

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWIN ZANE BROWN,
ROGER ALAN MERRIMAN and
STEVEN TODD BRANDENBURG

Appeal No. 2002-0880
Application No. 09/183,214

ON BRIEF

Before KRASS, FLEMING and RUGGIERO, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 12, and 14 through 22. Claim 13 has been canceled.

Invention

The claimed invention relates generally to test systems and methods. In particular, the invention relates to test systems and methods used in testing devices having circuit and ground connections for receiving power from external sources. See page 1 of Appellants' specification. Figure 1 shows an exemplary embodiment of an automated test system 10 according to the present invention. See page 7 of Appellants' specification. A storage device 12, a user interface 14 and a processor 16 are preferably integrated into a general purpose computer 26. The general purpose computer 26 further includes input/output ("I/O") circuitry 28 that provides an interface between the general purpose computer 26 and various external devices, including, but not limited to, the test apparatus 18 and the discharge circuit 22. The I/O circuitry 28 may suitably be one or more circuit cards designed to provide interface and/or communication circuitry that allow the general purpose computer 26 to communicate with the various external devices. Such devices are well known in the art. For example, in the embodiment described herein, the I/O circuitry 28 includes a IEEE-488-PCII card for interfacing to the test apparatus 18. See page 8 of Appellants' specification.

The storage memory 12 is one or more memory devices capable of storing data, and in particular, data identifying a plurality of sets of test parameters. A test value is a value defining an aspect of a test. A set of test parameters is a group of one or more

test parameters. Each of the sets of test parameters is associated with one or more of the products to be tested by the automated test system 10. See page 8 of Appellants' specification.

The processor 16 is operable to receive input from the input device 30, including input identifying a product model identifier. The processor 16 is further operable to retrieve from the storage device 12 the set of test parameters associated with the product model identifier. The product is further operable to retrieve from the storage device 12 the set of test parameters associated with the product model identifier. The processor is still further operable to generate a control signal that includes the retrieved set of test parameters. See page 11 of Appellants' specification. The test apparatus 18 is a device operable to perform product testing by applying an input to a DUT and measuring a quantity from the DUT. The test apparatus 18 is operably connected to receive the test parameters from, and to provide test result data to the processor 16. To this end, the test apparatus 18 in the embodiment described herein is coupled to the processor 16 through the I/O circuitry 28 and communicates with the processor 16 over a I.E.E.E. 488 link 17.

Independent claims 1 and 8 are representative of Appellants' claimed invention, and are reproduced as follows:

1. A method of testing a device using a test apparatus, the device having a circuit connection and a ground connection, the test apparatus operable to generate voltages at select levels and for select times based on test parameters, the method comprising:

a) obtaining input from an operator defining a first product model identifier from a plurality of product model identifiers;

b) retrieving from a memory one of the plurality of sets of test parameters associated with the first product model identifier;

c) causing the test apparatus to execute a first test based on the retrieved set of test parameters by providing a control signal to the test apparatus over a communication link; and

d) obtaining test results from the test apparatus.

8. An automated test system for testing a device, the device having a circuit connection and a ground connection, the automated test system comprising

a storage device operable to store a plurality of sets of test parameters, the storage device further operable to store a plurality of product model identifiers, each product model identifier associated with one of the plurality of sets of test parameters;

a display;

an input device for obtaining input from an operator defining a first product model identifier from the plurality of product model identifiers;

a processor, coupled to the input device, the display and the storage device, the processor operable to cause the display to display the plurality of product model identifiers for selection by the operator; the processor further operable to receive the input from the input device and retrieve the set of test parameters associated with the first product model identifier from the storage device based on the input; the processor further operable to generate a control signal that includes the retrieved set of test parameters;

a test apparatus operable to be connected to the circuit connection and the ground connection of the device, the test apparatus further operably connected to receive the control signal including the retrieved set of test parameters from the processor, the test apparatus operable to perform a first test based on the first set of test parameters.

References

The references relied on by the Examiner are as follows:

Winkler	4,168,527	Sep. 18, 1979
Amazeen et al. (Amazeen)	5,043,657	Aug. 27, 1991
Bald et al. (Bald)	6,011,398	Jan. 04, 2000 (filed Apr. 23, 1998)

Rejections at Issue

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Winkler.

Claims 3, 4, 6-11, 16 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Winkler and Bald.

Claims 5, 12 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Winkler, Bald and Amazeen.

In the Examiner's answer, the Examiner has indicated that claims 18 through 22 are allowed and claim 15 is objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. See pages 1 and 2 of the answer.

Throughout our opinion, we make reference to the brief¹ and the answer for the respective details thereof.

Opinion

With full consideration being given the subject matter on appeal, the Examiner's rejections and the arguments of Appellants and the Examiner, for the reasons stated **infra**, we reverse the Examiner's rejection of claims 1 and 2 under 35 U.S.C. § 102 and we reverse the Examiner's rejection of claims 3 through 7 under 35 U.S.C. § 103. In addition, we affirm the Examiner's Rejection of claims 8 through 12, 14, 16 and 17 under 35 U.S.C. § 103.

