

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIVEPERSON, INC.,
Petitioner,

v.

24/7 CUSTOMER, INC.,
Patent Owner.

Case IPR2017-00616
Patent 6,798,876 B1

Before CHRISTOPHER L. CRUMBLEY, ROBERT J. WEINSCHENK,
and JASON W. MELVIN, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318 and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review trial, instituted pursuant to 35 U.S.C. § 314, Petitioner LivePerson, Inc. challenges the patentability of claims 1–10 of U.S. Patent No. 6,798,876 B1 (Ex. 1001, “the ’876 patent”), owned by 24/7 Customer, Inc.

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during trial. For the reasons discussed below, we determine that LivePerson has proven, by a preponderance of the evidence, that claims 1–10 of the ’876 patent are unpatentable.

A. Procedural History

On January 6, 2017, LivePerson requested an *inter partes* review of claims 1–10 of the ’876 patent. Paper 1, “Pet.” 24/7 Customer filed a Patent Owner Preliminary Response. Paper 7, “Prelim. Resp.” In a Decision on Institution of *Inter Partes* Review (Paper 10, “Dec. on Inst.”), we instituted trial as to claims 1–10 on the following grounds of unpatentability:

1. Whether claims 1–10 are unpatentable under 35 U.S.C. § 103(a),¹ as having been obvious over the combined disclosures of Brooks,² Bogart,³ and Flockhart⁴; and
2. Whether claims 1–4 and 6–9 are unpatentable under 35 U.S.C. § 103(a), as having been obvious over the combined disclosures of Hurd,⁵ Bogart, and Flockhart.

Dec. on Inst. 19.

Our Scheduling Order cautioned 24/7 Customer that “any arguments for patentability not raised in the response will be deemed waived.” Paper 11, 6. Patent Owner did not file a Response to the Petition; we therefore advised the parties to inform the Board “if there is any reason the Board should not proceed to issue final written decisions without additional briefing or an oral argument.” Paper 21, 2. Neither party requested additional briefing or oral argument.

LivePerson supported its Petition with the Declaration of Stuart J. Lipoff. Ex. 1003. With its Patent Owner Preliminary Response, 24/7

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application to which the ’876 patent claims priority was filed before that date, our citations to Title 35 are to its pre-AIA version.

² U.S. Patent 5,825,869 to Brooks et al., issued Oct. 20, 1998 (Ex. 1005).

³ U.S. Patent 6,163,607 to Bogart et al., filed Nov. 3, 1998 and issued Dec. 19, 2000 (Ex. 1006).

⁴ U.S. Patent 6,064,731 to Flockhart et al., filed Oct. 29, 1998 and issued May 16, 2000 (Ex. 1007).

⁵ U.S. Patent 5,923,745 to Hurd, filed Feb. 28, 1997 and issued July 13, 1999 (Ex. 1008).

Customer submitted the Declaration of Arthur T. Brody, Ph.D. Ex. 2001.
No cross-examination testimony was submitted by either party.

B. The '876 Patent

The '876 patent, titled “Method and Apparatus for Intelligent Routing of Incoming Calls to Representatives in a Call Center,” issued September 28, 2004, from U.S. Patent Application No. 09/473,951, filed on December 29, 1999. Ex. 1001, (54), (45), (21), (22). The '876 patent claims priority to provisional application No. 60/114,033, filed December 29, 1998. *Id.* at (60).

The '876 patent is directed to a method and apparatus for routing a call from a customer according to the profile of that customer, as well as a profile of a call center representative. Ex. 1001, 1:63–67. The profiles may contain information about the customer and representative such as age, sex, educational background, native language, foreign languages spoken, prior interactions with customer service, and years of experience. *Id.* at 3:30–47. Using the profile of the customer as well as those of the various representatives, the system uses a statistical modeling module to rank the representatives that can best meet the customer’s needs and routes the customer to the best-ranked agent. *Id.* at 2:3–7; 3:51–57. The system monitors the call and determines whether the call was successful or not successful. *Id.* at 4:66–67. Following the call, the system determines how successfully it matched the customer and representative and updates the customer’s and representative’s profiles to provide more accurate call routing in the future. *Id.* at 1:66–67, 2:7–9, 3:1–3.

