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United States Court of Appeals for the Federal Circuit

04-1124

NABIL N. GHALY,

Plaintiff-Appellant,

v.

HASBRO, INC., TIGER ELECTRONICS, INC.,
TIGER ELECTRONICS, LTD., LION HOLDINGS, INC.,
ROBERT DUNN GLICK, as Trustee for the Liquidating Trust for Lion Holdings, Inc.,
ROBERT DUNN GLICK, as Trustee for the Rissman Family 1997 Trust,
and OWEN RANDALL RISSMAN,

Defendants-Appellees.

DECIDED: September 29, 2004

Before MICHEL, RADER, and PROST, Circuit Judges.

PER CURIAM.

Nabil Ghaly, the pro se appellant in this case, owns U.S. Patent No. 5,286,037 (hereinafter “the ’037 patent” or “the Ghaly patent”), which, as its title states, discloses an “Electronic Hand Held Logic Game.” Ghaly sued the appellees (hereinafter collectively referred to as “Hasbro”) in district court for literal infringement and infringement under the doctrine of equivalents of claims 1 and 23 of the ’037 patent.

In March of 2002, the district court, after holding a Markman hearing, construed critical terms in the Ghaly patent. Ghaly v. Hasbro, Inc., 97-CV-7037, slip op. (E.D.N.Y.

March 5, 2002) ("Claim Construction Order"). In October of 2003, the court, relying on its earlier claim construction, concluded that the accused Hasbro devices were noninfringing—both literally and under the doctrine of equivalents. Ghaly v. Hasbro, Inc., 97-CV-7037, slip op. (E.D.N.Y. October 28, 2003) ("Noninfringement Determination"). Accordingly, the district court granted summary judgment in favor of Hasbro.

Ghaly appeals the district court's grant of summary judgment. Because the district court did not err in granting Hasbro's summary judgment motion, we affirm.

BACKGROUND

The device disclosed in the Ghaly patent is supposed to work somewhat like a two-dimensional hand-held electronic version of a Rubik's Cube. The device is an electronic logic game that contains an array of buttons (e.g., 4 by 4 or 8 by 8) on its face. When a user presses one of the buttons, the device is illuminated in either a red, green, blue, or yellow light. Further pressing of the buttons leads to a change in the state of the button to "on" or "off," which leads to a change in the colors represented in the array. The object of the game is to get the buttons on the entire board to be illuminated in the same color.

The accused devices are hand-held electronic games. These games, unlike the Ghaly device, feature momentary switches and, with one exception, monochromatic buttons. The lights behind the buttons on these games can be either illuminated or not illuminated. Furthermore, the buttons on all of these games exhibit at most one geometric shape.

Claim 1 and claim 23 of the '037 patent are at issue in this case. Claim 1 reads as follows:

1. An electronic game device comprising:
 - a. a housing for the device,
 - b. means for generating a plurality of codes hereinafter referred [sic] to as operating codes,
 - c. plurality of entry control means,
 - d. plurality of routing means defining a respective plurality of playing positions on the surface of said housing, each of said routing means being actuatable [sic] by said entry control means to route said operating codes within the device,
 - e. means to generate a plurality of codes, hereinafter referred [sic] to as color codes, from said plurality of operating codes,
 - f. plurality of multi-color light emitting means,
 - g. means to route said color codes to said light emitting means in accordance with the determination of said routing means,
 - h. means to decode said plurality of color codes and activate said plurality of multi-color light emitting means,
 - i. means for varying the level of difficulty of any particular game, and
 - j. sensorially perceptible indicating means responsive to said entry control means for generating a first sensorially perceptible indication corresponding to each activation of the entry control means, a plurality of sensorially perceptible and distinct indications each of which is corresponding to each of a plurality of predetermined colors being displayed at all multi-color light emitting means and a sensorially perceptible indication corresponding to the successful completion of a game.

'037 patent, col. 13, ll. 13-45 (claim terms at issue underlined). Claim 23 discloses the following:

23. An electronic game device comprising:

- a. a housing for the device,
- b. means for generating a plurality of codes hereinafter referred [sic] to as operating codes,
- c. plurality or [sic] entry control means,
- d. plurality of routing means defining a respective plurality of playing positions on the surface of said housing, each of said routing means being actuatable [sic] by said entry control means to route said operating codes within the device,
- e. means to pictorially represent a plurality of images wherein each of said plurality of playing positions is indicated to provide a plurality of display positions, each of said display positions is used to indicate any of said plurality of images,
- f. means to generate a plurality of codes, hereinafter referred [sic] to as display codes, from said plurality of operating codes,
- g. means to route said display codes to said display positions in accordance with the determination of said routing means,
- h. means to activate each of said plurality of display positions to provide a pictorial representation of the received display code,
- i. means for varying the level of difficulty of any particular game, and
- j. sensorially perceptible indicating means responsive to said entry control means for generating a first sensorially perceptible indication corresponding to each activation of entry control means, a plurality of sensorially perceptible indications each of which is different from said first sensorially perceptible indication and corresponding to each of said plurality of images being displayed at all display positions, and a sensorially perceptible indication corresponding to the successful completion of a game.