Rejection of Claims 1 and 2 under 35 U.S.C. § 102.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **In re Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

Appellants argue that Winkler does not teach providing a control signal to a test apparatus over a communication link as claimed. Appellants argue that a communica-

¹ Appellants filed an appeal brief on September 10, 2001 in response to the final rejection of June 6, 2001. We note that the brief is titled "SUPPLEMENTAL BRIEF ON APPEAL" however the brief is the complete brief and we will refer to it as simply the brief.

tion link, as the phrase is normally used and is used in the present application, means a communication medium external to the test apparatus. See page 8 of the brief.

Appellants further argue that Winkler does not teach providing a control signal over a communication link to cause a test apparatus to execute a first test based upon the control signals. See pages 9 through 10 of the brief.

The Examiner relies on Winkler for the teaching of a processor connected by a data bus to a waveform generator to generate certain waveforms to input a module being tested. In particular, the Examiner points us to Figure 2 which shows processor 55, waveform generator 42, MUT interface 16, MUT 38 and data bus. In response to the argument that the data bus is not a communication link, the Examiner argues that a communication link is a medium that allows one device or system to communicate with another device or system. See page 10 of the answer.

We note that Appellants' claim 1 recites "causing the test apparatus to execute a first test based on the retrieved set of test parameters by providing a control signal to the test apparatus over a communication link."

When interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless it appears from the specification or the file history that they were used differently by the inventor. **Carroll touch, inc. v. Electro**

Mechanical Sys., Inc. 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993).

We find that term “communication link” does require more than simply a means for allowing one device to receive data from another device as argued by the Examiner. Furthermore, we note that the Appellants have made of record that the communication link as per this claim means a communication medium external to the test apparatus other than a data bus. Furthermore, Appellants’ specification supports Appellants’ arguments. We note that Appellants specification states on page 12 that the test apparatus 18 is coupled to the processor 16 through the I/O circuitry 28 and communicates with the processor 16 over a I.E.E.E. 488 link 17. Thus, the term “communication link” given its ordinary meaning is a communication medium that allows a device or system to communication externally with another system or device.

Turning to Winkler, we fail to find that Winkler’s data bus reads on Appellants’ claimed communication link. Therefore, we fail to find that Winkler teaches “causing the test apparatus to execute a first test based on the retrieved set of test parameters by providing a control signal to the test apparatus over a communication link.” Therefore, we will not sustain the Examiner’s rejection of claims 1 and 2 under 35 U.S.C. § 102 as being anticipated by Winkler.

**Rejection of Claims 3, 4, 6 through 11, 16 and 17 under
35 U.S.C. § 103 as being unpatentable over Winkler and Bald.**

We note that claims 3, 4, 6 and 7 depend upon claim 1. We further note that Bald failed to teach “causing the test apparatus to execute a first test based on the retrieved set of test parameters by providing a control signal to the test apparatus over a communication link” as recited in Appellants’ claim 1. Therefore, we will not sustain the Examiner’s rejection of claims 3, 4, 6 and 7 for the reasons stated above.

At the outset, we note that Appellants state on pages 6 and 7 of the brief that claims 8 through 11 form a fifth separately patentable group and claims 16 and 17 form an eighth separately patentable group. We further note that Appellants have argued these claims as these groups in the Argument in the brief. 37 CFR § 1.192 (c)(7) (July 1, 2001) as amended at 62 Fed. Reg. 53196 (October 10, 1997), which was controlling at the time of Appellants filing the brief, states:

For each ground of rejection which Appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, Appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

We will, thereby, consider the Appellants' claims 8 through 11 as standing or falling together and we will treat claim 8 as the representative claim of that group and claims 16 and 17 as standing or falling together and we will treat claim 16 as the representative claim of that group. **See In re McDaniel**, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) ("If the brief fails to meet either requirement [of 37 CFR § 1.192 (c)(7)], the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim.").

For claims 8 through 11, Appellants argue that the Examiner's proposed combination of Winkler and Bald does not arrive at Appellants' invention of claim 8. In particular, Appellants argue that the proposed combination "does not teach a processor coupled to . . . the display . . . the processor operable to cause the display to display the plurality of product model identifiers for selection by the operator" as recited in Appellants' claim 8. See pages 20 through 22 of the brief.

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 USPQ 1443, 1444 (Fed. Cir. 1992). **See also In re Plasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by

Appeal No. 2002-0880
Application No. 09/183,214

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 Appellants. **Oetiker**, 977 F.2d at 1445, 24 USPQ at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788. An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board 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 agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

We find that Winkler teaches a tester that is designed to test a plurality of different standard electrical modules (SEM). An indicia plate 18 aids in the selection of tapes and interface board 16 which are necessary to protect a particular SEM. By way of example, key code "FDA" (refers to a 16-bit binary counter and in order to test this binary counter, the test operator must select interface board "A", tape No. "2", and dial

the program number "106" "on the three thumbwheel dials 21, 22 and 23." See Winkler, column 3, lines 32 through 40. Thus, Winkler teaches an input device for obtaining input from an operator defining a first product model identifier from a plurality of product model identifiers as recited in Appellants' claim 8.