C. Illustrative Claim

Of the challenged claims, claims 1 and 6 are independent. Claim 1 is reproduced below:

1. A method for routing an incoming call to a customer service representative comprising the steps of:
 - identifying the caller of the incoming call;
 - retrieving a profile on the caller;
 - comparing the caller profile with stored customer service representative profiles to determine which customer service representatives are more qualified to handle the incoming call;
 - ranking the customer service representatives that can best meet the caller's needs;
 - routing the incoming call to a selected highest ranked customer service representative; and
 - automatically updating, at the completion of the call, the caller profile and the selected customer service representative profile with information regarding the success of the call.

Ex. 1001, 5:23–38. Claim 6 is essentially the same as claim 1, but requires an additional step of “prompting the caller with a list of questions.” *Id.* at 6:1–19.

II. ANALYSIS

A. Claim Construction

For purposes of our Decision on Institution, we adopted LivePerson’s proposed constructions of “call” and “caller” as “communication” and “communicator,” respectively, as they were consistent with the construction adopted by the District Court and unopposed by 24/7 Customer. Dec. on

Inst. 5–6. Though LivePerson also proposed a construction of “updating at the completion of the call,” we agreed with 24/7 Customer that an explicit construction was unnecessary to resolve the dispute between the parties. *Id.*; see *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). Upon review of the entire record, we now reaffirm our prior constructions.

B. Obviousness over Brooks, Bogart, and Flockhart

LivePerson contends that claims 1–10 are unpatentable under 35 U.S.C. § 103(a), as they would have been obvious over the combined disclosures of Brooks, Bogart, and Flockhart. Pet. 15–35. As explained below, LivePerson has shown by a preponderance of the evidence that the claims would have been obvious over the combined references.

1. Brooks

Brooks is directed to methods of managing calls and for distributing calls among a collection of agents based on the individual call-handling capabilities of the agents. Ex. 1005, 1:12–16. “[F]or each call that is to be distributed, one or more skills that are relevant to efficient handling of the call are determined and then used to route the call to an appropriate individual.” *Id.* at 4:57–60. Brooks discusses maintaining two “forms” of attributes for each agent, the first indicating the proficiency of the individual as to types of calls, the second indicating the preferences for particular individuals to process particular calls. *Id.* at 4:60–5:2. The system can be set up to distribute calls using various methods, including a skills-only method that considers only the proficiencies of the representatives, and a

preference-only method. *Id.* at 11:1–4. In the preference-only method, a set of “preference score[s]” are created that indicate “the ‘preference’ call-management has for a particular agent to handle a particular call.” *Id.* at 11:20–25. The system also has a report-generating component used to help call-management evaluate the quality of service, and the reports may include “[p]reference match scores” that is the average of the preference scores of agents for the calls that are assigned to the agents. *Id.* at 15:62–67, 17:6–8.

2. *Bogart*

Bogart also relates to methods of routing calls to optimize call center performance. Ex. 1006, Abstract. Each agent in Bogart’s call center has a service profile for each type of call handled, that contains information such as proficiency, customer satisfaction, and agent satisfaction. *Id.* At the end of a call, the agent’s performance is evaluated and used to revise the service metrics of that agent’s service profile. *Id.*

3. *Flockhart*

Flockhart is concerned with improving the retention of customers of a call center by determining which customers might be “at risk” and giving future calls with such customer’s special treatment. Ex. 1007, Abstract. Flockhart’s system may be implemented manually, such that when an agent determines during a call that customer is “at risk,” the agent pushes a button that enters the caller’s identifier into an “at risk” database. *Id.* at 4:35–42. Alternatively, the system may be automatic, in which case the system monitors calls that are put on hold by an agent. *Id.* at 4:25–30. If the customer hangs up while on hold, the customer is considered to be “at risk”

and the system automatically enters the customer's identifier into the "at risk" database. *Id.*

