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United States Court of Appeals for the Federal Circuit

01-1622

(Serial no. 08/514,994)

IN RE PETER AR-FU LAM

DECIDED: May 9, 2002

Before MICHEL, CLEVINGER, and SCHALL, Circuit Judges.

CLEVINGER, Circuit Judge.

Peter Ar-Fu Lam appeals the decision of the Board of Patent Appeals and Interferences ("the Board") affirming the final rejection of pending claims 1-4, 10-15, 19-20, and 23 in his Application No. 08/514,994. Ex parte Lam, No. 1998-2861, slip op. at 4 (Feb. 20, 2001), request for reh'g denied (June 21, 2001). We affirm-in-part, vacate- in-part, and remand.

I

The invention in this case involves an apparatus to produce an electrically-generated output (sound, light, or heat) in response to a physical input (light or motion). Applications of the invention include electronic wind chimes, decorative refrigerator magnets that will exhibit a particular pattern of light or sound when the refrigerator door moves, and an apparatus to dispense aromatic vapor.

The invention achieves the desired result through the use of a transducer that, when triggered, creates an output of sound, light, or heat from the display. An external environmental stimulus, such as air movement, can be used to trigger, or energize, the transducer. As described by the Board, the transducer circuit is "energized by completion of an electrical path when an elongated member moves, responsive to an external perturbation, from a quiescent orientation to an active orientation." Ex Parte Lam, slip op. at 2. A figure showing an example of a transducer that can be activated by air movement is displayed below.

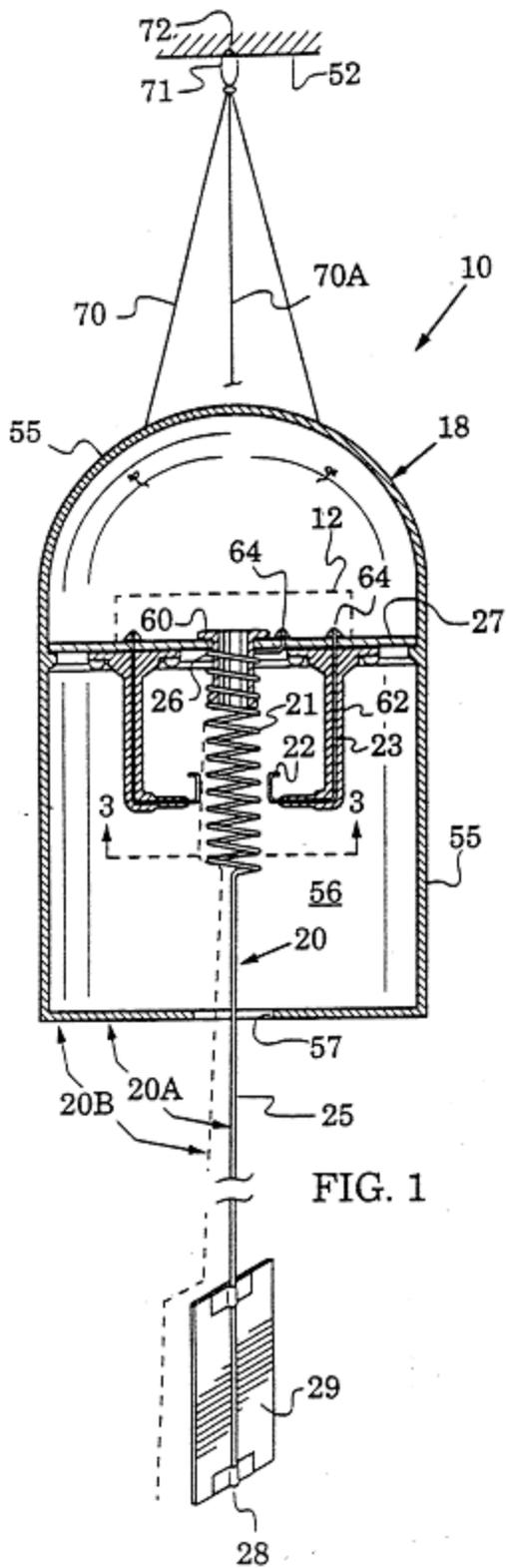


FIG. 1

As described in the specification, "[t]he apparatus 10 includes an electrically responsive transducer circuit 12 (indicated by broken lines . . .) carried by a display member 18. The transducer circuit 12 is energized by completion of an electrical path when an elongated

member 20 swings, relative to the display member 18, from a stable substantially vertical quiescent orientation 20A to an unstable active orientation 20B." The elongate member 20 has a flat attachment 29 that moves in response to air movement like a kite, thus providing the required trigger to swing the elongate member over and complete the transducer circuit.

