UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ELISA M. CROSS,
ROBERT S. MOSHREFZADEH, FRANK J. BOTTARI,
DARRAN R. CAIRNS, ANTHONY F. CHERNEFSKY
and PAUL J. RICHTER

Appeal 2008-1159
Application 10/152,260[1]
Technology Center 2600

Decided: July 22, 2008

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

BOALICK, *Administrative Patent Judge*.

[1] Application filed May 20, 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 1-44, all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF THE CASE

Appellants' invention relates to a capacitive touch screen sensor that incorporates a conductive polymer and is used with a touch screen.

Claims 1 and 15 are exemplary:

1. A capacitive touch screen comprising:

a touch area comprising a substantially transparent conductive polymer acting as a primary signal carrier for making a capacitive coupling to an object at a touch location; and

circuitry connecting the conductive polymer of the touch area to a power source, the circuitry configured to determine the touch location.

15. A touch panel for locating a touch point, comprising:

a current-conducting impedance surface having at least a pair of boundaries, the impedance surface comprising a conductive polymer;

wherein the touch panel is configured to cause a substantially linearized electrical current through the impedance surface, wherein currents passing through a touch point on the impedance surface from each of the boundaries determine a location of the touch point.

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

Pepper	US 4,371,746	Feb. 1, 1983
Redmayne	US 5,650,597	Jul. 22, 1997
Senk	US 6,760,715	Jun. 2, 1998
Cloots	US 6,340,496 B1	Jan. 22, 2002
Welsh	US 6,469,267 B1	Oct. 22, 2002 (filed Jul. 12, 2000)
Chen	US 6,661,408 B2	Dec. 9, 2003 (filed Mar. 23, 2001)

Claims 1-44 stand rejected under 35 U.S.C. § 103(a) as being obvious over Welsh and Senk.[2]

Claims 11, 12, 24, 25, and 38 stand rejected under 35 U.S.C. § 103(a) as being obvious over Welsh, Senk, and Redmayne.

Claims 13 and 39 stand rejected under 35 U.S.C. § 103(a) as being obvious over Welsh, Senk, and Pepper.

Claims 14, 26, 40, and 44 stand rejected under 35 U.S.C. § 103(a) as being obvious over Welsh, Senk, and Chen.

Claims 11, 24, and 37 stand rejected under 35 U.S.C. § 103(a) as being obvious over Welsh, Senk, and Cloots.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in

[2] Although the Examiner rejected claims 1-44 as being obvious over Welsh and Senk alone, the Examiner identified deficiencies in this base combination with respect to dependent claims 11-14, 24-26, 37-40, and 44 and further applied Redmayne, Pepper, or Chen to cure those deficiencies.

this decision. Arguments that Appellants did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103(a).

PRINCIPLES OF LAW

All timely filed evidence and properly presented arguments are considered by the Board in resolving an obviousness issue on appeal. *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 the Appellants' burden to establish that the Examiner did not sustain the necessary burden and to show that the Examiner erred.

"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.

"[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).

ANALYSIS

Appellants contend that the Examiner erred in rejecting claims 1-44. Reviewing the record before us, we agree. In particular, we find that the Appellants have shown that the Examiner failed to make a prima facie showing of obviousness with respect to claims 1-44.

§ 103 Rejection - Welsh / Senk

We agree with Appellants (App. Br. 8-10; Reply Br. 1-2) that the Examiner erred in rejecting independent claims 1, 27, and 41 as being obvious over Welsh and Senk. In particular, we find that Welsh does not teach or suggest a conductive polymer that acts as a primary signal carrier for making a capacitive coupling to an object at a touch location, as claimed in independent claims 1, 27, and 41. Further, we agree with Appellants (App. Br. 8-10) that one having ordinary skill in the art would not have combined the teachings of Welsh and Senk to arrive at the claimed invention.

The Examiner initially found that Welsh teaches a conductive polymer that acts as a primary signal carrier for making a capacitive

coupling to an object at a touch location (Ans. 3), but later found that, although Welsh teaches a conductive polymer, Welsh does not teach a primary signal carrier for making a capacitive coupling to an object at a touch location (Ans. 4). We agree with the Examiner's latter finding that Welsh does not teach a conductive polymer that acts as a primary signal carrier for making a capacitive coupling to an object at a touch location. Instead, Welsh teaches a switch 10 for use in a resistive touch screen that has two conductive elements 16, 22, at least one element 16 being a conductive polymer, that are opposed to each other across a gap. (Welsh Abstract; col. 1, ll. 9-16; col. 3, ll. 18-29, 41-54; col. 3, l. 66 to col. 4, l. 7.) The switch 10 "completes an electrical circuit when one of [the] substrates is pressed toward the other of the substrates and the two conductive elements touch." (Welsh Abstract; *see also* col. 4, ll. 60-63.) Thus, the conductive polymer element 16 of Welsh does not act as a primary signal carrier for making a capacitive coupling to an object at a touch location. Instead, the conductive polymer 16 makes physical contact with the other conductive element 22 at the touch location.

