

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRIAN E. AUFDERHEIDE and PAUL D. FRANK

Appeal 2007-3175
Application 10/127,099¹
Technology Center 2600

Decided: March 20, 2008

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI,
and SCOTT R. BOALICK, *Administrative Patent Judges*.

BOALICK, *Administrative Patent Judge*.

¹ Application filed April 22, 2002. The real party in interest is 3M Innovative Properties Company.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-37, all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to a resistive touch screen with an insulator layer to stabilize the resistance of a linearization pattern. (Spec. paragraph [0001].)

Claim 1 is exemplary:

1. A resistive touch panel having an active area and including a base layer comprising:

a resistive layer covering the active area of the touch panel;

a plurality of electrodes disposed to induce a voltage gradient across the resistive layer;

a linearization pattern comprising a plurality of resistors disposed over at least a portion of the resistive layer for maintaining the uniformity of the voltage gradient across the resistive layer; and

an insulator covering at least a portion of the linearization pattern; wherein the insulator reduces changes in the voltage gradient over time.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Yaguchi	US 5,082,717	Jan. 21, 1992
Colgan	US 6,483,498 B1	Nov. 19, 2002

Claims 1, 5-6, 20, 24, 31, and 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Colgan.

Claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 stand rejected under 35 U.S.C. § 103(a) as being obvious over Colgan.

Claims 13, 23, 25-29, 34, and 37 stand rejected under 35 U.S.C. § 103(a) as being obvious over Colgan and Yaguchi.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Brief and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).²

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting claims 1, 5-6, 20, 24, 31, and 35 under 35 U.S.C. § 102(e) and claims 2-4, 7-19, 21-23, 25-30, 32-34, and 36-37 under 35 U.S.C. § 103(a).

² Except as will be noted in this opinion, Appellants have not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim. *See* 37 C.F.R. § 41.37(c)(1)(vii).

PRINCIPLES OF LAW

On appeal, all timely filed evidence and properly presented arguments are considered by the Board. *See In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984).

In the examination of a patent application, the Examiner bears the initial burden of showing a prima facie case of unpatentability. *Id.* at 1472. When that burden is met, the burden then shifts to the applicant to rebut. *Id.*; *see also In re Harris*, 409 F.3d 1339, 1343-44 (Fed. Cir. 2005) (finding rebuttal evidence unpersuasive). If the applicant produces rebuttal evidence of adequate weight, the prima facie case of unpatentability is dissipated. *In re Piasecki*, 745 F.2d at 1472. Thereafter, patentability is determined in view of the entire record. *Id.* However, on appeal to the Board it is an appellant's burden to establish that the Examiner did not sustain the necessary burden and to show that the Examiner erred.

Anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994). "A patent applicant is free to recite features of an apparatus either structurally or functionally." *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997). However,

where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to

be in the prior art does not possess the characteristic relied on.

Id. (quoting *In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971)).

"Section 103 forbids issuance of a patent when '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.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

In *KSR*, the Supreme Court reaffirmed that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 1739. The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740.

"[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of

obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). "To facilitate review, this analysis should be made explicit." *KSR*, 127 S. Ct. at 1741. However, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.*

"Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 127 S. Ct. at 1741. The Court also noted that "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 1742. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *Id.*

Furthermore, the Supreme Court explained that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." *KSR*, 127 S. Ct. at 1742. "If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense," *id.* and, in such an instance "the fact that a combination was obvious to try might show that it was obvious under § 103" *id.*

The level of ordinary skill in the art may be evidenced by the prior art references. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) ("Although the Board did not make a specific finding on skill level, it did conclude that the level of ordinary skill in the art . . . was best determined by

appeal to the references of record We do not believe that the Board clearly erred in adopting this approach."); *see also In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978) ("the PTO usually must evaluate both the scope and content of the prior art and the level of ordinary skill solely on the cold words of the literature").

During examination of a patent application, a claim is given its broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). "[T]he words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal citations omitted). The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1313.