The invention also relates to a device that can plug into a cigarette lighter in a car in order to power a light- and motion-activated decorative display. The plug is adjustable in length so as to fit in any cigarette lighter. As shown in Figures 11 and 12 below, Mr. Lam contemplated two ways of changing the length of the plug: a telescoping embodiment in which inner tubular stem 321 slides in and out of an outer tubular stem 322 (Figure 11); and a rotational embodiment in which a threaded mounting bracket 336 connects inner (334) and outer (335) portions of a tubular stem (Figure 12).

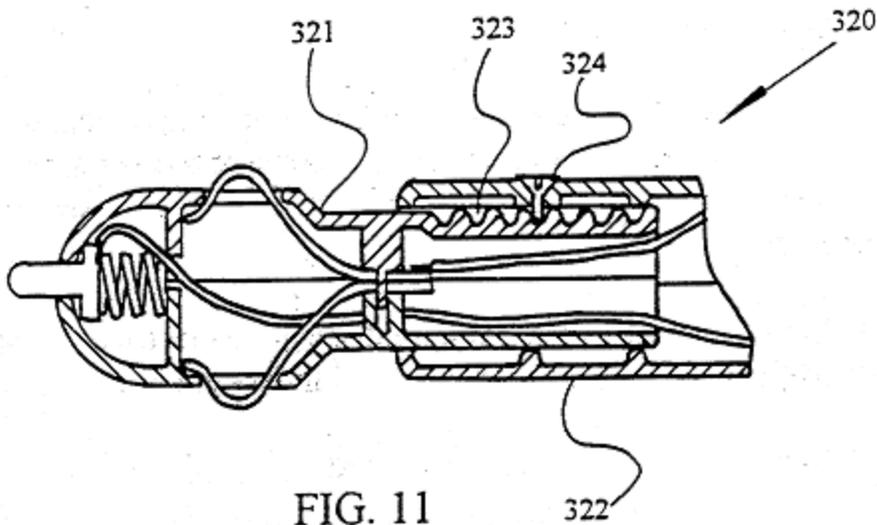


FIG. 11

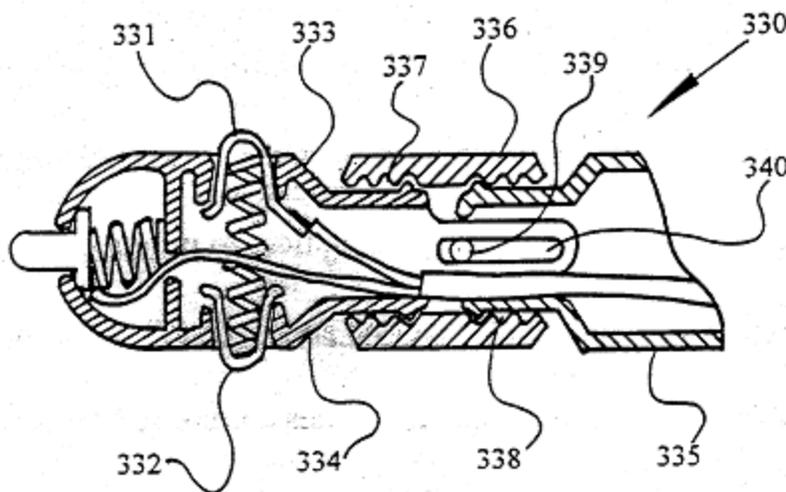


FIG. 12

In the rotational embodiment, the threads in the mounting bracket 336 are oriented so that when the bracket is rotated, the two stem portions move towards or away from each other, depending on the direction of rotation of the bracket. The rotation thus shortens or lengthens the plug without twisting the stem portions—such twisting is undesirable because it can interfere with the electrical wires running through the stem.

For purposes of this appeal, independent claims 1 and 15 are representative; all other claims at issue will stand or fall with either claim 1 or claim 15. Claim 1 recites:

Display apparatus, comprising:

a motion sensor including a first sensor member and a second sensor member whereas [sic] the motion sensor is responsive to the relative movement of the first sensor member with respect to the second sensor member;

a light sensor comprises [sic] of a light sensitive electrical component responsive to external environmental brightness condition;

an electrically responsive transducer; and

circuit means, interfaced with the light sensor and the motion sensor for energizing said transducer.

