

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT W. NYSTROM

Appeal No. 95-1844
Application 07/822,063¹

HEARD: September 17, 1997

Before THOMAS, JERRY SMITH, TORCZON, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed January 17, 1992.

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This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-27, which constitute all the claims in the application.

The claimed invention pertains to a method and apparatus for monitoring power drawn by an electrical apparatus such as a pump.

Representative claim 1 is reproduced as follows:

1. Monitoring apparatus for monitoring power exchanged with electrical apparatus comprising:

at least first and second conductors connected to said electrical apparatus,

a multiplier having a current input coupled to at least one of said conductors for receiving a current signal representative of the current carried thereby, a voltage input coupled to said at least one conductor for receiving a voltage signal representative of the voltage between said first and second conductors and a power output for providing a power signal representative of the product of said current and voltage signal,

and trip circuitry coupled to said power output for providing a trip signal only when said power signal is outside a predetermined range.

The examiner relies on the following references:

Lehrmann	3,054,952	Sep. 18, 1962
Leyde	4,034,233	July 05, 1977
Deffenbaugh	4,084,075	Apr. 11, 1978
Béjot et al. (Béjot)	4,419,625	Dec. 06, 1983
Garmong	4,473,338	Sep. 25, 1984

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Markuson et al. (Markuson) 4,767,280 Aug. 30, 1988

Claims 1-27 stand rejected on prior art as follows:

1. Claim 5 is rejected under 35 U.S.C. § 102(b) as being anticipated by Lehrmann.

2. Claims 1, 6 and 18-22 are rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson.

3. Claims 2, 3 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and further in view of Lehrmann.

4. Claim 4 is rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and further in view of Leyde.

5. Claims 8-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and Lehrmann and further in view of Deffenbaugh.

6. Claims 14-17 and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and Lehrmann and further in view of Leyde and Garmong.

7. Claim 24 is rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and Lehrmann.

8. Claim 25 is rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson and Leyde.

9. Claims 26 and 27 are rejected under 35 U.S.C. § 103 as being unpatentable over Béjot in view of Markuson, Lehrmann, Leyde and Garmong.

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Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answers for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answers.

It is our view, after consideration of the record before us, that the disclosure of Lehrmann does fully meet the invention as recited in claim 5. We are also of the view that the collective evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-3, 6, 7, 10-24, 26 and 27. We reach the opposite

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conclusion with respect to the invention as set forth in claims 4, 8, 9 and 25. Accordingly, we affirm-in-part.

At the outset, we note that the examiner's answers and the appeal briefs provide arguments directed to an objection to either new matter or essential subject matter which was added to the specification and a requirement that the objectionable matter be cancelled. Since there are no rejections before us based upon the sufficiency of the specification, we will not consider these arguments any further herein. The propriety of the examiner's objection is not within our subject matter jurisdiction.

1. The rejection of claim 5 as anticipated by Lehrmann.

Anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984). Appellant argues that Lehrmann does not disclose "a current input constructed and arranged in the form of an opening adapted to receive a load current-carrying

conductor passing through the opening" [brief, page 9]. The examiner responds that the schematic representation of current transformer 30 in Lehrmann is understood to indicate that current-carrying conductor L3 passes through an opening formed by the windings of the current transformer [answer, page 9]. Appellant responds that there is no current sensing or hole window in Lehrmann comparable to the detection window 16 as disclosed [reply brief, pages 5-6]. The examiner also notes that the monitoring circuitry of Lehrmann can be considered to be a box having an opening 30 for receiving the current-carrying conductor L3 [answer, page 10]. We find ourselves in agreement with the examiner on both points.

First, we agree that the schematic representation of current transformer 30 in Lehrmann was known to the artisan to represent the windings of a coil surrounding the conductor L3. As the examiner has pointed out, the coil was known to have an [axial] opening through which the current-carrying conductor [L3] passes. This arrangement is sufficient to meet the broad language of claim 5. Even though appellant argues that Lehrmann itself does not explicitly show the claimed opening,

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a reference anticipates a claim if it discloses the claimed invention "such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention." In re Graves, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), quoting from In re LeGrice, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962). We agree with the examiner as to what the schematic representation of current transformer 30 indicates. Although appellant seeks to have us import his preferred embodiment into the claim, we decline to do so. A claim is given its broadest reasonable interpretation during prosecution before the Patent and Trademark Office, and the examiner's interpretation of claim 5 is reasonable and correct. Appellant's argument regarding the property possessed by his invention of tolerating reversed phases is not required by the language of claim 5.

Although we agree with the examiner's finding that the current transformer of Lehrmann meets the language of claim 5, we also note that Fink² substantiates this view [a copy of

²Fink et al. (Fink), Standard Handbook For Electrical Engineers, McGraw-Hill Book Company, 1968, pages 10-21 and 10-

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pages 10-21 and 10-22 is attached to this decision]. Fink indicates that a current transformer is "installed around a cable, or conductor in a bushing" [emphasis added]. In order to be installed around a cable, there must be an opening in the current transformer through which the cable passes. This definition substantiates the examiner's position.