4. Analysis

We find that a person of ordinary skill in the art would have combined Brooks, Bogart, and Flockhart in the manner outlined by LivePerson. As LivePerson notes, the references are directed to similar subject matter, specifically routing calls to customer service agents. Pet. 21. In its Preliminary Response, 24/7 Customer did not contest LivePerson's articulated reason to combine. Upon review of the record, we agree with LivePerson that a person of ordinary skill would have modified the system of Brooks, to add the agent- and caller-profile updating features disclosed in Bogart and Flockhart. *Id.* at 21–22 (citing Ex. 1003 ¶¶ 97–98). We find that adding these features to the system of Brooks would improve customer-to-agent matching and improve customer satisfaction, as Mr. Lipoff testifies. Ex. 1003 ¶¶ 98–99.

a. Independent Claims 1 and 6

As discussed above, independent claims 1 and 6 recite parallel limitations, with claim 6 reciting the additional step of "prompting the caller with a list of questions." We, therefore, address the two claims together, and make the following findings of fact.

We find that Brooks discloses a step of "identifying the caller of the incoming call" by using automatic number identification, interactive voice response, and database lookups. Ex. 1005, 5:46–54. We adopt LivePerson's analysis in this regard, which 24/7 Customer does not contest. *See* Pet. 24; Ex. 1003 ¶¶ 101, 104.

We find that Brooks also discloses “retrieving a profile on the caller” through a customer database retrieval that provides customer history and preferences. Ex. 1005, 5:46–54. We again adopt LivePerson’s analysis as to this limitation, which 24/7 Customer does not contest. *See* Pet. 24–25; Ex. 1003 ¶¶ 101, 104.

Brooks also discloses the limitations of “comparing the caller profile with stored customer service representative profiles to determine which customer service representatives are more qualified to handle the incoming call” and “ranking the customer service representatives that can best meet the caller’s needs.” Brooks teaches that a “skill expression” is identified for the customer and compared with agent skills to “determine a ‘best’ agent for handling a call,” and then a “skill score” is assigned to each agent. Ex. 1005 5:40–54, 9:11–17. We adopt LivePerson’s uncontested analysis as to these limitations. Pet. 25–27; Ex. 1003 ¶¶ 101, 104.

With regard to claim 6, we find that Brooks teaches “prompting [a] caller with a list of questions” through its disclosure of interactive voice response input from the customer. Ex. 1005, 12:35–39; Pet. 25; Ex. 1003 ¶¶ 101, 104.

In its Preliminary Response, 24/7 Customer contested whether the combination of Brooks, Bogart, and Flockhart taught the two remaining limitations of the independent claims. Prelim. Resp. 21–30. In our Decision on Institution, we analyzed LivePerson’s evidence and 24/7 Customer’s arguments in response, and found sufficient support that these two limitations were taught by the combination of references. Dec. on Inst. 9–14. As noted above, our Scheduling Order cautioned 24/7 Customer that

any arguments as to patentability not made in the Patent Owner Response would be considered waived, but no Response was filed following institution. We, therefore, consider 24/7 Customer to have waived any further argument regarding the remaining limitations of claims 1 and 6.

Nevertheless, we have re-evaluated the record before us and reaffirm our conclusions, expressed in our Decision on Institution, that the remaining limitations of claims 1 and 6 are disclosed by the cited art. First, with respect to the step of “routing the incoming call to a⁶ selected highest ranked customer service representative,” we find that Brooks discloses that a “call is assigned to the agent with whom the skill expression of the call has the closest match with the skills of the agent.” Ex. 1005, 11:31–37. Brooks assigns this closest-match agent a skill score of zero, ensuring “the selected agent will not be over-qualified or under-qualified. A positive skill score indicates an over-qualified agent, while a negative skill score indicates an under-qualified agent.” *Id.* at 11:15–20. It is clear that Brooks considers the agent with a score closest to zero to be the “highest-ranked” agent in the context of its system, to avoid the “over-skilled agent problem”:

[I]f a significant time passes without transactions that require highly skilled agents, the agents may be assigned to calls for which they are over-qualified. This places the system in a position in which there is no qualified agent for an incoming call requiring a particular expertise because the agents having the expertise are handling calls that do not require such expertise.