Furthermore, we find that Winkler suggests to those skilled in the art the need to identify to the operator, the product model identifier so that the operator can properly select the particular SEM. This suggestion is found by Winkler's teaching that the tester is designed to test a plurality of different electrical modules, (SEM) and that the operator must select from a plurality of different SEMs and be able to properly input the information so that the system can be set up to test the selected SEM. See column 3, lines 32 through 40 and column 3, lines 51 through 68.

Bald teaches a way in which the set up procedures for testers may be automated by providing a display which displays a plurality of menus from which the operator may select from the menu, the proper parameters for the test. See, Bald, column 11, lines 25 through 67. From these teachings, Bald would have suggested to those skilled in the art to use the Bald's concept of using menu driven displays in the Winkler system to allow the operator to view a plurality of different standard of electrical modules for selection of the proper interface board, tape number and program number to initiate the

test. Therefore, we will sustain the Examiner's rejection of claims 8 through 11 under 35 U.S.C. § 103 as being unpatentable over Winkler and Bald.

For the group of claims 16 and 17, Appellants argue that Winkler and Bald do not provide sufficient suggestion or motivation to modify Winkler's tester device to arrive at a device that obtains current measurements. See page 28 of the brief.

As pointed out above, we have found that Winkler teaches a tester designed to test a plurality of different standard of electronic modules. Furthermore, Winkler suggest to those skilled in the art that his invention provides a device for testing a plurality of electronic modules which can be used by a technician having only limited skill and that the device provides a pass/fail indication for a module being tested. Winkler then suggests to those skilled in the art that his system could be modified to provide other test as well. See column 16, lines 47 through 56. Bald teaches testing other devices that must be tested by using current measurements thereon. See Winkler, column 3, lines 44 through column 5, line 2. Therefore, we find that Winkler's suggestion to those skilled in the art of modifying Winkler to provide other tests, would have provided reasons to modify the Winkler system to include the Bald test which performs a current measurement. Therefore, we will sustain the Examiner's rejection of claims 16 and 17 under 35 U.S.C. § 103 as being unpatentable over Winkler and Bald.

**Rejection of claims 5, 12 and 14 under 35 U.S.C. § 103
as being unpatentable over Winkler, Bald and Amazeen.**

We note that claim 5 depends upon claim 1. We fail to find that Winkler, Bald and Amazeen teach “causing the test apparatus to execute a first test based on the retrieved set of test parameters by providing a control signal to the test apparatus over a communication link” as recited in Appellants’ claim 1. Therefore, we will not sustain the Examiner’s rejection of claim 5 under 35 U.S.C. § 103.

We note that Appellants state on page 6 of the brief that claims 12 and 14 form a sixth separately patentable group. Furthermore, we note that under the arguments, Appellants argue claims 12 and 14 as the sixth claim group. See pages 23 and 24 of the brief. Therefore, we will treat claims 12 and 14 as standing or falling together and will treat claim 12 as the representative claim.

Appellants argue that the Examiner has not provided sufficient motivation to modify Winkler to obtain identification and create a data record using the identification and test results. See pages 23 and 24 of the brief.

We note that the Appellants do not dispute the Examiner’s finding that Amazeen teaches the input devices further operable to obtain an identification associated with the device wherein the processor is further operable to generate a data file base on the information representative of the test measurement data and associated with the

identification as recited in Appellants' claim 12. Appellants argue that the Examiner has erred because the Examiner has provided no legal sufficient motivation or suggestion to combine Winkler, Bald and Amazeen. The Examiner has pointed us to column 2, lines 32 through 34 and column 5, lines 19 through 25 of Amazeen. There, Amazeen teaches that generating a data file based on the information representative of the test measurement data and associated with identification is desirable because the results could be later reviewed and easily associated with the proper IC or device under test. We fail to find that the Appellants have provided any argument as to how the Examiner erred in the Examiner's finding why one of ordinary skill in the art would have had reasons to make the combination. Therefore, we will sustain the Examiner's rejection of claims 12 and 14 under 35 U.S.C. § 103 as being unpatentable over Winkler, Bald and Amazeen.

Conclusion

In view of the foregoing, we have not sustained the Examiner's rejection of claims 1 and 2 under 35 U.S.C. § 102 and we have not sustained the Examiner's rejection of claims 3 through 7 under 35 U.S.C. § 103. We have however, sustained the Examiner's rejection of claims 8 through 12, 14, 16 and 17 under 35 U.S.C. § 103.

The examiner's decision is affirmed-in-part.

Appeal No. 2002-0880
Application No. 09/183,214

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

AFFIRMED-IN-PART

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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Appeal No. 2002-0880
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