ANALYSIS

Appellants contend that the Examiner erred in rejecting claims 1-37. Reviewing the record before us, we do not agree. In particular, we find that Appellants have not shown that the Examiner failed to make a prima facie showing of anticipation with respect to claims 1, 5-6, 20, 24, 31, and 35, and have not shown that the Examiner failed to make a prima facie showing of obviousness with respect to claims 2-4, 7-19, 21-23, 25-30, 32-34, and 36-37. Appellants failed to meet the burden of overcoming these prima facie showings.

Claims 1, 5-6, 20, 24, 31, and 35

Appellants have argued claims 1, 5-6, 20, 24, 31, and 35 together as a group. (Br. 4-6.) Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii), we select claim 1 as representative.

The Examiner correctly found that Colgan teaches the structural elements of claim 1. (Ans. 3.) In particular, Colgan teaches a resistive layer (conductor 32 (*see also* Br. 4)) covering the active area (area including conductors 26 and 32) of the touch panel 10, a plurality of electrodes 50 disposed to induct a voltage gradient across the resistive layer; a linearization pattern 28 comprising a plurality of resistors disposed over at least a portion of the resistive layer, and an insulator (adhesive 44) covering at least a portion of the linearization pattern 28. (Ans. 3; Colgan Figs. 1-5, Abstract, col. 2, ll. 22-24, col. 4, l. 28 to col. 5, l. 67.) The Examiner also found that "since the device [of Colgan] includes the exact structure in the claim, then the device will function accordingly; i.e., the insulator [44] will reduce changes in the voltage gradient over time." (Ans. 3.) Thus, the Examiner correctly found that Colgan established a prima facie case of anticipation. Appellants have the burden to prove that Colgan does not possess the characteristic relied on, i.e., that the insulator of Colgan does not reduce changes in the voltage gradient over time.

Appellants argue that "Colgan does not indicate what adhesive material should or could be used, and there is nothing in Colgan to teach or suggest that an insulator covering a resistance element such as a linearization pattern in a resistive touch screen can function to reduce resistance changes or the resulting voltage gradient uniformity." (Br. 5-6.) Appellants argue that even if Colgan discloses the same structure as claimed, "it cannot be

said that mere disclosure of the structure necessarily leads to the claimed function." (Br. 6.) Appellants contend that the examples disclosed in the Specification, and Example 2 in particular (Br. 5), demonstrate that "the claimed functionality is not an inherent property of the structure. Indeed, a solvent-based pressure sensitive adhesive [disclosed in Example 2] such as is conventionally used in touch screen construction was found by Appellants to significantly increase the resistance of the linearization pattern after application." (Br. 6.) We do not agree.

Contrary to Appellants' argument (Br. 5-6), the examples in the Specification fail to demonstrate that the claimed functionality is not an inherent property of the structure. Initially, we note that Colgan teaches that the adhesive 44 applied to linearization pattern 28 "may be applied using a needle dispense tool or by printing and then joining and curing." (Colgan col. 5, ll. 55-60.) In other words, the adhesive 44 is not described as, nor is it limited to, a pressure sensitive adhesive. Even if the adhesive 44 were a pressure sensitive adhesive, as Appellants appear to argue, the examples in the Specification demonstrate that a pressure sensitive adhesive would reduce changes in the voltage gradient over time within the meaning of the claim.

In Example 2, three samples were prepared using a resistor pattern of commercially available silver filled conductive ink printed on a base layer of glass. (Spec. paragraphs [0025] and [0027].) Three different commercially available materials -- (1) a solvent based, peroxide cured, silicone pressure sensitive adhesive (PSA), (2) PF455 ink, and (3) PF452 ink -- were printed as insulators over the resistor pattern and the change in resistance was measured shortly after curing and cooling. (Spec. paragraphs [0024] and

[0027], and Table 1.) Examples 3-6 compare the change in resistance over a period of two weeks and under various environmental conditions of resistor patterns printed with either PF455 or PF452 insulators and resistor patterns printed without an insulator. (Spec. paragraphs [0028] through [0031] and Tables 2-5.) None of the examples in the Specification show the change in resistance over a period of time (e.g., two weeks) of a resistor pattern printed with a pressure sensitive adhesive or any other adhesive.

The Specification teaches that:

the resistance of the resistors may not substantially increase after exposure to ambient temperature and humidity for a relatively long period (i.e. about three months). The insulator increases the resistance of the resistor pattern *by less than about 100%* at ambient temperature and humidity one hour after applying, drying, curing, and cooling the insulator.