⁶ Claim 6 recites “*the* highest ranked customer service representative,” but neither party contended that the substitution of “the” for “a” alters the scope of the limitation.

Ex. 1005, 2:59–66. Within the disclosure of Brooks, the “highest-ranked” agents are those who are best matched to the caller’s needs. We, therefore, find that Brooks discloses “routing the incoming call to a selected highest ranked customer service representative,” as required by claims 1 and 6.

Finally, we find that the combination of references discloses “automatically updating, at the completion of the call, the caller profile and the selected customer service representative profile with information regarding the success of the call.” With respect to updating the customer service representative profile, we find that Brooks teaches this aspect of the step as it updates the agent’s profile at the end of the call with a “preference score” that indicates the preference the agent had to that call. Ex. 1005, 17:6–10. Furthermore, Bogart teaches this aspect of the limitation, as its agent’s service profile is revised at the end of the call using metrics that indicate the agent’s performance during the call. Ex. 1006, 4:52–5:35, 7:39–40. We adopt LivePerson’s analysis as to updating the representative’s profile, which 24/7 Customer has not contested. Pet. 29–30; Ex. 1003 ¶¶ 101, 103, 104.

We also find that the combined art teaches automatically updating the caller’s profile at the end of the call. Flockhart’s system flags a customer as “at risk” if he or she terminates the call while on hold, and then enters the caller’s identifier into an “at-risk” database. Ex. 1007, 4:25–31. Flockhart, therefore, automatically updates the caller’s profile at the completion of a call. We have re-evaluated 24/7 Customer’s arguments to the contrary made in the Preliminary Response and continue to find them unpersuasive for the reasons set forth in our Decision on Institution. *See* Dec. on Inst. 10–13.

Specifically, 24/7 Customer proffered no construction of “caller profile” that would exclude the customer entries in Flockhart’s at-risk database, nor do we find persuasive Dr. Brody’s conclusory testimony (Ex. 2001 ¶ 77) that a person of ordinary skill in the art would not have considered the at-risk database entries a “customer profile.”⁷ We have again reviewed the specification of the ’876 patent, and find no support for this narrow reading of a “profile” that would exclude “at-risk flag” entries in a database.

Having considered the entirety of the record, we find that LivePerson has demonstrated by a preponderance of the evidence that a person of ordinary skill in the art would have combined the teachings of Brooks, Bogart, and Flockhart, and that the combined teachings contain all limitations of claims 1 and 6.

b. Dependent Claims

Dependent claims 2 and 7 depend from claims 1 and 6, respectively, and further require “routing the incoming call to the next highest ranked customer service representative if the previously selected customer service representative is unavailable.” We find that Brooks and Bogart disclose this additional limitation, by taking into account the availability of agents when making a selection for a call. Brooks discusses an “agent selection decision” wherein more than one agent is available to handle a call (Ex. 1005, 11:33–43), whereas Bogart recites obtaining a call score for “each of the available

⁷ Dr. Brody uses the term “customer profile,” while the claims of the ’876 patent recite a “caller profile.” It is unclear whether Dr. Brody meant anything by this difference in terminology, or whether it was merely an oversight.

agents who can handle the call” (Ex. 1006, 7:3–14). We also credit Mr. Lipoff’s testimony that a person of ordinary skill in the art would understand Brooks to teach that when the highest-ranked customer service representative is unavailable, the call is routed to the next-highest-ranked representative. Ex. 1003 ¶ 105. We find that Brooks’ disclosure that the highest-ranked *available* agent is selected suggests that if the highest-ranked of *all* possible agents is unavailable, the next-best agent that is available is selected, as required by claims 2 and 7.