Claim 15 is directed towards the adjustable plug for a car's cigarette lighter. It recites:

An apparatus dimensioned to plug into the cigarette lighter socket of a vehicle comprising:

a terminal end including a first electrical contact member;

at least one second electrical contact member locates [sic] proximal to said terminal end;

a housing member remote from said terminal end; and

a variable length elongate supporting member comprising rotational means extending along an axis originated from said terminal end and mounted from said terminal end to said housing member for rotatably adjusting the distance therebetween.

The examiner rejected claim 1 for obviousness over U.S. Patent No. 3,192,517 to Werlin ("the Werlin patent") either alone or in light of U.S. Patent No. 5,266,920 to Langner ("the Langner patent"). The Board affirmed, finding that the Werlin patent, directed towards a motion- and light-sensitive burglar alarm, contained all the elements of claim 1 and also contained a suggestion to combine with the motion-activated decorative light displays such as those taught

in the Langner patent. Ex Parte Lam, slip op. at 9-11.

The examiner rejected claim 15 as obvious over U.S. Patent No. 4,842,235 to Brown ("the Brown patent"), which teaches a lighted clipboard attached to an adjustable plug that fits into a car's cigarette lighter. The Brown patent discloses only the telescoping method of adjusting the plug length. However, the examiner nevertheless found the rotational element of claim 15 obvious over Brown when viewed in light of the knowledge of one of skill in the art. According to the examiner, one of skill in the art would know of the equivalence of rotational and telescoping adjustment systems. To support this statement, the examiner noted that "a conventional closet rod employed for supporting cloths or curtain rods for supporting curtains employ a rotatable feature for adjusting the rod for a proper fit." Mr. Lam appealed to the Board, arguing vigorously that closet and curtain rods are nonanalogous art, and that they are not equivalent to his rotational design. In its original decision, the Board appeared to reject reliance upon the closet and curtain rod examples, noting that "the Examiner's provided examples of curtain and closet rods are perhaps not the best examples of rotational adjustment. . . ." Ex Parte Lam, slip op. at 14. The Board nevertheless affirmed the rejection because it found that Mr. Lam's disclosure (in Figures 11 and 12, supra) of the telescopic and rotational embodiments conceded their equivalence under In re Ruff, 256 F.2d 590, 596, 118 USPQ 340, 346-7 (CCPA 1958), and the mere substitution of one functionally-equivalent element for another would have been obvious to one of skill in the art. Ex Parte Lam, slip op. at 14. On Mr. Lam's petition for rehearing, the Board clarified that it had not relied upon a new ground for rejecting claim 15, but rather had rejected it based on the examiner's own logic, *i.e.*, obviousness over "Brown alone with a line of reasoning that the skilled artisan would recognize the functional equivalence of rotational and telescopic threaded couplings." Ex Parte Lam, No. 1998-2861, slip op. at 4 (June 21, 2001) ("Petition for Rehearing"). The Board relied on Mr. Lam's disclosure only to refute his argument that the rotational and telescopic embodiments were not equivalent. Id. at 5.

Mr. Lam appeals from the final judgment of the Board affirming the rejection of his claims. We exercise jurisdiction over this appeal from a decision of the Board pursuant to 28 U.S.C. § 1295(a)(4)(A).

II

A claimed invention is obvious "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a) (1994). The ultimate determination of obviousness is a legal conclusion based on underlying findings of fact, including "(1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." In re Dembiczak, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999). In an appeal from the Board, we review the legal conclusion of obviousness de novo, and the underlying factual findings for substantial evidence. In re Gartside, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000). Substantial evidence means "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." Id. at 1312, 53 USPQ2d at 1772 (quoting Consol. Edison Co. v. NLRB, 305 U.S. 197, 229-30 (1938)).

A

Mr. Lam raises two grounds for reversal of the Board's decision with respect to claim 1. First, Mr. Lam argues that the Board failed to make out a prima facie case of obviousness because the Werlin patent neither teaches the display apparatus of the claimed invention nor contains a suggestion to combine Werlin's motion-activated burglar alarm with the display apparatus of Langner. Second, Mr. Lam contends that the Board erred in determining that Werlin is analogous art.

