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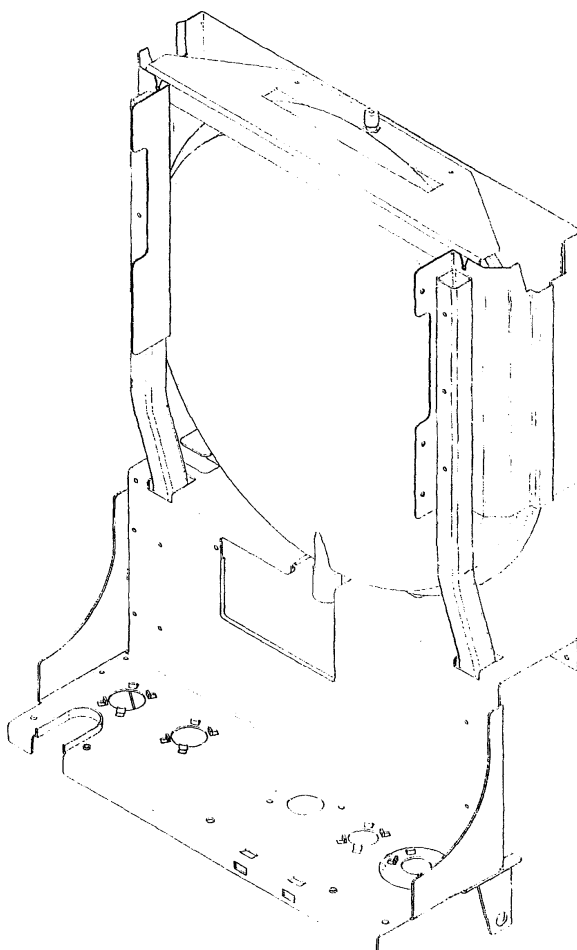
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(54) **Basic boiler frame**

(57) The subject frame, supporting the boiler's components, enables to reduce not only the total weight of

the boiler but also its size thanks to the use of properly shaped special square section tubes, while keeping the necessary stiffness properties unchanged.



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Description

[0001] The purpose of a conventional frame is to support the main components of a boiler (combustion chamber, expansion tank, hydraulic group, user interface, boiling unit if provided) giving stiffness to the unit so that it can be hooked to the wall. 5

[0002] Frames are normally made of blank sheet bent with drop-through dies and consist of vertical elements connected by spacers. The number of components and the total weight are rather high. 10

[0003] In the case of Basic boilers, the frame is integral with the boiler components which contribute to make it stiff. If I am allowed to make a comparison with aeronautics, Basic behaves as a shell fuselage rather than a welded steel tube fuselage. 15

[0004] The combustion chamber, the expansion tank and the hydraulic group bracket are not only performing their specific functions but they also act as stiffening elements. 20

[0005] The two square section tubes - used for the first time in a boiler - are shaped in such a way as to pass through the various components thus reducing the frame size.

[0006] In spite of the tubes reduced size, their stiffness (higher than that of bent sheet) enables to support the various elements while the total weight of the product is reduced. 25

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Claims

The Basic boiler frame presents the following features :

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1. It is integral with the boiler components which contribute to make it stiff

