, 1387, 38 USPQ2d 1461, 1463 (1996) ("We hold that the construction of a patent, including terms of art within its claim, is exclusively within the province of the court."). In construing the claims, the court looks to the claims, the specification, the prosecution history, and, if necessary, extrinsic evidence. Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996). Application of the properly construed claim to the accused device is a question of fact.

Lockwood argues that the district court misconstrued all four elements of the '115 patent claims cited by the district court. First, Lockwood contends that, properly construed, the term "self-contained" means an "apparatus or collection of components which includes the materials necessary for the apparatus to function on its own" and that the language "easily transported" includes a collection of components of comparable size and weight to those disclosed.

American argues that Lockwood's interpretation of these terms is flatly inconsistent with his interpretation before the Patent and Trademark Office (PTO). We agree. The limitation "self-contained apparatus dimensioned to be easily transported" was added after the PTO rejected Lockwood's claims as obvious in light of a business transaction computer system disclosed in U.S. Patent 3,705,384. In response to the rejection, Lockwood distinguished the prior art system, which was composed of multiple cabinets that filled a

room, stating, "[a]pplicant's device, on the other hand, is a free-standing self contained unit which can be moved from location to location." During the prosecution of the patent, Lockwood thus differentiated his device from the prior art because of its compact physical dimensions, not because of its ability to "function on its own." In fact, the interpretation of the words "self-contained" that Lockwood now advances is insufficient to distinguish his invention from the prior art because the prior art patent also discloses a system that can function independently. Lockwood cannot now argue for an interpretation inconsistent with this earlier representation. "Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers." Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576, 34 USPQ2d 1673, 1677 (Fed. Cir.), cert. denied, 116 S.Ct. 515 (1995); see Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562, 19 USPQ2d 1500, 1504 (Fed. Cir. 1991).

Second, Lockwood asserts that the term "audio-visual" refers to either video presentations or audio presentations, but not necessarily to both. We disagree. The '115 patent specification states that the unit displays travel documentaries and that a "high-quality audio-visual travelog can utilize practically all the human senses to motivate and influence a customer." During prosecution, Lockwood argued:

Although certain alpha numeric data are presented in the [prior art] reference, and such as in airport terminals which display schedules, etc., these are to be distinguished from applicant's device which actually presents brief travelogues and other movie-quality audio visual presentations to sell a product.

Although Lockwood correctly notes that the disclosed terminal displays an initial selection menu that does not produce any sound, this menu is not referred to as an "audio-visual" presentation. Rather, the selection menu is merely a method used for choosing an "audio-visual" presentation. Examination of the claims, specification, and prosecution history leads us to conclude that the district court correctly interpreted this term as requiring a device that produces both audio and video. It is undisputed that the SABREvision system cannot produce audio presentations.

Third, Lockwood argues that the word "customer" should be construed to mean "someone with whom you do business" and therefore that American's "customers" are the travel agents that use SABREvision. American counters that the patent itself explicitly excludes travel agents from the definition of "customer." We agree. The specification states that the purpose of the invention is to replace travel agents so that the customer can purchase travel-related goods and services directly. It is "a new device capable of performing the promotion and sales of services such as those commonly dispensed by travel agencies, in a fully automated fashion and from easily accessible locations." Given the patent specification's use of the term "customer," it is clear that the accused device lacks this essential limitation. SABREvision is not used by, nor is it designed to be used by, the customers who are purchasing the goods and services. Lockwood does not genuinely dispute American's contention that SABREvision uses a command structure that requires experience to operate, nor does he argue that SABREvision is suitable for self-service operation by the consumers of the travel related goods and services.

Finally, Lockwood argues that a genuine issue of fact was raised regarding whether SABREvision has a structure equivalent to the disclosed structures relating to the claimed "means for accepting payment." With SABREvision, a travel agent enters credit card information through the keyboard, which does not contain a magnetic card reader as disclosed in the patent. American argues that, as a matter of law, a keyboard which requires manual labor is not equivalent to a card reader. Lockwood replies that the card reader also requires manual labor; the user must pass the card through the reader. Even if SABREvision's keyboard were

arguably structurally equivalent to the card reader disclosed in the specification, we disagree that this would raise a genuine issue of material fact. We have already determined that the district court correctly concluded that at least three limitations in claim 11 are not found in the accused device. Any error with regard to the presence or absence of additional limitations would be harmless. Thus, any dispute relating to those limitations is immaterial. Accordingly, we conclude that the district court did not err in holding that as a matter of law SABREvision does not literally infringe claim 11.

Lockwood also argues that the district court erred in concluding on summary judgment that there was no infringement under the doctrine of equivalents. Lockwood first argues that the district court impermissibly imposed an equitable threshold before applying the doctrine. Because the court proceeded to apply the doctrine notwithstanding its statements regarding equitable factors, *see Hebert v. Lisle Corp.*, 99 F.3d 1109, 1117, 40 USPQ2d 1611, 1616 (Fed. Cir. 1996) ("As discussed in *Hilton Davis*, 62 F.3d at 1521, 35 USPQ2d at 1647-48, infringement by technologic equivalents, like literal infringement, does not have an equitable threshold."), this error was harmless. After analyzing the prosecution history, the court correctly concluded that prosecution history estoppel precludes a finding of infringement under the doctrine of equivalents.

