The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEFFEN RING

Appeal 2007-0481
Application 10/654,049[1]
Technology Center 2600

Decided: June 14, 2007

Before: ALLEN R. MACDONALD, JAY P. LUCAS, and MARC S. HOFF, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-6, 8-10, and 13-15.[2] We have jurisdiction under 35 U.S.C. § 6(b).

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[1] Application filed September 3, 2003. The real party in interest is Motorola, Inc.

[2] Claims 1-19 were finally rejected in the Office action mailed October 26, 2005. Claims 7, 11, 12, and 16 are not appealed. Claims 17-19 have been cancelled.

We affirm a new ground of rejection of claims 1-6, 8-10 and 13-15 under 35 U.S.C. § 103(a) as being obvious over Davis in view of Naboulsi and Kim.

Appellant's invention relates to a wireless telephone that a user may activate by squeezing. In the words of the Appellant:

> A user of a communication device may initiate a communication, i.e., a telephone call, a text message, a page, an alert and the like, silently, via a macro-manipulation of the communication device and without having to identify a particularly button or sequence of buttons on the communication device. The communication device may include housing into which is disposed a sensor that detects the macro-manipulation of the communication device by the user. An output form the sensor is associated with a particular communication context, e.g., a particularly telephone number to which a call is to be completed, a communication device to which a text message is to be sent and the contents of the text message, an email address to which an email is to be sent, a pager to which either a page number, text or numeric message is to be sent, and the like. Responsive to the output from the sensor, the communication device initiates the communication according to the define context. Thus, a user of the communication device may initiate a communication in total darkness, without removing the communication device from a purse or pocket, and without having to identify a particular key or keys on the communication device.

(Specification, para. [0008]).

Claim 1 is exemplary:

1. A communication device comprising:

a housing;

a sensor disposed on a surface of the housing and responsive to a user macro-manipulation of the communication device to provide a sensor

output, the sensor comprising a pair of spaced apart carbon fiber strips disposed on the housing; and

a processor disposed within the housing, the processor operable responsive to receiving the sensor output to initiate a predefined communication associated with receipt of the sensor output.

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

Davis	US 6,292,674 B1	Sep. 18, 2001
Naboulsi	US 2004/0209594 A1	Oct. 21, 2004

Additional prior art cited by the Board

Kim	US 4,503,416	Mar. 5, 1985

Claims 1-6, 8-10, and 13-15 stand rejected under 35 U.S.C. 103(a) as being obvious over Davis in view of Naboulsi.

Appellant contends that the claimed subject matter would not have been obvious, in that the art cited by the Examiner does not teach a pair of spaced apart carbon fiber strips disposed on the housing of a communication device. The Examiner contends that the proposed combination of references teaches all elements of the claimed invention.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant could have made but chose not to

make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).[3]

ISSUES

The first issue is whether Appellant has shown that the Examiner failed to establish a prima facie case of obviousness, because no reference of record teaches a pair of spaced apart carbon fiber strips disposed on the housing of the communication device.

The second issue is whether Appellant has shown that the Examiner failed to provide proper motivation to combine the cited references, specifically to modify the wireless telephone of Davis to include the carbon-type transducers of Naboulsi.

FINDINGS OF FACT

1. Appellant invented a wireless telephone with a switch apparatus disposed along its sides, so that a user may squeeze the telephone and initiate one or more of the phone's functions.

2. Appellant mounts a sensor composed of two parts, one part on each side of a wireless telephone, such that squeezing of the telephone by a user will activate the sensor (Specification, para. [0012]).

3. In one embodiment, Appellant's sensor is composed as a pair of carbon fiber strips 122 and 124, coupled via detection circuit 128 to

[3] Appellant has not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group, except as will be noted in this opinion. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim. *See In re Young,* 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii).

processor 114. Moisture and salt on a user's hand, when applied across the strips 122 and 124, will short circuit the strips allowing a small amount of current to flow from a source through the strips via the user's hand. Resistance between the user's hand and the strips drops sharply permitting an increase[d] amount of current to flow and producing a current pulse in the detection circuit. The detection circuit then provides the sensor output signal to the processor 114 (Specification, para. [0014]).