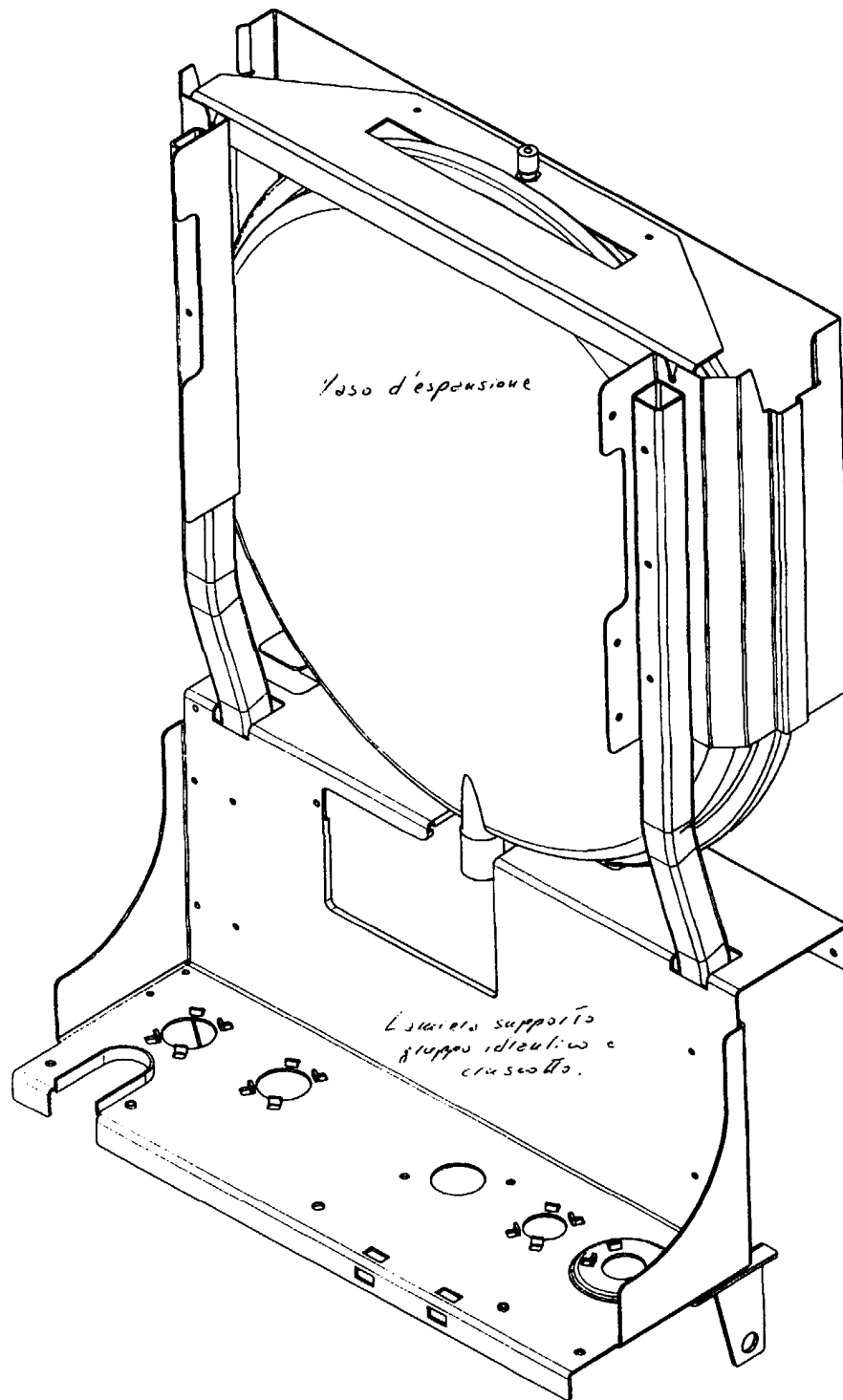
2. It uses for the first time in a boiler square section tubes 40