Turning to Mr. Lam's first argument, what a reference teaches and whether a motivation to combine exists are both questions of fact that we review for substantial evidence. See id. at 1316, 53 USPQ2d at 1776; In re Dembiczak, 175 F.3d at 998, 50 USPQ2d at 1616. The Board decided these factual questions adversely to Mr. Lam, and our review of the record reveals that the Board's decision is supported by substantial evidence. With respect to whether the Werlin patent teaches a display apparatus, the Board relied upon two portions of the Werlin specification. First, Werlin refers to "other types of signaling devices such as supersonic transmitters, capacity detectors, infrared detectors, . . . etc." Werlin patent, col. 4, lines 29-33. Second, the Werlin patent refers to connecting the terminals of the motion-activated alarm "through telephone lines, private circuits, or other electrical systems to a hold circuit or relay in turn controlling any desired signal, alarm or indicator." Werlin patent, col. 3, lines 53-56. Mr. Lam disputes the relevance of the first reference to signaling devices because in his view such devices are triggers for the display rather than the display element itself. However, as the fact-finder in this instance, the Board took a different view of this teaching, and the possibility that a reasonable fact-finder could have reached another conclusion does not provide an adequate basis for reversing the Board's decision. But even without the first reference, the second statement in Werlin disclosing a "signal, alarm or indicator" that will be triggered by the alarm provides independent evidence adequate to support the Board's conclusion. The Board could reasonably find that such language teaches an audio or visual display that can be triggered by the alarm, and therefore its conclusion that Werlin teaches a display apparatus is supported by substantial evidence. Because we affirm the Board's holding that Werlin teaches all the elements of claim 1, we do not reach the question whether the Board's finding of a suggestion to combine Werlin and Langner was error.

Mr. Lam also disputes the Board's finding that Werlin is analogous art. Like the finding of what a reference teaches, whether a reference is analogous art is a question of fact that this court reviews for substantial evidence. See In re Clay, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992). It is true, as Mr. Lam contends, that burglar alarms and decorative displays do not represent identical fields of endeavor. However, even if it is not from the inventor's field of endeavor, a reference may still be analogous art if "the reference still is reasonably pertinent to the particular problem with which the inventor is involved." Id. at 659, 23 USPQ2d at 1061. The Board found that, as with Mr. Lam's device, the Werlin patent is "concerned with devices which provide motion sensor activated outputs." Ex parte Lam, slip op. at 11. This common concern provides reasonable support for the Board's conclusion that the Werlin patent is analogous art, and therefore this finding is supported by substantial evidence.

Having examined and rejected both of Mr. Lam's arguments for reversal, we affirm the Board's conclusion of obviousness as to claim 1.

B

Mr. Lam argues that the Board did not properly set forth a prima facie case of obviousness with respect to claim 15. It is undisputed that the Brown patent, which formed the basis for the

Board's rejection, teaches every element of the invention of claim 15 save for the "rotational means" for adjusting the length of the plug; Brown teaches only the alternative telescoping embodiment. However, the invention of claim 15 is still obvious over Brown alone if one of ordinary skill in the motion-activated display art would have known of the functional equivalency of telescoping and rotational adjustment means. The Board found that an artisan in the display field would have been aware of the equivalency of the two embodiments, and we review this finding of fact for substantial evidence. Mr. Lam contends that the Board failed to point to any reference other than the teachings of his own specification to show the equivalency of the telescoping and rotational adjustment mechanisms, and therefore this finding is not supported by substantial evidence. We agree.

As discussed above, the Board's denial of Mr. Lam's petition for rehearing clarified that it based its conclusion of obviousness on the reasoning of the examiner. The examiner, in turn, based his decision on the allegedly well-known equivalency of telescoping and rotatable curtain rods, closet rods, and screw/thread coupling designs. Mr. Lam contends that he adequately refuted the examiner's reliance on those examples, and the Board's original opinion suggests that it agreed that the closet and curtain rods "are perhaps not the best examples of rotational adjustment." Ex parte Lam, slip op. at 14. Mr. Lam argued that his particular rotational embodiment, which has an external rotating bracket, would not work in a curtain rod because "such a rotatable rod will rub with the sliding hanging ring of the curtain and make it un-operable." A similar problem obtains with closet rods, "as the screw thread will unfavorably prevent[] the user to push [sic] the garment hangers along the rod in order to locate a desirable garment." Finally, "the structural requirement of the invented apparatus makes it impossible for directly applying the screw/thread coupling design . . . into the invented apparatus" because the prior art screw/thread coupling design would interfere with the wiring running inside of the claimed plug. The examiner and the Board failed to rebut or even address Mr. Lam's evidence that the examples relied upon by the examiner are inappropriate to apply to the invention at hand, and we can find no evidence of record to refute Mr. Lam's argument. Thus, we are forced to conclude that those examples do not provide adequate support for a finding of equivalency.

The examiner did not provide any other examples to support the equivalency of the two embodiments. In his brief to the Board, the examiner noted only that "there are other forms of adjusting apparatus that is [sic] conventional and provides for adjustment through the rotation of one end with respect to another end, for instance screw/thread coupling apparatus, closet rods that are adjustable, etc." We have already addressed the inapplicability of the screw/thread coupling and closet rod examples, which leaves only the examiner's reference to other examples denoted as "etc." In connection with the inquiry whether a ground is supported by substantial evidence, prior art designated as "etc." is either the paradigm example of substantial evidence because it means everything, or else must be rejected as meaning nothing. We prefer the latter.