4. Appellant's Specification gives no specific definition of, and cites no particular material properties for the term "carbon fiber" (*Id*.).

5. Davis teaches a wireless telephone including a housing, and a sensor on the surface of the housing, responsive to user macro-manipulation (squeezing), to provide a sensor output (Col. 1, ll. 49-51; col. 5, ll. 52-63).

6. In Davis, when the user grasps the housing 302, the conductive nature of the human hand causes a current to flow between first plate 306 and second plate 308 (of a capacitance switch 304). This completes a circuit, which is detected by the switch detector 346. In response, the switch detector sends a signal to the controller 22 (Col. 5, ll. 57-62).

7. Davis teaches that the wireless phone may be controlled to initiate a communication ("send"), end a communication ("standby" or "on hook"), or redial a call responsive to receipt of the signal from the switch detector (Col. 2, ll. 45-56).

8. Naboulsi teaches a vehicle safety system including a pair of sensors S1, S2 mounted on a steering wheel, which sensors are capable of sensing a physiological condition of the driver, including electrical skin conductivity of the driver's hand while gripping the steering wheel.

Naboulsi gives several examples of types of sensors that convert pressure to an electrical signal, one being a carbon-type transducer (Para. [0044]).

9. Naboulsi teaches a system in which the driver must place both hands on the steering wheel, sensed by sensors S1 and S2, before the system will enable use of a wireless telephone (Para. [0045]).

10. Kim teaches a tactile sensor composed of a carbon fiber layer and two conductive layers on opposite sides of the carbon fiber layer. Pressure applied to the sensor reduces the electrical resistances measured across the carbon fiber layer (col. 2, line 66 to col. 3, line 4).

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellant. *Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444. *See also Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner's conclusion.

"[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740, 82 USPQ2d 1385, 1395-96 (2007) (quoting *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976)).

When a work is available in one form 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. *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 at 1740, 82 USPQ2d at 1396.

ANALYSIS

Appellant argues several points in support of its principal contention that the combination of Davis and Naboulsi does not disclose a pair of spaced apart carbon fibers strips disposed on a communication device (as recited in independent claims 1 and 9).

Appellant argues that the Examiner admits Davis does not teach spaced apart carbon fibers disposed on the housing of a wireless telephone (Reply Br. 4: 29-31). Davis does teach a mobile telephone device, however, and Davis's device teaches (capacitive) sensors responsive to macro-manipulation disposed on either side of the wireless telephone's housing (Finding of Fact No. 5). The Examiner concedes that Davis does not teach

spaced apart carbon fibers, and looks to Naboulsi to supply the missing teaching.

Appellant further argues that "Naboulsi does not disclose a pair of spaced apart carbon fiber strips coupled to a mobile communication device" (Reply Br. 4: 32-33). Naboulsi is not relied upon to teach the particular device to which the squeezeable sensors are coupled. The Examiner cited Naboulsi to teach that sensors may be made up of the material recited in Appellant's claim (Answer 4: 8-10). Naboulsi teaches "carbon-type" transducers that convert pressure to an electrical signal (Finding of Fact No. 8).

Appellant further objects to the content of Naboulsi, arguing that "[a] carbon-type transducer is not carbon fiber strips" (Reply Br. 5: 1-2). As noted in Finding of Fact No. 4, Appellant attaches no special significance to the term "carbon fiber." Appellant's Specification contains nothing that would lead the reader to any interpretation other than that Appellant is employing known (i.e., "old") carbon fiber materials.