Additionally, we note that appellant has declined to respond to the alternate position taken by the examiner. The examiner has determined that the measuring circuit 4 of Lehrmann would be contained within a housing, and the conductor L3 must enter this housing through an opening in the housing for the current to be measured. We agree that there appears to be no way that the conductor L3 in Lehrmann can get into the measurement housing except through an opening adapted to receive the current-carrying conductor through that opening. Such an interpretation would also meet the broad

22. This handbook is considered a standard reference work and is relied upon by us only to substantiate facts in the evidentiary showing already made by the examiner. This evidence does not constitute a basis for a new ground of rejection. See In re Boon, 439 F.2d 724, 727, 169 USPQ 231, 234 (CCPA 1971).

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language of claim 5. Accordingly, we sustain the examiner's rejection of claim 5.

The remaining rejections are all based on obviousness under 35 U.S.C. § 103. As a general proposition in an appeal involving a rejection under 35 U.S.C. § 103, an examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner has pointed out the teachings of each of the prior art references, has pointed out the perceived differences between this prior art and the claimed invention, and has reasonably indicated how and why this prior art would

have been modified and/or combined to arrive at the claimed invention. The examiner has, therefore, at least satisfied the burden of presenting a prima facie case of obviousness. The burden is, therefore, upon appellant to come forward with evidence or arguments which persuasively rebut the examiner's prima facie case of obviousness. Appellant has presented several arguments in response to the examiner's rejections. Therefore, we consider obviousness based upon the totality of the evidence and the relative persuasiveness of the arguments.

2. The rejection of claims 1, 6 and 18-22 as unpatentable over Béjot and Markuson.

These claims stand or fall together [brief, page 6]. With respect to representative, independent claim 1, the examiner applies Béjot as a power monitoring device which teaches all the features of claim 1 except for the trip circuitry. The examiner cites Markuson to provide a teaching of trip circuitry and presents reasons for combining the teachings of Markuson with Béjot to arrive at the invention of claim 1 [final rejection, pages 4-5]. Appellant argues that there is no suggestion to combine the teachings of the

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references, that the trip circuitry is not taught by Markuson, and that the combination of teachings does not provide a substantially instantaneous indication of power [brief, pages 10-17].

With respect to appellant's first two points, Markuson teaches a power monitoring device which measures and indicates overload conditions, underload conditions and other conditions [column 4, line 24]. Markuson also teaches that the detected conditions result in the motor being slowed down, shut down or restarted as desired [column 6, lines 61-63]. We agree with the examiner that a trip signal is the same as a shut down signal, and the shut down signal of Markuson would meet the trip signal recitation of claim 1. Considering the breadth of claim 1, we conclude that it would have been obvious to the artisan to broadly provide trip circuitry as taught by Markuson in order to shut down a device in an overload state of power consumption such as the motor of Béjot. It is not necessary that a suggestion to combine references be expressly stated in the references themselves. The artisan would have

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recognized the obviousness of applying the Markuson shut down signal to other motors such as the Béjot motor.

Although we agree with the examiner that claim 1 recites nothing about the instantaneous indication of power and such a property is not inherent in the claim language as argued by appellant, we also agree with the examiner that the measurement of power in the applied references is sufficiently instantaneous to meet the recitations of the claims in any case. Therefore, we sustain the rejection of claims 1, 6 and 18-22.

3. The rejection of claims 2, 3 and 7
as unpatentable over Béjot, Markuson
and Lehrmann.

These claims stand or fall together [brief, page 6]. Lehrmann is added to the previous combination to show that it was known to use a Hall device to perform the multiplication of current and voltage to derive a power output. Appellant relies on the arguments presented in support of the patentability of claim 1 to support the patentability of this group of claims [brief, pages 17-18]. Since we determined above that the arguments with respect to claim 1 were not

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persuasive, we also sustain the rejection of claims 2, 3 and 7.

4. The rejection of claim 4 as unpatentable over Béjot, Markuson and Leyde.

Claim 4 adds absolute value circuitry to the apparatus of claim 1. The examiner cites Leyde as a teaching that it was known to use absolute value circuitry in power monitoring devices. The examiner asserts that the use of absolute value circuitry in the Béjot-Markuson combination would have been obvious to the artisan because it would reduce circuitry and cut costs [final rejection, page 7]. Appellant argues that there is no suggestion in the applied references to use absolute value circuitry to provide a signal representative of the absolute value of the power signal.

Even though the absolute value circuitry is recited extremely broadly in claim 4, we agree with appellant that the use of an absolute value detector in Leyde for a different purpose would not have suggested its use with the Béjot power detector. The examiner's theory that an absolute value detector would cut costs is purely conjectural on his part.