Claims 3 and 8 depend from claims 1 and 6, respectively, and further require that the caller profile comprises at least one of a litany of types of information, including the caller’s age, gender, address, past products purchased, and “other customer information.” We find that Brooks discloses that the caller profile may contain information within the scope of these claims, such as past purchases or customer preferences of a particular agent. Ex. 1005, 5:46–54, 12:29–43. We adopt LivePerson’s analysis as to this limitation, which was not contested by 24/7 Customer. Pet. 32; Ex. 1003 ¶¶ 106–107.

Claims 4 and 9 depend from claims 1 and 6, respectively, and further require that the customer service representative profile comprises at least one of a litany of types of information, including the agent’s age, gender, foreign languages spoken, familiarity with the company’s products, and “other information.” We find that Brooks discloses that its agent profiles may contain information within the scope of these claims, such as proficiencies with handling certain types of calls or skills such as languages spoken. Ex. 1005, 4:57–67, 10:21–26.

Finally, claims 5 and 10 depend from claims 1 and 6, respectively, and further comprise the step of “conducting a post-call survey, during the updating step, of at least one of said caller and said customer service representative in order to determine the success of the call.” We find that Brooks and Bogart disclose this step. Brooks states that agents give “preference score[s]” to calls they are assigned, and customers are asked their preferences of specific agents. Ex. 1005, 12:39–43, 17:6–10. Bogart discloses that agents perform “self-ratings” after the call, reflecting how well the agent was satisfied with her handling of the call. Ex. 1006, 4:62–65. We credit Mr. Lipoff’s testimony that a person of ordinary skill would understand these disclosures as the agent and customer engaging in post-call surveys. Ex. 1003 ¶¶ 109–110.

c. Conclusion

For the foregoing reasons, we find that a person of ordinary skill in the art would have combined Brooks, Bogart, and Flockhart, the combination would have been within the level of ordinary skill in the art, and the combination teaches or suggests all limitations of the challenged claims. 24/7 Customer has supplied no evidence of secondary indicia of nonobviousness. Weighing the evidence before us, we conclude by a preponderance of the evidence that claims 1–10 of the ’876 patent would have been obvious over the combined disclosures of Brooks, Bogart, and Flockhart.

C. Obviousness over Hurd, Bogart, and Flockhart

We also instituted trial on a ground of unpatentability based on the combined disclosures of Hurd, Bogart, and Flockhart. Dec. on Inst. 17–18.

This ground of unpatentability generally mirrors that of the preceding ground, with Hurd asserted in place of Brooks.

Hurd discloses a system of routing calls to representatives who are “ranked by order of preference, the highest ranking corresponding to the most suitable.” Ex. 1008, Abstract, 9:67–10:2. The system, upon receiving a call, retrieves from a database customer profile information associated with the caller, and uses this information to match the caller with a suitable customer service representative. *Id.* at 2:8–11, 11:54–58. LivePerson asserts that a person of ordinary skill in the art would have modified the system of Hurd with the agent- and caller-profile updating features of Bogart and Flockhart, respectively, to arrive at the claimed invention. Pet. 37–38.

Having concluded above that the challenged claims are unpatentable as having been obvious over the combined disclosures of Brooks, Bogart, and Flockhart, we need not and do not reach the ground of unpatentability based on Hurd, Bogart, and Flockhart.

III. CONCLUSION

For the foregoing reasons, we determine that LivePerson has demonstrated by a preponderance of the evidence that claims 1–10 of the ’876 patent are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combined disclosures of Brooks, Bogart, and Flockhart.

Because this is a Final Written 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.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–10 of U.S. Patent No. 6,798,876 B1 are *unpatentable*; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 318(b), upon expiration of the time for appeal of this decision, or the termination of any such appeal, a certificate shall issue canceling claims 1–10 of U.S. Patent No. 6,798,876 B1.

IPR2017-00616
Patent 6,798,876 B1

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