

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 ROBERT DODGE, EDWARD DENNIS HILLEN,
and GEORGE DARYL BLANKENSHIP

Appeal 2007-1202
Application 10/847,052
Technology Center 2800

Decided: May 18, 2007

Before LANCE LEONARD BARRY, MAHSHID D. SAADAT, and ROBERT E. NAPPI, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 of the final rejection of claims 1 through 6, 8 through 21, and 23 through 33, claims 7 and 22 are objected to but contain allowable subject matter. For the reasons stated *infra*, we affirm the Examiner's rejection of these claims.

INVENTION

The invention is directed to a system for facilitating welding diagnostics. See pages 2 and 3 of Appellants' Specification. Claim 1 is representative of the invention and reproduced below:

1. A welding system, comprising:
 - a sensor component that receives information associated with at least one of operation of a welder and weld characteristics;
 - a control component that receives information from the sensor component and performs at least one test sequence to facilitate welder diagnostics based at least in part upon information received from the sensor component; and
 - a diagnostic component that performs welder internal diagnostics, determines a health status of the welder based at least in part on welder internal diagnostics and information received from at least one of the sensor component and the control component, and transmits welder health status information to a remote system.

REFERENCES

The references relied upon by the Examiner are:

Brown	US 4,721,947	Jan. 26, 1998
Niedereder	US 6,797,921 B1	Sep. 28, 2004 (filed Feb 15, 2002)

REJECTIONS AT ISSUE

Claim 33 stands rejected under 35 U.S.C. § 102(e) as anticipated by Niedereder. The Examiner's rejection is set forth on page 3 of the Answer. Claims 1 through 6, 8 through 21, and 23 through 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Niedereder in view of Brown. The

Examiner's rejection is set forth on pages 4 through 9 of the Answer. Throughout the opinion we make reference to the Brief and Reply Brief (filed May 23, 2006 and Nov. 16, 2006 respectively), and the Answer (mailed Oct. 10, 2006) for the respective details thereof.

ISSUES

Appellants contend that the Examiner's anticipation rejection of claim 33 is in error. Appellants assert that claim 33 recites a signal comprising resident diagnosis information internal to the welder and that Niedereder does not teach such a signal. (Br. 4.)

Further, Appellants contend that the Examiner's obviousness rejection of claims 1 through 6, 8 through 21, and 23 through 32 is in error. Appellants argue that Niedereder does not teach or suggest a control component for performing a test sequence to facilitate welder diagnostics or a diagnostic component that performs welder internal diagnostics. (Br 6.) Further, Appellants argue that Brown's teaching of a self-diagnostic test does not indicate performing welder internal diagnostics or determining a health status. (Br 7.) With respect to claims 26 and 28, Appellants argue that Brown's teaching of alarm signals does not meet the claimed step of performing at least one test sequence based upon a sensor input. (Br. 8.)

The Examiner contends that the anticipation rejection is proper. The Examiner states, Niedereder teaches that data can be read from the welder to a remote site.

The Examiner also contends that the obviousness rejection is proper. The Examiner states Niedereder teaches facilitating diagnostics. (Answer 18.) The

Examiner finds that Brown teaches performing diagnostics and health tests.
(Answer 24.)

Appellants' contentions directed to the anticipation rejection, present us with the issue of whether Niedereder teaches a signal for communicating between a remote system and welder as recited in claim 33.

Appellants' contentions also present us with the issue of whether the combination of Niedereder and Brown make obvious a welder with a control component that performs a test sequence to facilitate welder diagnostics and a diagnostic component that determines a health status of the welder based upon internal diagnostics as recited in claim 1.

FINDINGS OF FACT

1. Niedereder teaches a welding unit equipped with a communication interface which is forwards to and receives data from, a remote site. This data is transmitted and received using a HTTP server. (See col. 2, ll. 3-10.) We find that this data communication is sent via signals between the welder, HTTP server, and remote site.

2. Niedereder teaches that the data communicated may include programs. This capability allows for the amending configuration of the welder and searching for errors. (See col. 2, ll. 22-24.)