'037 patent, col. 16, ll. 27-62 (claim terms at issue underlined).

In its determination that Hasbro's accused devices were non-infringing, the district court relied on its construction of three claim terms: "plurality of entry control means" (from claims 1 and 23), "plurality of multi-color light emitting means" (from claim 1), and "means to pictorially represent a plurality of images" (from claim 23). Ghaly now challenges the district court's construction of those three terms as part of his appeal of the district court's grant of summary judgment in favor of Hasbro.

We have jurisdiction to take this appeal under 28 U.S.C. § 1295(a)(1).

DISCUSSION

This court reviews a grant of summary judgment de novo. Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc., 103 F.3d 1571, 1577 (Fed. Cir. 1997). Summary judgment can be granted only when "there is no genuine issue as to any material fact and . . . the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). Where there is no dispute surrounding the relevant facts regarding the accused devices, the only inquiry a court must engage in is a legal one that is amenable to resolution on summary judgment. Gen. Mills, Inc. v. Hunt-Wesson, Inc., 103 F.3d 978, 983 (Fed. Cir. 1997).

We review a district court's claim construction de novo. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc). A district court's "determination of the claimed function and corresponding structure of a means-plus-function claim limitation is a question of law, reviewed de novo." ACTV, Inc. v. Walt Disney Co., 346 F.3d 1082, 1087 (Fed. Cir. 2003).

A. “Plurality of Entry Control Means”

In construing the term “plurality of entry control means” of claims 1 and 23 of the '037 patent, the district court undertook, as it was required to, a means-plus-function analysis under 35 U.S.C. § 112, ¶ 6. After reviewing the Ghaly patent's specification, the district court found that the only structure corresponding with the “plurality of entry control means” element was a bi-stable switch which would remain in an “on” or “off” position until pressed again by the user.¹ Claim Construction Order at 10-11. In addition, the court found further support for its construction in the fact that momentary switches were incompatible with the Ghaly device as disclosed in the '037 patent specification. Id.

Before this court, the appellant argues that both momentary and bi-stable switches could be used in his patented device. He further asserts that his device would function properly with momentary switches and that the district court wrongly concluded that it would not. After a careful review of the '037 patent, we cannot agree.

The “entry control means” limitation of claim 1 and claim 23 of the '037 patent is, as all parties agree, written in means-plus-function format. A means-plus-function limitation requires courts identify “the structure, or structures, described in the specification that perform the recited function.” Ishida Co. v. Taylor, 221 F.3d 1310, 1316 (Fed. Cir. 2000). At issue in this appeal is whether or not the district court correctly identified the structure that corresponds to the “entry control means” limitation.

¹ Bi-stable switches are on/off switches that, like light switches, stay in one position (on or off) until the user presses them again. Momentary switches, like keys on a keyboard, revert to their original status after the user stops pressing them.

In reviewing the '037 patent specification, it becomes clear that the only structure the specification describes as "entry control means" are on/off switches—or, in other words, bi-stable switches. See '037 patent, col. 5, ll. 57-60 ("The central processing unit identifies the status of the switch, i.e., if the switch is in the 'ON' ('1') or 'OFF' ('0') position.") Furthermore, as described in the specification, the only type of switch that is conceived of by the '037 patent is a bi-stable switch. As the specification notes, if a player "activates" any of the device's switches, the central processing unit is accessed and receives a signal via the device's data bus. Id. at col. 8, ll. 4-7. The central processing unit then identifies the status of the switch (i.e. on or off) and "causes the data on the status of said switch to be transferred to the RAM." Id. at col. 8, ll. 7-15. Thus, the data transferred between the switches, the central processing unit and the RAM depends entirely on the constant on/off state of the switch—and not on whether the switch had ever been pressed by the user. The only type of switch which is compatible with the workings of the '037 device as described is a bi-stable switch. If momentary switches were used, the central processing unit would not be capable of identifying the on/off status of the switch in question and then communicating that status to the RAM because momentary switches, like keys on a keyboard, revert to their original status the moment a user stops pressing on them.