The Solicitor argues that the Board's decision may be sustained on what appeared to be its original ground for finding equivalency, *i.e.*, that Mr. Lam's disclosure of the interchangeability of the rotational and telescopic embodiments supports a finding of equivalence under In re Ruff. However, as Mr. Lam points out, In re Ruff in fact supports the opposite conclusion on the facts of this case. In In re Ruff, our predecessor court reversed an obviousness rejection based on an applicant's own disclosure that two classes of organic compounds (amino and mercapto compounds) were both effective tarnish inhibitors. 256 F.2d at 595, 118 USPQ at 345. Though the amino compounds were known in the art, the applicant himself invented and

taught the use of the mercapto compounds. Id. The Board in the Ruff case mistakenly interpreted several earlier cases to hold that such a disclosure by an applicant could support a finding of equivalency. The court disabused the Board of that notion and squarely held that the applicant's own teaching of the tarnish-fighting mercapto compounds, the utility of which he himself discovered, could not be used to show equivalence even though the applicant also disclosed that the prior art amino compounds performed a similar function. Id. at 597, 118 USPQ at 347.

The court carefully distinguished the facts in In re Ruff from situations in which the applicant discloses that those of skill in the art regard two particular prior art devices as equivalent and later attempts to argue that the two devices are not, in fact, equivalent. The court recognized that the latter situation is merely a permutation on the commonplace rule that

[w]hen a man, or a witness, or an applicant for a patent, without knowing how it is going to affect his interest, makes a statement which he later attempts to deny when he has found it is against his interest, he will not be believed unless he produces convincing proof of his later assertion.

Id. at 596, 118 USPQ at 346. As the court explained,

there is a basic difference between (a) a showing by an applicant for patent of what the art knows to be equivalents or what means taken from the art he can use indiscriminately without affecting his invention in carrying it out, and (b), a showing that he has found, as a part of his discovery or inventive process, that certain things may be used to achieve the same result. These findings are his property and he does not lose all of them just because of his showing when it turns out that others have earlier discovered one or more of them.

Id.

In the present case, the Solicitor argues that Mr. Lam's disclosure of the rotational and telescoping alternatives falls into category (a) rather than category (b), and therefore may be relied upon as an admission of equivalence by Mr. Lam. Examination of Mr. Lam's specification reveals that his disclosure falls squarely in category (b), and therefore the Solicitor's argument must fail. Mr. Lam's specification is devoid of any statement acknowledging that one of skill in the art would have recognized the functional equivalence of the rotational and telescoping embodiments. The descriptions of Figures 11 and 12, which show the telescoping and rotational embodiments respectively, refer to the rotational embodiment of Figure 12 as "an alternative embodiment to adjust the length of the elongate supporting member." The rest of the passage sets forth the design details of Mr. Lam's rotational embodiment. Notably absent from that description is any statement to the effect that the rotational embodiment is simply a design well known in the art to be equivalent to the telescoping embodiment of Figure 11. Properly viewed, the specification teaches—or at least purports to teach—that the described rotational means for adjusting the length of the plug is

new and nonobvious in the claimed invention. Such a disclosure fits squarely within category (b), above, and therefore it cannot be used to support a finding that one of skill in the art would have recognized the rotational and telescoping embodiments as functional equivalents.

Because the Board improperly relied upon the curtain rod, closet rod, and screw/thread coupling designs to support a finding of equivalency, and because the statements in Mr. Lam's specification do not constitute an admission that one of skill in the art would know of the two embodiments' functional equivalence in the claimed devices, we hold that the Board's finding of equivalency is not supported by substantial evidence. Because this finding was necessary to the Board's ultimate conclusion of obviousness, we vacate its judgment as to claim 15 and its dependent claims, and remand for further proceedings.

III

For the reasons given above, we affirm the Board's decision with respect to representative claim 1, and vacate and remand with respect to representative claim 15.

COSTS

No costs.

FOOTNOTES:

[1] The Board also affirmed the rejection of claims 16-18 and 21, but Mr. Lam has not appealed that portion of the judgment to this court.

[2] The parties dispute whether the "display apparatus" recited in the preamble to claim 1 is a part of the claimed invention. We do not find it necessary to decide this issue because, assuming arguendo that such a display limitation exists, substantial evidence supports the Board's finding that Werlin teaches the display apparatus.