Senk teaches a touch sensor 10 for a capacitive touch sensing system that has a conductive plate 30 that acts as a primary signal carrier for making a capacitive coupling to an object 24 at a touch location 22 (Senk Abstract; col. 1, ll. 7-8, 46-65; col. 4, ll. 27-35; col. 4, l. 66 to col. 5, ll. 4; Fig. 3), and thus we agree with the Examiner that Senk teaches a primary signal carrier for making a capacitive coupling to an object at a touch location. However, we do not agree that a person of ordinary skill in the art would have modified the switch of Welsh to use the touch sensor of Senk because these two devices employ completely different principles of operation. The switch

in the resistive touch screen of Welsh works by having one conductive layer make physical contact with the other layer when touched by an object, whereas the capacitive touch sensor of Senk works by making a capacitive coupling between the object touching the sensor and the conductive plate.

The Examiner reasoned that Welsh and Senk each teach capacitive touch screens and that one of ordinary skill in the art would have modified the touch device of Welsh with the teachings of Senk in order to reduce capacitive coupling to the user's finger at the touch location in order to improve the determination of a key touch. (Ans. 3-5, 10-14.) We do not agree that Welsh discloses a capacitive touch screen. Instead, as explained above, Welsh teaches a resistive touch screen that operates by having two conductors make physical contact with each other. The Examiner's rationale (Ans. 3) is merely a restatement of a benefit of the capacitive touch screen of Senk when compared to traditional capacitive touch systems. The Examiner does not provide a reason, nor do we find one, for why one of ordinary skill in the art would replace the switch in the resistive touch screen of Welsh with the capacitive touch sensor of Senk.

In summary, the Examiner's articulated reasoning in the rejection does not possess a rational underpinning to support a finding of obviousness of independent claims 1, 27, and 41 based upon the teachings of Welsh and Senk. Therefore, we conclude that Appellants have shown that the Examiner erred in rejecting independent claims 1, 27, and 41 and dependent claims 2-14, 28-40, and 42-44 as being obvious over Welsh and Senk.

Unlike independent claims 1, 27, and 41, independent claim 15 does not recite a conductive polymer that acts as a primary signal carrier for making a capacitive coupling to an object at a touch location. In the Final

Office Action and in the Answer, the Examiner did not explain how the specific limitations of claim 15 were taught or suggested by Welsh and Senk. (Final Office Action 2-6, 9-12; Ans. 3-7, 10-15.) For example, the Examiner has not explained how Welsh and Senk teach or suggest either "wherein the touch panel is configured to cause a substantially linearized electrical current through the impedance surface" or "wherein currents passing through a touch point on the impedance surface from each of the boundaries determine a location of the touch point," as claimed. Instead, the Examiner grouped the analysis of independent claim 15 with that of independent claims 1, 27, and 41. (*Id*.) Therefore, the Examiner has not set forth a prima facie case of obviousness with respect to independent claim 15 or dependent claims 16-26.

Accordingly, we conclude that Appellants have shown that the Examiner erred in rejecting claims 1-44 under 35 U.S.C. § 103(a) as being obvious over Welsh and Senk.

Other § 103 Rejections

With respect to the rejection of dependent claims 11-14, 24-26, 37-40, and 44 as being obvious over a combination of Welsh, Senk, and one of either Redmayne, Pepper, Chen, or Cloots, we find nothing in these references to cure the deficiencies in the base combination of Welsh and Senk noted above. Therefore, we conclude that Appellants have shown that the Examiner erred in rejecting dependent claims 11-14, 24-26, 37-40, and 44.

CONCLUSION OF LAW

We conclude that Appellants have shown that the Examiner erred in rejecting claims 1-44.

DECISION

The rejection of claims 1-44 for obviousness under 35 U.S.C. § 103 is reversed.

REVERSED

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3M INNOVATIVE PROPERTIES COMPANY
P. O. BOX 33427
ST. PAUL, MN 55133-3427