In addition, if the device disclosed in the '037 patent used momentary switches and, notwithstanding the description of the device's workings in the specification, stored data in the RAM regarding whether momentary switches had ever been pressed or not, the device would cease to function as intended. Because a pulse is applied to the central processing unit that clears the data in the device's RAM each time the device is

turned on by a user, users would be required to start games anew each time they turned on the '037 device. See id. at col. 4, ll. 44-49. Our recognition of this fact does not lead us to import limitations from the specification's preferred embodiment. Rather, it points us to the corresponding structure that was intended for the "entry control means" limitation by the patent's specification.

Given that the Ghaly patent's specification only identified bi-stable switches in connection with the "plurality of entry control means" limitation and given that the disclosed Ghaly device would not properly function with momentary switches, we agree with the district court that the "plurality of entry control means" limitation does require the use of bi-stable switches.

B. Infringement

1. Literal infringement

To determine literal infringement of a means-plus-function claim, "the accused device [must] perform a function identical to that identified in the [means-plus-function] clause." Ishida, 221 F.3d at 1316. If the accused device does perform a function identical to that identified in the means-plus-function clause, it "literally infringes a claim element . . . only if it is insubstantially different from the corresponding structure in the patent specification." Id. at 1317.

In regards to the "entry control means" limitation of claims 1 and 23 of the '037 patent, both sides agree that none of the accused Hasbro devices use bi-stable switches. Thus, our inquiry reduces to whether or not bi-stable and momentary switches perform identical functions and are insubstantially different from one another.

Even if we accept, arguendo, the contention that both switches perform the same entry control function, bi-stable switches and momentary switches are not insubstantially different. A bi-stable switch can only communicate an on/off status that does not change unless it is actively changed by the user. A momentary switch conveys a transient and temporary change of state that reverts back to its original state after being pressed by the user. Thus, the way in which a momentary switch performs its function is substantially different from the way a bi-stable switch performs its function.

Because there is no dispute regarding the facts surrounding the accused Hasbro devices and because both parties agree that the accused Hasbro devices use momentary switches, this case is amenable to resolution on summary judgment. See Gen. Mills, 103 F.3d at 983. As there is no dispute regarding the facts surrounding the accused Hasbro devices, our literal infringement inquiry essentially reduces to a claim construction analysis. Therefore, given our construction of the "entry control means" limitation, the district court's conclusions on the issue of literal infringement were correct.

2. Infringement under the doctrine of equivalents

Parties alleging infringement under the doctrine of equivalents must show that the accused device performs substantially the same function as the patented device in substantially the same way to achieve substantially the same result. Lear Siegler, Inc. v. Sealy Mattress Co., 873 F.2d 1422, 1425 (Fed. Cir. 1989). For means-plus-functions limitations, the doctrine of equivalents inquiry reduces to whether or not there is an "insubstantial difference" between the limitation's corresponding structure and any after-

invented technology found in the accused device. Ishida, 221 F.3d at 1317. Thus, for means-plus-function limitations, the inquiry for literal infringement and the doctrine of equivalents is very similar—with the only difference being that the doctrine of equivalents permits a court to consider the effect of after-invented technology.

Furthermore, we have held that there can be no infringement under the doctrine of equivalents “if even one limitation of a claim or its equivalent is not present in the accused device.” Lockheed Martin Corp. v. Space Sys./Loral, Inc., 324 F.3d 1308, 1321 (Fed. Cir. 2003).

With regards to the “entry control means” limitation found in claims 1 and 23, there is no after-invented technology in the accused Hasbro devices that would render the accused Hasbro devices infringing under our precedents regarding the doctrine of equivalents for means-plus-function limitations. Momentary switches existed at the time of the '037 patent's filing in 1991. Thus, there can be no equivalent of the “entry control means” limitation found in claims 1 and 23 under the doctrine of equivalents test for means-plus-function limitations. Thus, under the “all limitations rule” articulated in Lockheed Martin, the accused Hasbro devices do not infringe claim 1 or claim 23 of the '037 patent under the doctrine of equivalents.

Because there is no genuine issue of material fact concerning whether or not the accused devices contain after-invented technology that is insubstantially different from the technology disclosed in the '037 patent, the district court's conclusions regarding infringement under the doctrine of equivalents is correct.

C. Other Arguments Raised By the Appellant

Given our construction of the “plurality of entry control means” limitation and our resulting infringement analysis, we need not examine other issues in resolving this case. We have, however, considered all additional arguments and issues raised by the appellant in this appeal and conclude that they do not affect the resolution of this case.

CONCLUSION

The district court’s construction of the “entry control means” limitation of claims 1 and 23 of the '037 patent was the proper construction of that limitation. Given that there are no disputed issues of material fact concerning the accused Hasbro devices, and given further that the accused devices did not infringe the '037 patent either literally or under the doctrine of equivalents, the district court’s grant of summary judgment in favor of Hasbro was appropriate in this case. Accordingly, we affirm that grant of summary judgment.