(Spec. paragraph [0021] (emphasis added).) As shown by Table 1 in Example 2, the pressure sensitive adhesive increases the resistance by 92% shortly after curing and cooling. Since the Specification explains that an increase of less than 100% is not a substantial increase, it follows that the pressure sensitive adhesive of Example 2 does not substantially increase the resistance of the resistors. None of the examples in the Specification describe a pressure sensitive adhesive as being unsuitable to reduce the changes in the voltage gradient over time. As shown by Table 1 and as taught by the Specification, a pressure sensitive adhesive would reduce changes in the voltage gradient over time. Therefore, such an interpretation of the claim is reasonable and is not inconsistent with the Specification.

Appellants have failed to provide evidence with sufficient weight to rebut the Examiner's prima facie case. Accordingly, we conclude that Appellants have not shown that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(e). Claims 5-6, 20, 24, 31, and 35 were argued as a group with claim 1, and fall together with claim 1.

Claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36

Although Appellants argue the rejection of dependent claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 separately (Br. 6), the arguments presented do not point out with particularity or explain why the limitations of the dependent claims are separately patentable. Instead, Appellants summarily allege that, "[f]or the reasons given previously, Colgan does not disclose all the elements of Appellants' claims." (Br. 6.) We reject this argument for the reasons given previously.

Appellants also argue that "Colgan provides no motivation to meet the limitations of Appellant's base claims, much less the claims dependent therefrom." (Br. 6.) We disagree.

The Examiner found that the device of Colgan would have been capable of performing the function limitations recited by dependent claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 because it discloses all the structural elements of the claims and the structure is capable of performing the recited functions. (Ans. 4.) Appellants have not provided any evidence to rebut the Examiner's prima facie case of obviousness.

Because Appellants have not persuasively rebutted the Examiner's prima facie case of obviousness for dependent claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 based on the teachings of Colgan, we will sustain

the rejection of these claims for the reasons discussed with respect to independent claims 1, 20, 31, and 35 from which claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 depend.

Claims 13, 23, 25-29, 34, and 37

With respect to claims 13, 23, 25-29, 34, and 37, Appellants argue that there is no motivation to combine Yaguchi with Colgan because "[n]othing in Yaguchi suggests that the disclosed materials be used as an insulator patterned over resistance elements such as the linearization pattern" (Br. 7) and "even if a suggestion could be found to motivate one of skill in the art to make the combination . . . there is nothing to indicate that the material of Yaguchi would perform the claimed function of reducing changes to resistance" (Br. 7). We do not agree.

The Examiner articulated a reason to combine Colgan and Yaguchi and found that the styrene-based resin composite material of Yaguchi includes all the structural limitations of dependent claims 13, 23, 25-29, 34, and 37. (Ans. 5-6; Yaguchi col. 5, ll. 3-17 and col. 8, l. 62 through col. 9, l. 2.) In the absence of evidence to the contrary, since the combination of Colgan and Yaguchi's structure is the same as that claimed by Appellants, it is assumed to function in the same manner as Appellants' structure.

Accordingly, we conclude that Appellants have not shown that the Examiner erred in rejecting claims 13, 23, 25-29, 34, and 37 under 35 U.S.C. § 103(a).

CONCLUSION OF LAW

We conclude that:

(1) Appellants have not shown that the Examiner erred in rejecting claims 1, 5-6, 20, 24, 31, and 35 for anticipation under 35 U.S.C. § 102(e).

(2) Appellants have not shown that the Examiner erred in rejecting claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 for obviousness under 35 U.S.C. § 103.

(3) Appellants have not shown that the Examiner erred in rejecting claims 13, 23, 25-29, 34, and 37 for obviousness under 35 U.S.C. § 103.

DECISION

The rejection of claims 1, 5-6, 20, 24, 31, and 35 for anticipation under 35 U.S.C. § 102(e) is affirmed.

The rejection of claims 2-4, 7-12, 14-19, 21-22, 30, 32-33, and 36 for obviousness under 35 U.S.C. § 103 is affirmed.

The rejection of claims 13, 23, 25-29, 34, and 37 for obviousness under 35 U.S.C. § 103 is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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