

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT W. JOHNSON, JR.

Appeal 2008-1644
Application 10/164,471
Technology Center 2800

Decided: September 5, 2008

Before MAHSHID D. SAADAT, MARC S. HOFF,
and KARL D. EASTHOM, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1-10 and 12-27, which are all of the claims pending in this application as claim 11 has been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Appellant's invention relates to an uninterruptible power supply (UPS) system with first and second mechanical relays controlled by a control circuit. (Spec. 2).

Claim 1 is representative of the claims on appeal and reads as follows:

1. An on-line uninterruptible power supply (UPS) comprising:
 - an AC input configured to be coupled to an AC power source;
 - an output configured to be coupled to a load;
 - an AC/AC converter circuit coupled to the AC input and operative to generate an AC voltage from the AC power source;
 - a first mechanical relay coupled between the AC/AC converter circuit and the output;
 - a second mechanical relay coupled between the AC input and the output; and
 - a control circuit operative to control the first and second mechanical relays and the AC/AC converter circuit to selectively place the UPS in an on-line mode in which the first mechanical relay couples the AC/AC converter circuit to the output and the second mechanical relay decouples the AC input from the output or a bypass mode in which the first mechanical relay decouples the AC/AC converter circuit from the output and the second mechanical relay couples the AC input to the output, wherein the control circuit is further operative to place the first and second relays in a simultaneously closed state to momentarily parallel the AC/AC converter circuit and the AC input in a transition between the on-line mode and bypass modes.

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

Tang	US 5,532,523	Jul. 2, 1996
Oughton	US 6,122,181	Sep. 19, 2000
Edevold	US 6,292,379 B1	Sep. 18, 2001

Claims 5-8, 15-18, and 20 stand rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as his invention.

Claims 1-4, 9, 10, 12-14, 19, and 21-27 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Edevold and Oughton.

Claims 5-8, 15-18, and 20 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Edevold, Oughton, and Tang.

Rather than reiterate the opposing arguments, reference is made to the Brief and the Answer for the respective positions of Appellant and the Examiner. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant 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).

ISSUES

1. Under the second paragraph of 35 U.S.C § 112, with respect to appealed claims 5-8, 15-18, and 20, would the claims reasonably apprise those of ordinary skill in the art of their scope?

2. Under 35 U.S.C § 103(a), with respect to appealed claims 1-4, 9, 10, 12-14, 19, and 21-27, would one of ordinary skill in the art at the time

of the invention have found it obvious to combine Edevold with Oughton to render the claimed invention unpatentable?

3. Under 35 U.S.C § 103(a), with respect to appealed claims 5-8, 15-18, and 20, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Edevold with Oughton and Tang to render the claimed invention unpatentable?

PRINCIPLES OF LAW

Indefiniteness

Analysis of 35 U.S.C. § 112, second paragraph, should begin with the determination of whether claims set out and circumscribe the particular area with a reasonable degree of precision and particularity; it is here where definiteness of the language must be analyzed, not in a vacuum, but always in light of teachings of the disclosure as it would be interpreted by one possessing ordinary skill in the art. *In re Johnson*, 558 F.2d 1008, 1015 (CCPA 1977), *citing In re Moore*, 439 F.2d 1232, 1235 (1971). “The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope.” *In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994) (*citing Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 927 F.2d 1200, 1217 (Fed. Cir.), *Genetics Inst., Inc. v. Amgen, Inc.*, 112 S. Ct. 169 (1991)). Furthermore, our reviewing court points out that a claim which is of such breadth that it reads on subject matter disclosed in the prior art is rejected under 35 U.S.C. § 102 rather than under 35 U.S.C. § 112, second paragraph. *See In re Hyatt*, 708 F.2d 712, 715 (Fed. Cir. 1983).

Obviousness

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991), and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (*citing In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

1. *35 U.S.C. § 112, second paragraph, rejection*

The Examiner takes the position that the term “hypervelocity mechanical relay” in claims 5-8, 15-18, and 20 is a relative term since “the specification does not provide a standard for ascertaining the requisite degree” (Ans. 3). Appellant contends that the Specification at page 5, lines 20-31 fully describes the disputed limitation and defines the situation in which the second relay K2 acts as a hypervelocity relay (Br. 9).