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There is no evidence that an absolute value detector requires less components or cost than a regular detector with polarity detectors added thereto. The examiner's combination of references basically takes the position that because absolute value detectors were known, it would have been obvious to use them anywhere. We are of the view that the record in this case does not support that position. Therefore, we do not sustain the rejection of claim 4.

5. The rejection of claims 8-13 as unpatentable over Béjot, Markuson, Lehrmann and Deffenbaugh.

These claims are indicated to stand or fall together [brief, page 6]. Although the examiner listed these claims as part of a single rejection, the final rejection makes it clear that this was a mistake. The examiner only refers to Deffenbaugh to support the rejection of claims 8 and 9. In discussing the rejection of claims 10-13, the examiner indicates that the features of these claims are taught by Béjot, Markuson or Lehrmann. Thus, it is apparent from the final rejection that the rejection of claims 10-13 requires only the patents to Béjot, Markuson and Lehrmann, whereas the

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rejection of claims 8 and 9 also requires Deffenbaugh. Therefore, we will consider claims 8 and 10 separately for patentability since they should not have been grouped together based upon the examiner's explanation.

Claim 8 adds a distortion-reducing impedance network to the apparatus of claim 7. The examiner cites Deffenbaugh to support his position that it would have been obvious to provide such a network to the power monitoring device of Béjot. It is the examiner's position basically that reducing distortion is an inherent property of the circuitry of each of the applied references. Appellant argues that any distortion reduction in the references individually does not suggest its use in a power monitoring apparatus as recited in claim 8.

Our position on this point is basically the same as we discussed above with respect to the absolute value circuitry. Although the recitations of the distortion-reducing impedance network are very broadly recited in claim 8, we agree with appellant that the examiner's rationale for combining the teachings of the references is not supported by the record in this case. There is no evidence on the record that a network

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coupled as recited in claim 8 is either necessary or desirable in the monitoring device of either Béjot, Lehrmann or Markuson. Therefore, we do not sustain the rejection of claims 8 and 9.

As noted above, claims 10-13 do not recite the impedance network of claims 8 and 9 and do not require the teachings of Deffenbaugh for support of the rejection. The final rejection clearly points out how the teachings of Béjot, Markuson and Lehrmann are applied to meet the recitations of claims 10-13 [pages 9-10]. We are in agreement with the examiner as to the manner in which the references suggest the limitations in claims 10-13. Appellant argues that there is no teaching of a terminal to electrically connect the transformer to a device being powered. We are of the view that the transformer in Lehrmann clearly has at least one terminal connected to the load which is being powered. Therefore, we sustain the rejection of claims 10-13. This is not a new ground of rejection since we simply are not relying on the teachings of Deffenbaugh to support the rejection of these claims. The collective teachings of the references as

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applied by the examiner are still sufficient to sustain the rejection of claims 10-13.

6. The rejection of claims 14-17 and 23 as unpatentable over Béjot, Markuson, Lehrmann, Leyde and Garmong.

These claims stand or fall together [brief, page 6]. Appellant relies on the arguments made above with respect to claim 7, and also argues that the trip circuitry of claims 16 and 17 is not suggested by Markuson. We have considered the arguments with respect to claim 7 and the obviousness of trip circuitry in our discussion above. In both cases we were unpersuaded that the examiner had erred in finding obviousness in these features. Therefore, we sustain the rejection of claims 14-17 and 23.

7. The rejection of claim 24 as unpatentable over Béjot, Markuson and Lehrmann.

Claim 24 depends from claim 3, and appellant relies on the patentability of claim 3 to support the patentability of claim 24 [brief, page 26]. Since the rejection of claim 3 was sustained above, we also sustain the rejection of claim 24.

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8. The rejection of claim 25 as unpatentable over Béjot, Markuson and Leyde.

Claim 25 depends from claim 4 and is rejected on the same combination of references. Since we determined above that the subject matter of claim 4 was not obvious in view of the applied references, it follows that the subject matter of claim 25 is also not suggested by the applied references. Therefore, we do not sustain the rejection of claim 25.

9. The rejection of claims 26 and 27 as unpatentable over Béjot, Markuson, Lehrmann, Leyde and Garmong.

These claims stand or fall together [brief, page 6]. These claims depend respectively from claims 15 and 17 which were previously discussed. Appellant relies on the patentability of claims 15 and 17 to support the patentability of these claims as well as on a broad general assertion that the subject matter of these claims is not taught by the references with no accompanying analysis [brief, page 29]. Neither of these contentions is sufficient to persuade us that the examiner erred in rejecting these claims. Therefore, we sustain the rejection of claims 26 and 27.

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In summary, the prior art rejections of the claims have been sustained with respect to claims 1-3, 5-7, 10-24, 26 and 27, but have been reversed with respect to claims 4, 8, 9 and 25. Therefore, the decision of the examiner rejecting claims 1-27 is affirmed-in-part.

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

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JAMES D. THOMAS)	
Administrative Patent Judge)	
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