

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ATSUSHI MIKI

Appeal No. 1999-1463
Application 08/467,052

ON BRIEF

Before THOMAS, JERRY SMITH and FLEMING, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1-4, which constitute all the claims in the application.

Claim 1 is reproduced below:

1. A semiconductor laser module, comprising:
a meta casing of said semiconductor laser module;
a semiconductor laser; and

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a Peltier effect element mounted on an inner surface of said metal casing by soldering;

said metal casing having a Peltier effect element mounting region in the inner surface of said metal casing on which said Peltier effect element is mounted, the area of said Peltier effect element mounting region being substantially equal to that of the bottom surface of said Peltier effect element;

wherein an entire periphery of said Peltier effect element mounting region is raised with respect to a region of said metal casing adjacent to said Peltier effect element mounting region such that extra solder squeezed out from under the Peltier effect device during the soldering will flow away from the Peltier effect device instead of up onto the device.

The following references are relied on by the examiner:

Kluitmans et al. (Kluitmans)	5,005,178	Apr. 2, 1991
Greve et al. (Greve)	5,031,184	July 9, 1991
Herbst, II (Herbst)	5,457,342	Oct. 10, 1995 (filing date Mar. 30, 1994)

Claims 1-4 stand rejected under 35 U.S.C. § 103. Although the answer indicates that claims 1, 2 and 4 stand rejected under 35 U.S.C. § 103 as being obvious over the combination of Kluitmans in view of Herbst, the final rejection from which this appeal was taken clearly indicates that the examiner has rejected claims 1, 3 and 4 on the basis of this combination of references. We agree with the assessment of this as set forth in the brief and reply brief. Correspondingly, the answer indicates that claim 3 is rejected in light of the combination of teachings of Kluitmans in view of Greve. The final rejection indicates

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that this rejection is of claim 2 and not of claim 3. This second rejection is inherently flawed as well. Since the examiner has taken the approach that Kluitmans and Herbst must be utilized to reject independent claim 1 on appeal in the first stated rejection, any claim depending therefrom, such as claim 2, must utilize as a basis both references to Kluitmans and Herbst, in addition to Greve from which obviousness may be properly determined with 35 U.S.C. § 103.

Rather than repeat the positions of the appellant and the examiner, reference is made to the briefs and the answer for the respective details thereof.

OPINION

We reverse both rejections.

If we assume for the sake of argument that Kluitmans and Herbst are properly combined within 35 U.S.C. § 103 to reach independent claim 1 on appeal and that their teachings and suggestions are taken most favorably to the examiner, the subject matter of independent claim 1 on appeal would not have been met by the overall combination anyway. We agree with the examiner's view that the cooling plate CP in the various figures would have provided the raised portion mounting region for the Peltier effect element TEC in the various figures of Kluitmans. We also would agree with the examiner's view that the

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mounting region would be "substantially" equal to that of the bottom surface of the Peltier element TEC when the showings in Figures 1, 2, 6 and 7 are taken in combination. We also agree with the examiner's view that the entire periphery of the Peltier effect element TEC in the noted figures of Kluitmans would be raised with respect to the metal casing.

On the other hand, claim 1 recites a functional feature "such that extra solder squeezed out from under the Peltier effect device during the soldering will flow away from the Peltier effect device instead of up onto the device." Both the statement of the rejection portion and the responsive arguments portion of the answer has not addressed this functional feature. Corresponding arguments of appellant at page 12 of the principal brief and page A3 of the reply brief persuade us that the requirements of this quoted clause would not have been met by the combination of teachings and suggestions of Kluitmans and Herbst. The region of the Peltier effect device TEC near the vertical portion of the L-shaped cooling plate CP in the various figures of Kluitmans would have caused any solder that may have been squeezed out from under the Peltier effect device during the soldering operation, as quoted above, to congregate in that end region and tend to flow upwardly onto the top surface of the lower portion P₁ of the Peltier device TEC. The solder in this region or end portion of the Peltier device TEC would well up or wick up because of its

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inherent surface tension and would not appear to us to flow downwardly into what may be seen as a groove-shaped side region below the bottom portion of the cooling plate CP, such as illustrated in the end view of Figure 7. Thus, the solder would not tend to flow away from the Peltier effect device around the entire periphery of the region as required by claim 1 as a whole according to the combination of teachings of the references relied upon by the examiner.

Because we reverse the rejection of claims 1, 3 and 4, we must also reverse the additional rejection of claim 2 even if we consider the additional teachings of Greve because this latter reference does not cure the deficiencies noted above with respect to the combination of Kluitmans and Herbst.

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In view of the foregoing, the decision of the examiner rejecting claims 1-4 under 35
U.S.C. § 103 is reversed.

REVERSED

James D. Thomas)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
Jerry Smith)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
Michael R. Fleming)	
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