We find that page 5 of Appellant’s Specification defines an example of how the second relay K2 may be a “hypervelocity” relay, such as applying a relatively high voltage V2 to transition the second relay K2 to the closed state C, followed by a lower voltage V1 that maintains the relay K2 in a closed state (Spec. 5:25-28). Furthermore, the relationship between V1 and V2, although broadly defined, is clearly required to be such that V2 is a high level voltage available in the circuit while the other voltage is simply lower than V2. As such, the claimed term “hypervelocity mechanical relay”

reasonably apprises those of skill in the art of its scope, and the rejection of claims 5-8, 15-18, and 20 as being indefinite under the second paragraph of 35 U.S.C. § 112 is not sustained.

2. *35 U.S.C. § 103(a) rejections*

Appellant does not dispute the Examiner's reliance on Edevold for teaching an on-line A-output UPS and merely contends that the Examiner has not shown the claimed transition between the on-line mode and bypass modes (Br. 5). Additionally, Appellant focuses on Oughton and alleges that the UPSs shown in Oughton are "standby" UPSs that do not have a bypass mode, as recited in claim 1 (*id.*). In particular, Appellant argues that Oughton describes using make-before-break switching in a particular environment, i.e., in a standby UPS, using a particular hardware which is not advantageous in the on-line AC output UPS of Edevold (Br. 6).

The Examiner argues that the switching arrangement for a backup power source in Oughton provides for supplying a seamless, uninterrupted power to load by controlling the first and the second relays in a simultaneously closed state for parallel connection of supply lines in transition between the on-line to bypass mode (Ans. 7). With respect to the use of Oughton's arrangement in a bypass circuit, the Examiner asserts that Edevold, in fact, encourages such transition of power supply to prevent damage to the inverter circuits (*id.*).

Upon a review of Edevold, we agree with the Examiner's reasoning regarding the benefits of using the control method of switching the backup power source to a load. Edevold discloses that:

In such an embodiment, the transitioning from inverter mode to bypass mode or vice versa must be accomplished nearly simultaneously to prevent or minimize the possibility of

damage to the inverter switches of any individual power module.
(Col. 7, ll. 14-18.)

As such, one of ordinary skill in the art would have used the switching arrangement for transferring power in a UPS system shown in Figures 3A and 3B of Oughton to provide the benefit outlined by Edevold with regard to protecting the inverter (Edevold, col. 7, ll. 14-18) and to achieve a seamless transfer of power to support the AC load (Oughton, col. 5, l. 64 to col. 6, l. 3). Therefore, to the extent claimed, the combination of Edevold and Oughton suggests the subject matter recited in claim 1, as well as other independent claims 12 and 27, argued together as one group with claim 1 (Br. 7).

With respect to claim 23, Appellant asserts that the claimed feature of “the control circuit is operative to synchronize the AC/AC converter circuit with the AC power source” is neither disclosed nor suggested by the applied prior art (Br. 7). The Examiner relies on Edevold (col. 7, ll. 19-30) where the claimed synchronization of individual power modules operation during transition to and from battery operation is taught. Therefore, we agree with the Examiner’s findings in Edevold and the conclusion that the recited features of claim 23 is suggested by the combination of Edevold with Oughton.

With respect to the rejection of the remaining claims, we note that Appellant’s arguments in response (Br. 7-8) reiterate the contention that the combination of Edevold with Oughton does not teach or suggest the recited features, which arguments we found to be unpersuasive as discussed *supra*.

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Accordingly, the Examiner's 35 U.S.C. § 103(a) rejection of claims 2-4, 9, 10, 13, 14, 19, and 21-26 based on the combination of Edevold with Oughton and of claims 5-8, 15-18, and 20 based on Edevold and Oughton in view of Tang is sustained as well.

CONCLUSION

On the record before us and in view of our analysis above, we have not sustained the 35 U.S.C. § 112, second paragraph, rejections of claims 5-8, 15-18, and 20. However, Appellant has failed to show that the Examiner has erred in rejecting the claims as obvious over the applied prior art. Accordingly, based on the teachings of the prior art outlined *supra*, we agree with the Examiner's position and sustain the 35 U.S.C. § 103(a) rejection of the claims.

DECISION

The decision of the Examiner rejecting claims 1-10 and 12-27 is affirmed.

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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