Appellant's carbon fiber strip sensor operates by allowing current to flow when moisture and salt on a user's hand create a short circuit; that is, current flows in response to pressure (squeezing) (Finding of Fact No. 3). In Davis, the conductive nature of the human hand causes a current to flow between first plate 306 and second plate 308 of a capacitance switch 304 (Finding of Fact No. 6). In Naboulsi, a "carbon-type" transducer senses electrical skin conductivity, and converts pressure to an electrical signal (Finding of Fact No. 8). Kim shows that the carbon fiber species of carbon sensor is old in the art (Finding of Fact No. 10).

Given that Naboulsi's "carbon-type" transducer is made of the same basic material and works in the same way Appellant's sensor works, we believe Naboulsi discloses the same material as that claimed by Appellant for the purposes of § 103. In the alternative, even if we accept Appellant's argument that Naboulsi teaches a different material from that claimed, we conclude that it would have been obvious to use a sensor made of "carbon fiber" rather than a "carbon-type" sensor, because (1) the modification of Davis to use carbon fiber sensors rather than capacitive sensors would have constituted the mere arrangement of old elements with each performing the same function it had been known to perform, the combination yielding no more than one would expect from such an arrangement (*see KSR* 127 S. Ct. at 1739-40, 82 USPQ2d at 1395), (2) the use of carbon fiber sensors rather than "carbon-type" would have been a predictable modification – carbon fiber has known advantages such as strength and light weight, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (*see KSR* 127 S. Ct. at 1740-41, 82 USPQ2d at 1396), and (3) Kim teaches that it is known to manufacture a transducer that converts pressure to electrical energy using carbon fiber materials (Finding of Fact No. 10).

Appellant argues that the Examiner used improper motivation to combine references when stating that Davis provides motivation for using other types of pressure sensors – "other forms of pressure sensitive switches are known in the art that can perform the same function" (Answer 9: 1-2), and that Naboulsi discloses pressure sensitive sensors can be made of carbon (Answer 9: 10-11), because "the mere fact that references can be combined

or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)" (Reply Br. 5: 17-19)(emphasis original). Appellant's citation of *Mills* is inapposite. The Examiner did not make an argument as to whether Davis is capable of being modified in the manner suggested by Naboulsi. The Examiner pointed out that Davis explicitly allows for the use of different, known sensors, and cited Naboulsi as teaching sensors made of carbon.

Appellant argues that there is no teaching in either reference that carbon sensors are well known to provide telephone operation (Reply Br. 5: 28-29). The Examiner merely cited Naboulsi for the proposition that *other* sensors, *such as* "carbon-type," may be used to effect wireless telephone operation in the same way that Davis's capacitive sensors do. Davis is the reference relied upon to teach wireless telephone functions. As such, Naboulsi fairly suggests modifying Davis in order to arrive at the claimed invention.

Finally, Appellant argues that the Examiner's Answer still has not provided a location in either reference for the claimed "spaced apart carbon fiber strips" (Reply Br. 6: 7-9). We disagree. The Examiner's Answer makes clear that Naboulsi's "carbon-type" transducers would replace the capacitive sensors used in Davis, and would be used in the same place, on either side of the telephone (see Fig. 3, elements 306 and 308). We have discussed *supra* the applicability of Naboulsi's "carbon-type transducers" to the claimed "carbon fiber strips."

Because we find none of Appellant's arguments persuasive, we agree with the Examiner's rejection of appealed claims 1-6, 8-10, and 13-15.

CONCLUSION OF LAW

We conclude that the Examiner did not err in rejecting claims 1-6, 8-10, and 13-15. The rejection of claims 1-6, 8-10, and 13-15 is affirmed.

DECISION

The Examiner's rejection of claims 1-6, 8-10, and 13-15 is affirmed.

We designate our affirmation of the rejection of claims 1-6, 8-10, and 13-15, which includes newly cited prior art, as a new ground of rejection under 37 CFR § 41.50(b).

37 CFR § 41.50(b) provides that, "[a] new grounds of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 CFR § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner …

(2) Request that the proceeding be reheard under 37 CFR § 41.52 by the Board upon the same record …

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

AFFIRMED

37 CFR § 41.50(b)

tdl/ce

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