Prosecution history estoppel precludes a patentee from obtaining in an infringement suit protection for subject matter which it relinquished during prosecution in order to obtain allowance of the claims. *Zenith Lab., Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed. Cir. 1994). "Whenever prosecution history estoppel is invoked as a limitation to infringement under the doctrine of equivalents, 'a close examination must be made as to, not only what was surrendered, but also the reason for such a surrender.'" *Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 703, 15 USPQ2d 1295, 1298 (Fed. Cir. 1990) (quoting *Bayer Aktiengesellschaft v. Duphar Int'l Research B.V.*, 738 F.2d 1237, 1243, 222 USPQ 649, 653 (Fed. Cir. 1984)).

During prosecution, Lockwood stressed the "audio-visual means" limitation to overcome a rejection over the prior art. As noted by the district court, Lockwood distinguished his invention from another prior art patent which used an alpha-numeric display, stating that it "does not feature any means to promote the goods or services by audio or audio-visual means." Lockwood did not draw a distinction between alpha-numeric displays and graphical displays. Rather, he drew a distinction between purely visual displays and those that contained audio as well. Thus, Lockwood is estopped from asserting that the SABREvision display, which does not produce audio or audio-visual presentations, is equivalent to his audio-visual means.

Lockwood makes similar arguments challenging the district court's construction of the terms "customer" and "audio-visual" in the '359 patent. We find these arguments equally unpersuasive. The claims of the '359 patent explicitly state that the audio-visual means comprises means for "transmitting a selected sequence of said stored information to a customer" and that the stored information is "a sequence of audio and video information." Clearly, the claims require that both video and audio information be presented to the customer.

In addition, the '359 patent specification states that an object of the invention is to dispense "services to the general public on a self-service basis from remote terminals." An additional object of the invention is to provide services "by means of [a] simulated personal interview with a factitious agent created by audio-visual devices from prerecorded sound, images and synthesized data." The terminal is programmed to "audiovisually elicit from the customer the information necessary to provide an insurance quotation," thereby saving time and money because "the companies do not have to provide so many sales personnel to deal with such multitude

of queries on a one-to-one basis." Although "[r]eferences to a preferred embodiment, such as those often present in a specification, are not claim limitations," Laitram Corp. v. Cambridge Wire Cloth Co., 863 F.2d 855, 865, 9 USPQ2d 1289, 1299 (Fed. Cir. 1988), "[w]e look to the specification for assistance in construing a claim." Carroll Touch, Inc. v. Electro Mechanical Sys., Inc., 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). As with the '115 patent, this specification clearly indicates that the term "customer" refers to the prospective purchaser of the services and excludes the sales agent whom the invention is intended to replace. Accordingly, the district court correctly held as a matter of law that SABREvision does not infringe the '359 patent.

Likewise, the district court correctly concluded that prosecution history estoppel precludes a finding of infringement under the doctrine of equivalents. During prosecution, Lockwood explicitly distinguished the prior art, stating, "[t]his system is thus not simply a self-service sales center linked to a central computer, as is known in the prior art, but completely replaces the sales person's role in soliciting the necessary information from the customer." (emphasis added). Lockwood argues that there can be no estoppel because the statement was not made in response to a rejection over the prior art. We disagree. Lockwood made this statement before any claims in the '359 patent were allowed. To the extent that prior art self-service sales centers employed sales personnel, Lockwood distinguished his invention on the basis that it did not require any sales personnel to collect customer information. The court properly determined that Lockwood surrendered coverage by drawing this distinction between his invention and the prior art. See Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1304, 41 USPQ2d 1364, 1368 (Fed. Cir. 1997) ("[S]ince, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover, he is by implication surrendering such protection."). Therefore, Lockwood is estopped from asserting that SABREvision, which requires travel agents to collect customer information, contains an equivalent to the claimed "customer operated input means."

Lockwood also challenges the district court's conclusion that SABREvision lacks "automated merchandising apparatus" including "a means for composing and displaying individualized sales presentations" and "means for selectively combining" as claimed in the '355 patent. Lockwood argues that his expert's affidavit raised a genuine issue of material fact by demonstrating the equivalency between the SABREvision structure and the structure disclosed in the '355 patent specification. Lockwood does not dispute that a travel agent, when operating SABREvision, must manually select and view one photograph at a time from a generated list. The court held that this type of operation is not "composing" a sales presentation within the literal meaning of the claims. The functionality of SABREvision is undisputed. Because SABREvision does not perform the functions required by the properly construed claims, e.g., it does not "compose" an "individualized sales presentation" within the meaning of the claims, there is no need to compare the structure of the accused device to the structure disclosed in the patent. Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993) ("The accused device must . . . perform the identical function as specified in the claims"). Thus, no doctrine of equivalents issue having been raised, the district court correctly held as a matter of law that SABREvision does not infringe the claims of the '355 patent.

CONCLUSION

The district court correctly concluded that the '359 patent was invalid as obvious and that the '355 patent was invalid as anticipated by the '359 patent. In addition, the district court correctly concluded that there were no genuine disputes over any issues of material fact and correctly concluded that American Airlines' SABREvision reservation system did not infringe any of the patents in suit as a matter of law. Accordingly,

the judgment of the district court in favor of American Airlines is affirmed.

AFFIRMED

Footnotes