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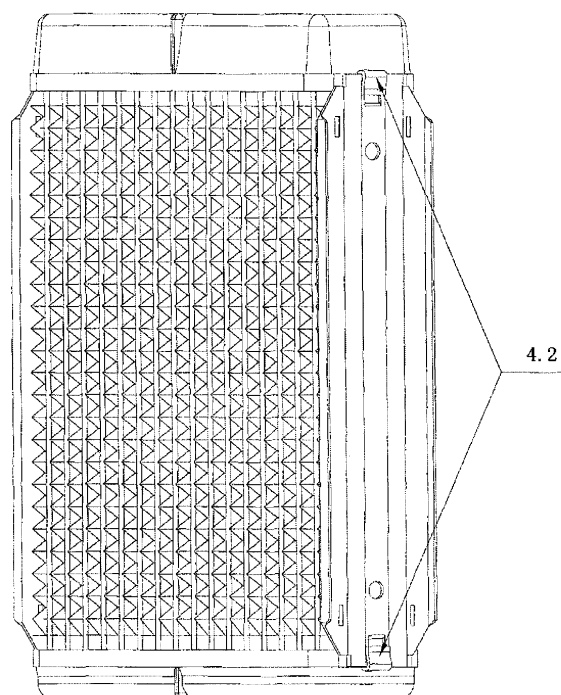
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(54) **A Clamped Structure between the Header and the Side Plate of an Automotive Heater Core**

(57) This invention involves clinching tabs between the header and the side plate of an automotive heater core, which belongs to the field of auto parts technology. Said structure includes the headers (4) and the side plates (5), the characteristics of said structure are that there are clinching tabs (4.2) located at the center of the minor dimension of the headers (4) and the center of the ends of the side plates (5). Said clinching tabs (4.2) are clamped to the center of the ends of the side plates (5) to secure the side plates (5) and the header (4) of the automotive heater core. By using the clinching tabs, the connection between the side plates and headers is firmer and the overall angular rigidity of the automotive heater core is enhanced, thus the cooling fins are better protected from damage.

FIG 4



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Description

Fig.4 shows the overall appearance of the automotive heater core using this invention

Technical Field

[0001] The invention involves an automotive heater core, particularly a clamped structure between the header and the side plate of an automotive heater core. It belongs to the field of auto parts technology.

[0005] In the drawing: inlet pipe 1, outlet pipe 2, upper tank 3, header 4, side plate 5, tube 6, cooling fins 7, bottom tank 8, clinching tabs 4.2.

Background Art

[0002] An automotive heater core is a radiator dissipating heat into the car cabin using cooling water from the engine, it includes: inlet pipe, outlet pipe, upper tank, bottom tank, header, tube, cooling fins and side plate. Old art seeks to secure the side plates to the header by brazing the cooling fins to the side plates so as to prevent the cooling fins from damage and to strengthen the overall structure. This old art makes the connection between the side plates and the header not secure and firm enough, which causes the comparatively low overall angular rigidity of the automotive heater core, and the cooling fins are not well protected from damages.

Implementation Methods

[0006] In reference to Fig.1, an automotive heater core includes eight parts: inlet pipe 1, outlet pipe 2, upper tank 3, bottom tank 8, header 4, tube 6, cooling fins 7 and side plate 5. There are clinching tabs (4.2) located at the center of the minor dimension of the said headers (4) and the center of the ends of the side plates (5) as shown in fig 2, 3. Said clinching tabs (4.2) are clamped to the ends of the side plates 5 to secure the side plates 5 to the header of the automotive heater core as shown in Fig.4.

Summary of the invention

[0003] The purpose of this invention is to overcome the above shortages, and to provide a clamped structure between the header and the side plate of an automotive heater core to connect them more firmly.

The purpose is achieved through the clamped structure between the header and the side plate of an automotive heater core including the headers (4) and the side plates (5). It has the characteristics that there are clinching tabs at the center of the minor dimension of the said headers (4) and the center of the ends of the side plates (5). Said clinching tabs (4.2) are clamped to the ends of the side plates to secure the side plates to the header of the automotive heater core.

