



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**20.10.1999 Bulletin 1999/42**

(51) Int Cl.6: **E04B 5/43, E04B 5/14**

(43) Date of publication A2:  
**12.08.1998 Bulletin 1998/33**

(21) Application number: **98500035.5**

(22) Date of filing: **06.02.1998**

(84) Designated Contracting States:  
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

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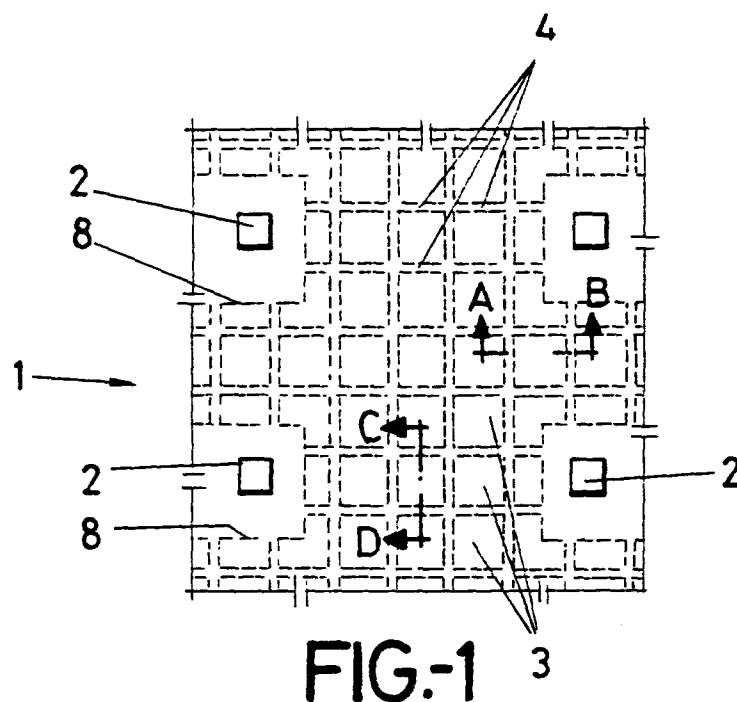
(30) Priority: **06.02.1997 ES 9700248**

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(54) **Improvements in the construction of flat structural members without girders**

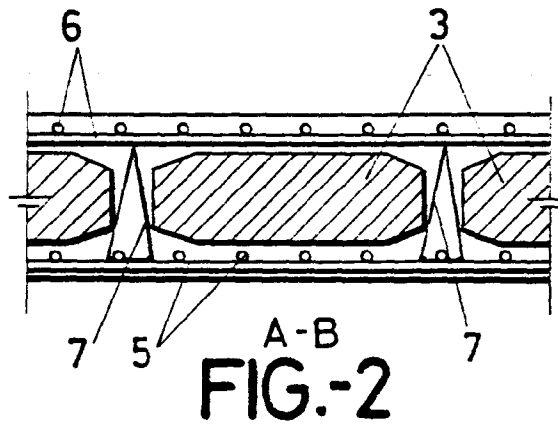
(57) The structural members obtained in accordance with the improvements of the invention include bi-directional hollow lightening blocks (3), forming orthogonal ribs (4) and other shapes, this lightening being completed by a lower reinforcement (5) and another, upper reinforcement (6) based on unidirectional or bidirectional mesh in both cases, which, when duly concreted, form lower and upper slabs respectively, and separation

reinforcements (7) between them which define a reinforcement of the ribs which are formed in the positioning of the hollow lightening blocks (3). The structural member without girders obtained offers the same resistance to positive and negative moments, and the meshes which constitute the lower (5) and upper (6) reinforcements are simple meshes of conventional industrial fabrication.



**FIG.-1**

**EP 0 857 836 A3**





European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 98 50 0035

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE 12 22 643 B (MÜLLER) * the whole document * ---	1	E04B5/43 E04B5/14 E04B5/32
X	DE 26 52 096 A (SIMONS) 18 May 1978 (1978-05-18) * the whole document * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			E04B
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>1 September 1999</b>	Examiner <b>Mysliwetz, W</b>
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03/82 (P04C01)

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

EP 98 50 0035

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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01-09-1999

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DE 2652096 A	18-05-1978	NONE	

EPO FORM P0459

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