3. Niedereder's welder includes a control and/or evaluation unit (item 4) which interfaces with the HTTP server. (See col. 7, ll. 16-38.) Thus unit includes a computer. (See col. 9, ll. 19-26.)

4. The welder includes a sensor system which monitors data relevant to the welding process. This data can be used to assess the quality of the welding performance. The data is prepared, processed and then dispatched via the HTTP server. (See col. 9, ll. 48-65.)

5. Niedereder's system can also be used to provide from a remote site, diagnosis, error-searching, servicing, and status checks. (See col. 11, ll. 6-16.)

6. Appellants' Specification states that health status of the welder can include "information associated with functional and/or performance test results of the welder, error(s) and/or alarms." (Specification 13.)

7. Appellants' Specification states that a "component" may be software. (Specification 3.)

8. Brown teaches a welder that has a monitor which stores sets of acceptable ranges for monitored parameters of the welder. (See col. 1, ll. 38-59.)

9. Brown's system constantly monitors the values of the parameters and compares them to operating limits. A visual feedback and alarm is provided if the parameters are out of limit. (See col. 8, ll. 16-35.)

10. Brown's teaches that eight parameters may be monitored. (See col. 9, ll. 22-29 and Figure 9.)

11. Brown's system can be connected to a central computer system which receives an alarm if there is an out of tolerance condition. (See col. 9, ll. 4-10.)

12. Brown teaches that upon powering up the system, the system goes through a self diagnostic check. This self check involves running tests on the memory, registers, and processor. (See col. 13, ll. 25-45 and steps 201-207 in figure 14.)

13. After the processor performs the self-diagnostic test, the processor tests the transducers and provides an indication of fault. (See col. 13, ll. 47-66 and steps 208-210 in figure 14.)

PRINCIPLES OF LAW

Although no rejection under 35 U.S.C. § 101 is before this Board, the decisions of our reviewing courts on this issue do provide useful guidance with respect to (a) distinctions between “functional” and “non-functional” descriptive material, and (b) how the distinctions impact the courts’ treatment of each type of descriptive material.

When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *In re Warmerdam*, 33 F.3d 1354, 1360-61, 31 USPQ2d 1574, 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

When non-functional descriptive material is recorded on some computer-readable medium, in a computer, or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming non-functional descriptive material, i.e.,

abstract ideas, stored in a computer-readable medium, in a computer, or on an electromagnetic carrier signal does not make it statutory. *See Diamond v. Diehr*, 450 U.S. 175, 185-86, 209 USPQ 1, 7-8 (1981) (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose digital computer.”). Such a result would exalt form over substance. *In re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *In re Abele*, 684 F.2d 902, 907, 214 USPQ 682, 687 (CCPA 1982)). *See also In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under copyright law.

When presented with a claim comprising descriptive material, an Examiner must determine whether the claimed nonfunctional descriptive material should be given patentable weight. The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art. *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983). The PTO may not disregard claim limitations comprised of printed matter. *See Gulack*, 703 F.2d at 1384, 217 USPQ at 403; *see also Diamond v. Diehr*, 450 U.S. at 191, 209 USPQ at 10. However, the Examiner need not give patentable weight to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate. *See In re Lowry*, 32 F.3d 1579, 1583-84,

32 USPQ2d 1031, 1035 (Fed. Cir. 1994); *In re Ngai*, 367 F.3d 1336, 1338, 70 USPQ2d 1862, 1863-64 (Fed. Cir. 2004) and or recent final decision in *Ex parte Curry* 2005-0509 (Board. Pat. App. Inter. 2007, available at <http://des.uspto.gov/Foia/RetrievePdf?flNm=fd050509.pdf>) (Affirmed, Rule 36, CAFC 06-1003, June 2006).

ANALYSIS

Analysis related to anticipation rejection:

Claim 33 recites:

A signal for communicating between welding systems, comprising:
a signal for communicating between a remote system and a welder,
the signal comprises diagnosis information associated with a health status of
the welder, the diagnosis information comprising resident diagnosis
information internal to the welder.