By using this clamped structure, the connection between the side plates and headers is firmer and the overall angular rigidity of the automotive heater core is enhanced, thus the cooling fins are better protected from damage.

Claims

1. clamped structure between the header and the side plate of an automotive heater core, including the headers (4) and the side plates (5), the characteristics are that there are clinching tabs (4.2) located at the center of the minor dimension of the said headers (4) and the center of the ends of the side plates (5). Said clinching tabs (4.2) are clamped to the ends of the side plates (5).

Brief description of the attached drawings:

[0004]

Fig.1 is the overall view of the structure of the automotive heater core involved in this invention

Fig.2 shows the structure of the involved header and the side plate of the automotive heater core before being clamped

Fig.3 is the breakdown drawing which shows the structure of the involved header and the side plate of the automotive heater core being clamped

FIG 1

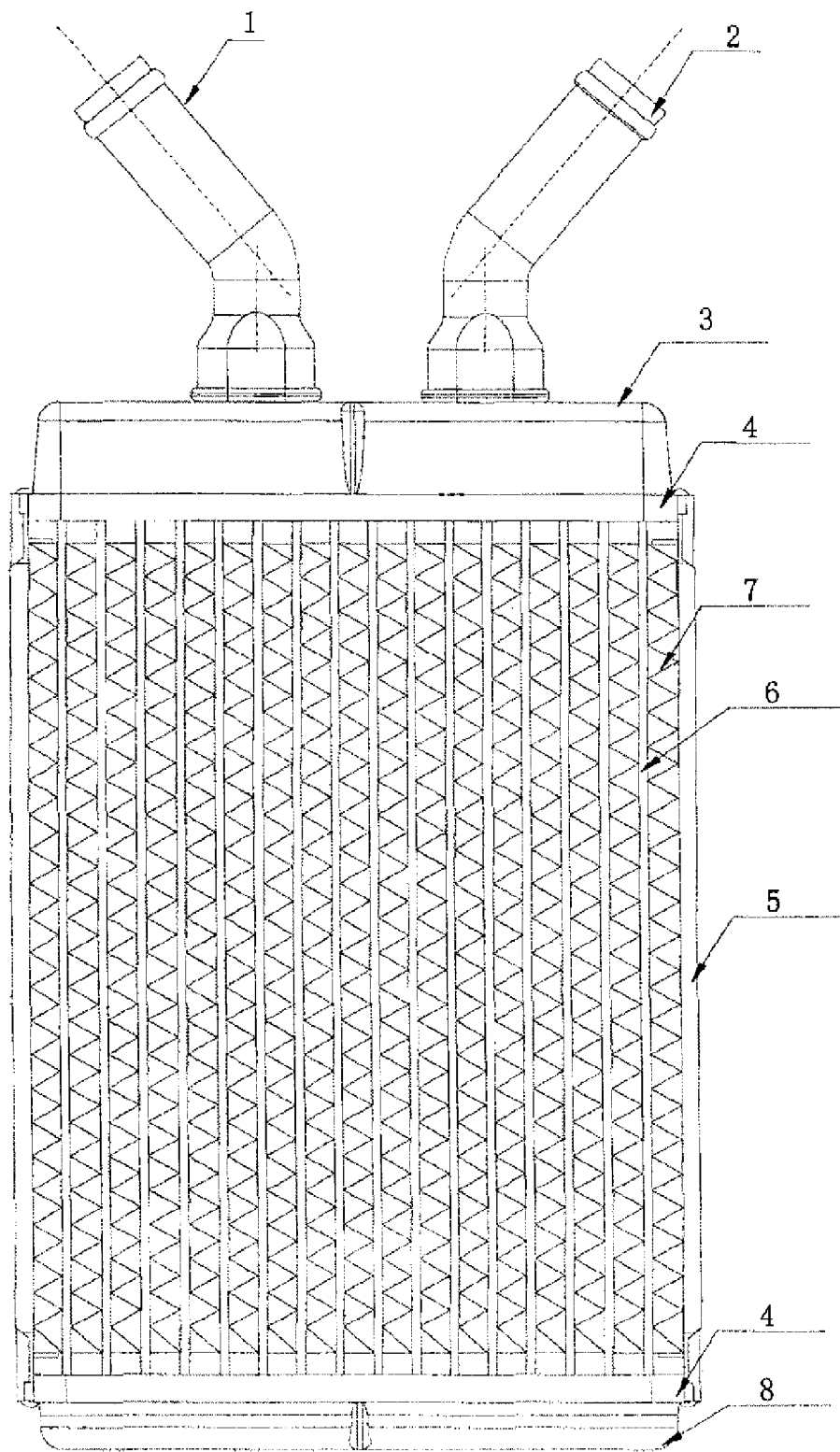


