

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte OLE K. NILSSEN

Appeal No. 1997-3924
Application No. 08/571,634

ON BRIEF

Before HAIRSTON, JERRY SMITH, and GROSS, Administrative Patent Judges.

GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 17 through 33, which are all of the claims pending in this application.

Appellant's invention relates to an inverter circuit for powering and controlling gas discharge lamps. Claim 17 is illustrative of the claimed invention, and it reads as follows:

17. An arrangement comprising:

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a power source operative to supply a power line voltage at a pair of power line terminals;

a first circuit assembly connected with the power line terminals and operative to provide a DC voltage between a pair of DC output terminals;

a gas discharge lamp having a pair of lamp terminals and being functional to provide luminous output when supplied with a usual amount of lamp current; and

a second circuit assembly having a pair of DC input terminals connected with the DC output terminals and a pair of AC output terminals connected with the lamp terminals; the second circuit assembly being further characterized by:

(a) having a tuned L-C circuit connected with the AC output terminals; the L-C circuit having a tank-inductor and a tank-capacitor; the tank-capacitor being effectively connected across the AC output terminals; and

(b) producing an AC output voltage across the AC output terminals; the magnitude of the AC output voltage being determined by: (i) a Q-multiplying effect associated with the L-C circuit; (ii) the amount of power drawn by the lamp from the AC output terminals; and (iii) an internal feedback effect responsive to the magnitude of the AC output voltage and operative to diminish the Q-multiplying effect by causing the frequency of the AC output voltage to change away from the natural resonance frequency of the L-C circuit; such that the internal feedback effect is functional, under a condition when no power is being drawn from the AC output terminals, to cause the magnitude of the AC output voltage to be lower than it would have been if determined solely by said Q-multiplying effect;

such that the magnitude of the AC output voltage is: (i) at a minimum level whenever the lamp is drawing its usual lamp current; and (ii) at a maximum level whenever the lamp fails to draw power, the maximum level being distinctly lower than a

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level which would have prevailed in the absence of said internal feedback effect.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Elms 15, 1973	3,733,541	May
Perper 1977	4,005,335	Jan. 25,
Fukuda 1981	4,298,822	Nov. 03,
		(filed May 23, 1979)
Young 1982	4,337,414	Jun. 29,
		(filed Nov. 26, 1979)

Claims 17 through 22, and 26 through 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Perper in view of Elms.

Claims 23 through 25 and 33 stand rejected under 35 U.S.C.

§ 103 as being unpatentable over Perper in view of Elms, Fukuda, and Young.

Reference is made to the Examiner's Answer (Paper No. 16, mailed May 20, 1997) for the examiner's complete reasoning in support of the rejections, and to appellant's Brief (Paper No. 17, filed May 7, 1997) for appellant's arguments thereagainst.

OPINION

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We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellant and the examiner. As a consequence of our review, we will reverse the obviousness rejections of claims 17 through 33.

Independent claims 17, 19, and 26 each require a "tuned L-C circuit." Appellant argues (Brief, page 4) that neither Perper nor Elms discloses such a circuit. The examiner (Answer, pages 4-5) points to transformer inductance 22 and capacitors C3-C5, asserting that they provide for tuning. However, nowhere does the examiner provide any evidence that would indicate that the combination of elements 22 and C3-C5 actually forms a tuned L-C circuit as recited in the claims. Further, with respect to claims 17 and 19, capacitors C3-C5 fail to meet the limitation that the capacitor must be located across the AC output terminals. In rejecting claims under 35 U.S.C. § 103, the examiner has the initial burden to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The examiner has failed to meet this burden.

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Additionally, independent claims 17, 19, and 26 each recite that the frequency of the output voltage is changed away from the natural resonance frequency of the L-C circuit to change the magnitude of the output voltage. Appellant contends (Brief, pages 5 and 6) that neither Perper nor Elms teaches or suggests any relationship between the AC output voltage frequency and the natural resonance frequency of the L-C circuit, and more specifically, changing the AC output voltage frequency away from the natural resonance frequency of the L-C circuit. The examiner postulates (Final Rejection, page 3) that "[i]t is a simple matter of design consideration for one of ordinary skill in the art to realize that moving ... below or above the resonance frequency of the tuned circuit will lower the AC output level (keeping in mind the bell shaped curve with the maximum output at the resonant frequency)."

Again the examiner has provided no evidence in Perper or Elms suggesting that the circuitry in the references performs as recited in the claims, such that the output voltage changes in response to a change in the frequency of the output voltage away from the resonant frequency of the L-C circuit. Further,

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we find no discussion of changing the output voltage frequency in Perper and Elms. Accordingly, the examiner has failed to meet his burden in establishing a prima facie case of obviousness. Therefore, we cannot sustain the rejection of claims 17, 19, and 26, and their dependents, claims 18 and 20 through 25.

Appellant argues (Brief, pages 7 and 8), regarding claims 27 and 31 that the references fail to suggest changing the frequency of the AC output voltage to limit its magnitude. Similar to above, we find no discussion in either reference of changing the frequency, and the examiner has failed to meet his burden to present evidence showing that the prior art does function as claimed. Accordingly, we must reverse the rejection of claims 27, 31, and claim 32 (which depends from claim 31).

As to claims 28 and 29, appellant contends (Brief, page 8) that nothing in Perper or Elms suggests that the frequency of the AC output voltage changes in response to changes in the magnitude of the AC output voltage. Again the examiner has failed to provide any evidence or to point to any portion in the references which would convince us that the circuit of

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Perper actually functions as claimed. Thus, the examiner has failed to meet his burden, and we must reverse the rejection of claims 28, 29, and claim 30 (which depends from claim 29).

Lastly, claim 33 recites a tuned L-C circuit with the capacitor connected across the AC output terminals, a limitation for which we found above that the examiner failed to meet his burden to establish a prima facie case. Accordingly, we cannot sustain the rejection of claim 33.

CONCLUSION

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The decision of the examiner rejecting claims 17 through
33 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JERRY SMITH)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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