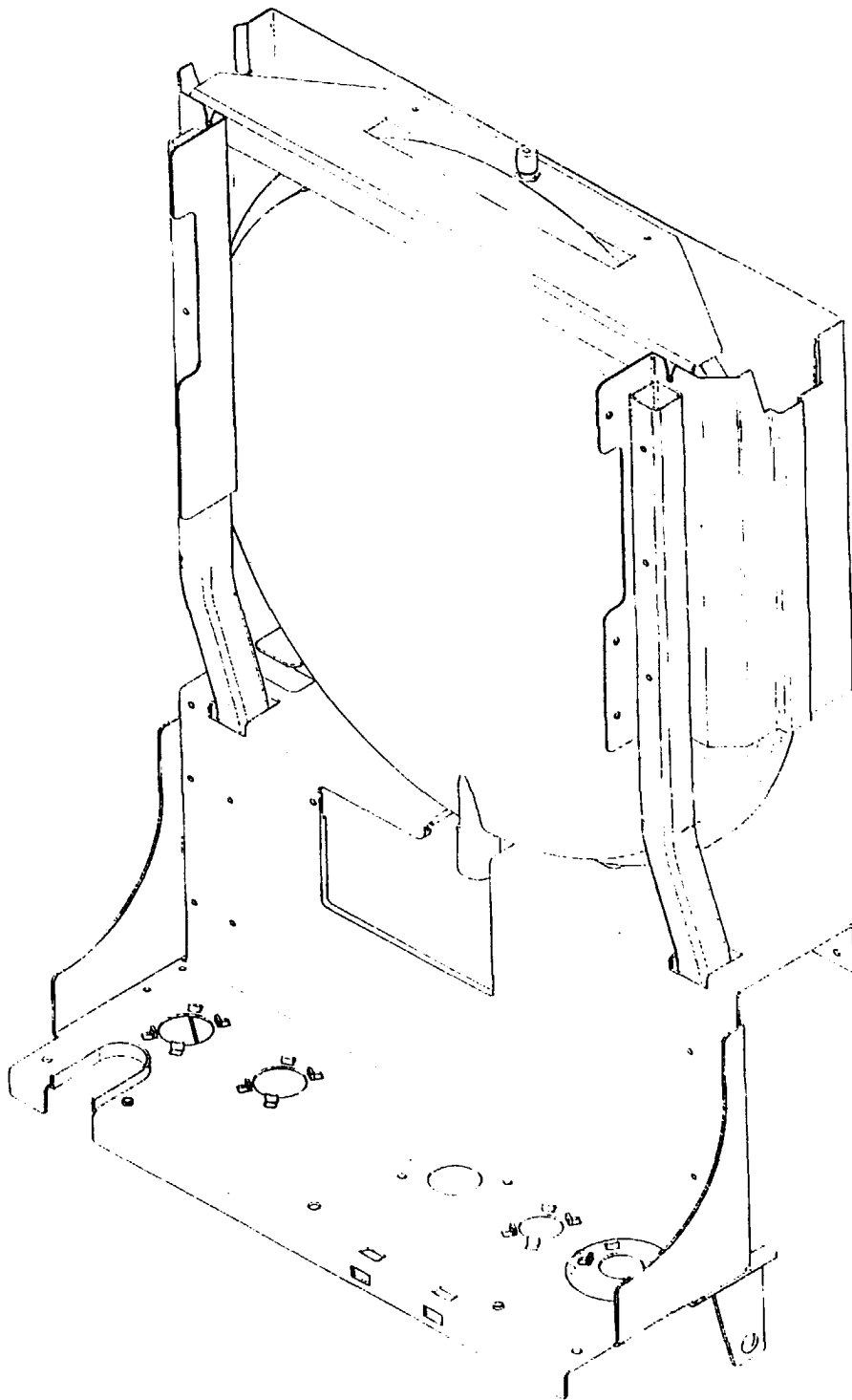
3. Tubes are shaped in such a way as to pass through the various components, thus reducing the frame size 45

4. The tubes stiffness enables to adequately support the various elements and to reduce the total weight of the product 50

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EUROPEAN SEARCH REPORT

Application Number
EP 99 83 0059

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	GB 1 391 613 A (HARTLEY SUGDEN LTD) 23 April 1975 * the whole document * -----	1-4
		CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
		F24H9/14
		TECHNICAL FIELDS SEARCHED (Int.Cl.6)
		F24H
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
THE HAGUE	22 June 1999	Van Gestel, H
CATEGORY OF CITED DOCUMENTS 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 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		

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

EP 99 83 0059

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22-06-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 1391613 A	23-04-1975	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82