FIG 2

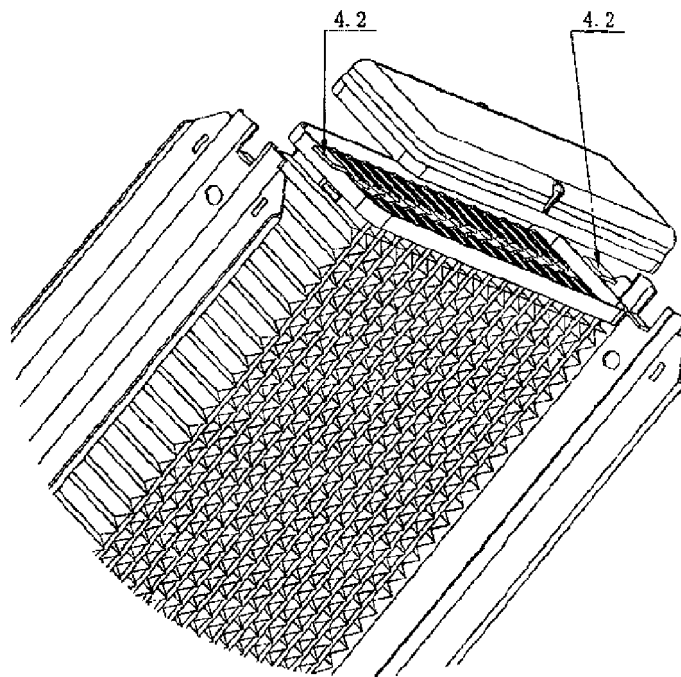


FIG 3

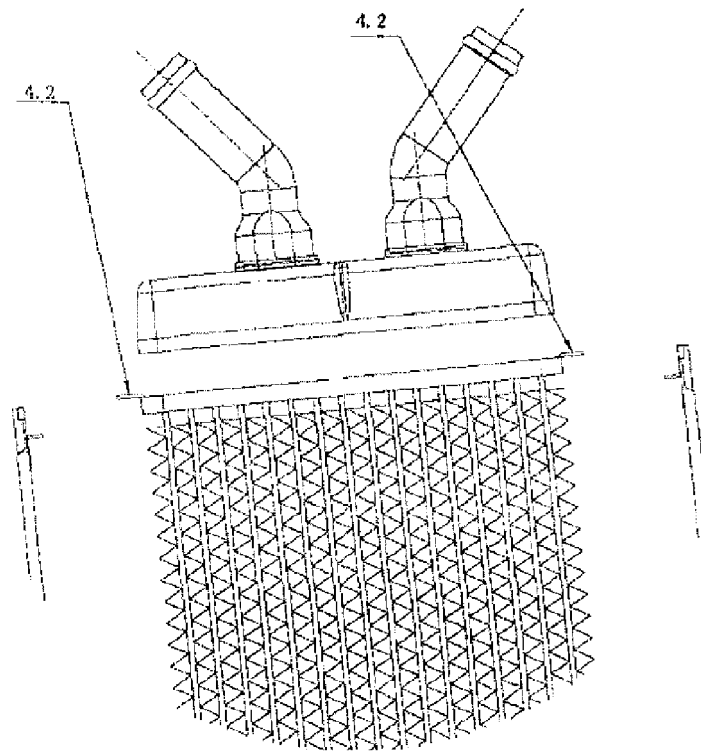
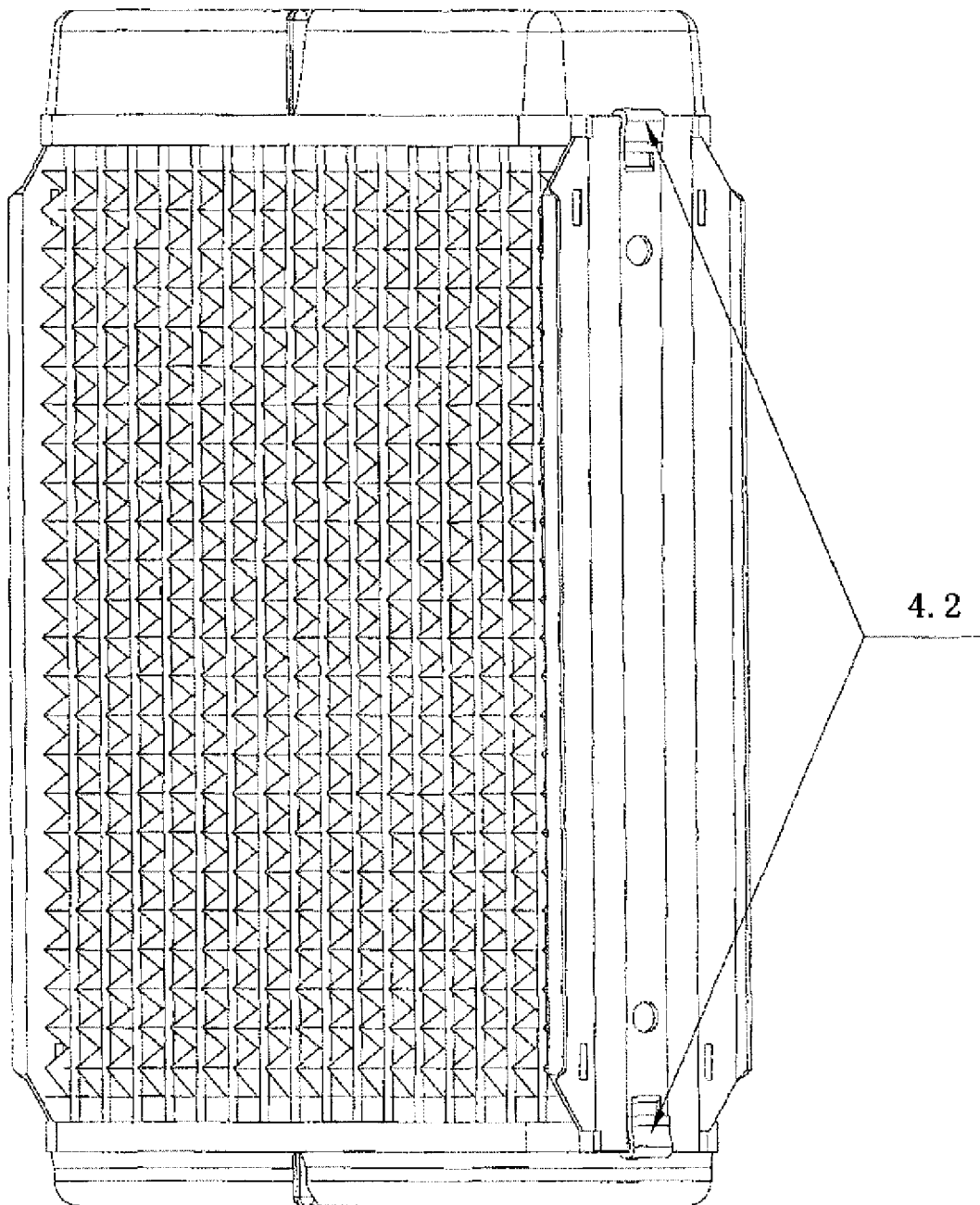


FIG 4





EUROPEAN SEARCH REPORT

Application Number
EP 09 15 1645

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			F28F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 26 May 2009	Examiner Leclaire, Thomas
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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26-05-2009

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