Initially we note that claim 33 is directed to a signal. It does not appear that the Examiner considered applying a rejection under 35 U.S.C. § 101. While we do not now enter a rejection under 35 U.S.C. § 101, should there be further prosecution of this application we encourage to the Examiner to consider whether claim 33 is drawn to statutory subject matter. Nonetheless, the limitation of claim 33 which Appellants' assert is not taught by Niedereder is "the diagnosis information comprising resident diagnosis information internal to the welder." This limitation is directed to the information content of the signal. We do not find that this information functionally relates to signal, but is rather just a description of the type of information conveyed by the signal. As discussed above, non-functional descriptive material does not distinguish a claimed invention from the prior art. As discussed in our findings of facts, fact 1, Niedereder teaches a signal

transmitted between a welder and a remote site. Thus, we find ample evidence to support the Examiner's rejection of claim 33 as being anticipated by Niedereeder.

Analysis related to obviousness rejection:

Initially we note that Appellants' arguments directed to the obviousness rejection, group claims 1 through 6, 8 through 21, and 23 through 32 together. Independent claim 26 is the broadest claim in this group of claims. Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii) we group claims 1 through 6, 8 through 21, and 23 through 32 together and select claim 26 as the representative claim.

Claim 26 recites a method which includes performing one test sequence based in part on a sensor input, determining whether an alarm condition exists and sending a message to a remote system. As discussed *supra*, we find that Brown teaches monitoring parameters of a welder, comparing the values to operating limits, (see fact 9.) We consider a comparison of a measured value to an operating limit to be a test. Further, as discussed *supra*, we find that the results of these tests lead to an alarm condition which is indicated locally and relayed to a central computer (remote location), (see facts 9 and 11.) Thus, Niedereeder's teaching of signaling a remote computer is cumulative of Brown's teaching of signaling a remote computer and we find that Brown alone teaches the limitations of claim 26. Appellants' arguments on page 8 of the brief, that Brown "simply discusses various audio-visual alarms that indicate when a parameter falls outside a predetermined range" has not persuaded us of a difference between the test sequence of claim 26 and Brown's comparison step. Thus, we find ample evidence to support the examiner's rejection of claim 26.

We are not persuaded by Appellants' arguments which discuss limitations to the welder performing internal diagnostics and a health status as claim 26 contains no such limitations. While we note that independent claim 1 does contain such limitations, Appellants have not elected under 37 C.F.R. § 41.37(c)(1)(vii) to separately argue independent claim 1. Thus we affirm the rejection of claims 1 through 6, 8 through 21, and 23 through 32 for the reasons discussed *supra* with respect to claim 26. Nonetheless, we provide the following further analysis directed to claim 1. Claim 1 recites performing a test sequence to facilitate welder diagnostics based upon information received from the sensor component. We find that Brown teaches two tests which involve information received from the sensors, in the monitoring mode the test, compares sensor input with operating limits, (see fact 9) and upon start up the processor performs tests to see if the sensors are faulty or not, (see fact 13.) Claim 1 also recites a diagnostic component which determines a health status of the welder based in part on the welder diagnostics, information received from a sensor component and the control component. We find that Brown teaches that the microprocessor of the welder performs a self diagnostics test and a test of the welder's transducers. (See facts 12 and 13.) These tests are performed by software being executed by the microprocessor and as such meet Appellants' claimed component. While Brown does not disclose transmitting the results of the diagnostics tests to the remote location, we consider Brown's teaching that other alarms should be transmitted to a remote location and Niedereder's teaching of using a remote diagnosis and error checking, to provide ample evidence that one would be motivated to transmit the results of the diagnostics tests to a remote location. Thus, even if claim 1 were separately argued, we find ample evidence to support the Examiner's rejection of claim 1.

CONCLUSION

We sustain the Examiner's rejection of claims 1 through 6, 8 through 21, and 23 through 33. The decision of the Examiner is affirmed. Should there be further prosecution of this application we encourage to the Examiner to consider whether claim 33 is drawn to statutory subject matter

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) (2006).

Appeal 2007-1202
Application 10/847,052

AFFIRMED

eld

AMIN, TUROCY & CALVIN, LLP
1900 EAST 9TH STREET, NATIONAL CITY CENTER
24TH FLOOR,
CLEVELAND OH 44114