

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WEN F. YU and EUGENE E. RHODES

Appeal No. 98-1947
Application 08/431,702¹

ON BRIEF

Before COHEN, FRANKFORT, and GONZALES, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 4 and 6. Claim 5, the only other claim remaining in the application, has been withdrawn from further consideration under 37 CFR § 1.142(b) as being directed to a non-elected invention.

¹ Application for patent filed April 28, 1995.

Appellants' invention relates to a heat exchanger for an automotive vehicle. More specifically, as may be seen best in Figure 2 of the application, the heat exchanger is one which is intended to include an open thermal stress relieving zone (26) in the side supports (24) thereof. However, the claimed subject matter is actually directed to an intermediate product wherein the area of the side supports which will ultimately be provided with the open thermal stress relieving zones includes a Z-shaped aperture (32) formed therein. As may be seen in Figures 3A and 3B of the application drawings, each Z-shaped aperture includes a pair of leg portions (33) disposed at the junction of the base portion (28) and the flanges (30) of each side support, with the leg portions being disposed generally parallel to the longitudinal axis of the side support and interconnected by an intermediate portion (35) extending across substantially the entire base portion of the side support. As noted on page 7 of the specification,

"[b]y providing a Z-shaped aperture in the side support, a greater shearing area is produced, requiring less tolerance during the shearing process."

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Independent claims 1 and 4 are representative of the subject matter on appeal and a copy of those claims appears in the Appendix to appellants' brief.

The sole prior art reference of record listed by the examiner (answer, page 2) as relied upon in rejecting the appealed claims is:

Young et al. (Young '239) 5,186,239 Feb. 16, 1993

Claims 1 through 4 and 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Young.

Rather than reiterate the examiner's full statement of the above-noted rejection and the conflicting viewpoints advanced by the examiner and appellants regarding the rejection, we make reference to the examiner's answer (Paper No. 20, mailed November 19, 1997) for the examiner's reasoning in support of the rejection, and to appellants' brief (Paper No. 19, filed September 3, 1997) for appellants' arguments thereagainst.

OPINION

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In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determination that the examiner's position is not well founded and will therefore not be sustained. Our reasons follow.

Young '239 addresses the same general thermal cycling problem as appellants and teaches a heat exchanger which is intended to include an open thermal stress relieving zone (26) in the side supports (24) thereof. See, for example, Figure 2 of Young '239. However, like appellants, we note that Young '239 (which is referred to on page 2 of the present specification) includes an elliptical aperture (32) formed in each of the side supports at the location where the area of the side supports will ultimately be provided with the open thermal stress relieving zones (26), instead of a Z-shaped aperture formed in the side supports as required in the claims on appeal. The examiner has taken the position (answer, page 4) that

"Having a Z-shaped stress relieving aperture shape is considered to be an obvious design

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expedient in view of the "elliptical" shaped stress relieving shape disclosed in Young et al. ('239) which does not produce any new and/or unexpected result or solve any stated problem relative to the known apparatus."

Like appellants (brief, pages 5-6), we note that page 7, lines 25-28, of appellants' specification indicates that the Z-shaped apertures in the side supports of the heat exchanger produce a greater shearing area and thus require less tolerance during the shearing process. As further explained on pages 5-6 of the brief,

"The leg portions offer more longitudinal length for a shear punch to contact the side support flange than does an elliptical aperture. The longitudinal length of the aperture along the flange (and parallel to the longitudinal axis of the side support) in the '239 patent is only approximately equal to the width of the aperture. By employing a "Z-shaped stress relieving zone" with longitudinal leg portions as shown above (and claimed in dependent claim 2 and independent claim 4), the punch used to shear the side supports can contact the side support area over a wider area of contact, thus increasing the allowable tolerances to fracture the side support, without making the width of the slot so large as to weaken the side support prior to fracturing."

It follows from the foregoing, that the examiner's position that the Z-shaped apertures do not produce any new and/or unexpected result or solve any stated problem relative

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to the known apparatus, is in error. Moreover, the examiner's comments (answer, page 7) regarding different shaped apertures producing different "stress concentration areas" appear to us to be somewhat misplaced given the distinctly different advantage noted in appellants' specification, i.e., that the Z-shaped apertures, because of the elongated leg portions thereof, facilitate a shearing process requiring less tolerance.

For the above reasons, the examiner's rejection of appellants' claims 1 through 4 and 6 under 35 U.S.C. § 103 as being unpatentable over Young will not be sustained, and the decision of the examiner rejecting the above-noted claims of the present application is reversed.

REVERSED

IRWIN CHARLES COHEN)
Administrative Patent Judge)
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CHARLES E. FRANKFORT)	BOARD OF PATENT
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