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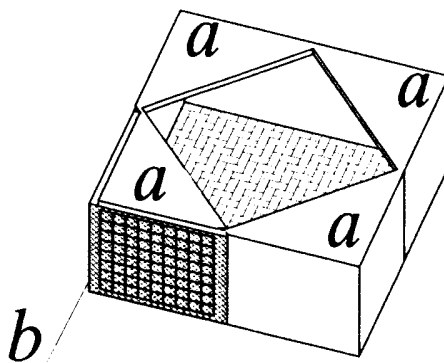
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(54) **System to realize one and multistorey buildings with a composition of modular spatial units obtained from a casting of concrete in moduls according to fixed schemes**

(57) This system is for use in industrialized building and permits constructing at very reasonable prices. It is based on the repetition according to the project, of a basic cell constructed on site with appropriate moulds which leave an empty space in the concrete slabs where prefabricated slabs are inserted. It satisfactorily re-

solves technical problems because of the modularity and stability of the mould elements, the ensuing modularity of the basic cells, the thickness of the concrete slabs is very reasonable in respect of the distance of the bearing walls and for its versatility as it can be used for many different types of projects, fig. 3 - 4 - 5 - 6 - 7.



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**Description**

walls of the building which are also the bearing walls.

**[0001]** REPORT on the SYSTEM to realize one and multistorey buildings with a composition of modular spatial units obtained from a casting of concrete in moulds prepared according to fixed schemes.

**[0002]** The great increase in research in the building field in recent years is a direct consequence of the difficulties that this important sector of industry meets in defining valid, industrialized, productive processes which meet technical, aesthetic and architectural exigencies in a satisfactory way and above all contribute to the decrease in production costs.

**[0003]** The above mentioned system is a further step ahead in this direction as it involves a new way of constructing, on site, bearing walls of one and multistorey buildings with industrial procedures. These structures are the result of a set of spatial units ( basic cell ), fig. 4 in the plan, or derived cells, fig. 5 - 6 in the plan, which, repeated in a horizontal and vertical way realize a pre-established building project, fig. 7 in the plan. The spatial unit is produced by a casting of concrete in moulds prepared on site; these moulds are composed of 4 ( basic cell ) or more (derived cells) elements characterized by their rigorous modularity and are all composed of : 2 vertical walls joined by a right angle, fig. 1 (b), with opposite 2 vertical walls joined at the top by a triangular horizontal wall fig. 1(a) These elements are positioned so as to form a quadrilateral ( basic cell ), fig. 4, but other forms may be obtained by shifting, along the diagonals of the quadrilateral, one or more elements of the mould, fig. 5, or by rotating to 90° at the joinings of one or more elements, fig. 6, and so forming new living cells of different forms and sizes.

**[0004]** The structure, after the casting of the concrete, has an empty space in the concrete slabs on site ( fig. 3 (c) ), which will be completed with prefabricated modular concrete slabs on site.

**[0005]** Furthermore, it is evident that the sides of the empty space in the concrete slabs are perpendicular in the diagonals of the quadrilateral constituting the basic cell and derivatives, this being a characteristic feature of the system. With this device, it is possible to keep the dimensions of the concrete slabs invariable even when the bearing walls are at a notable and variable distance.

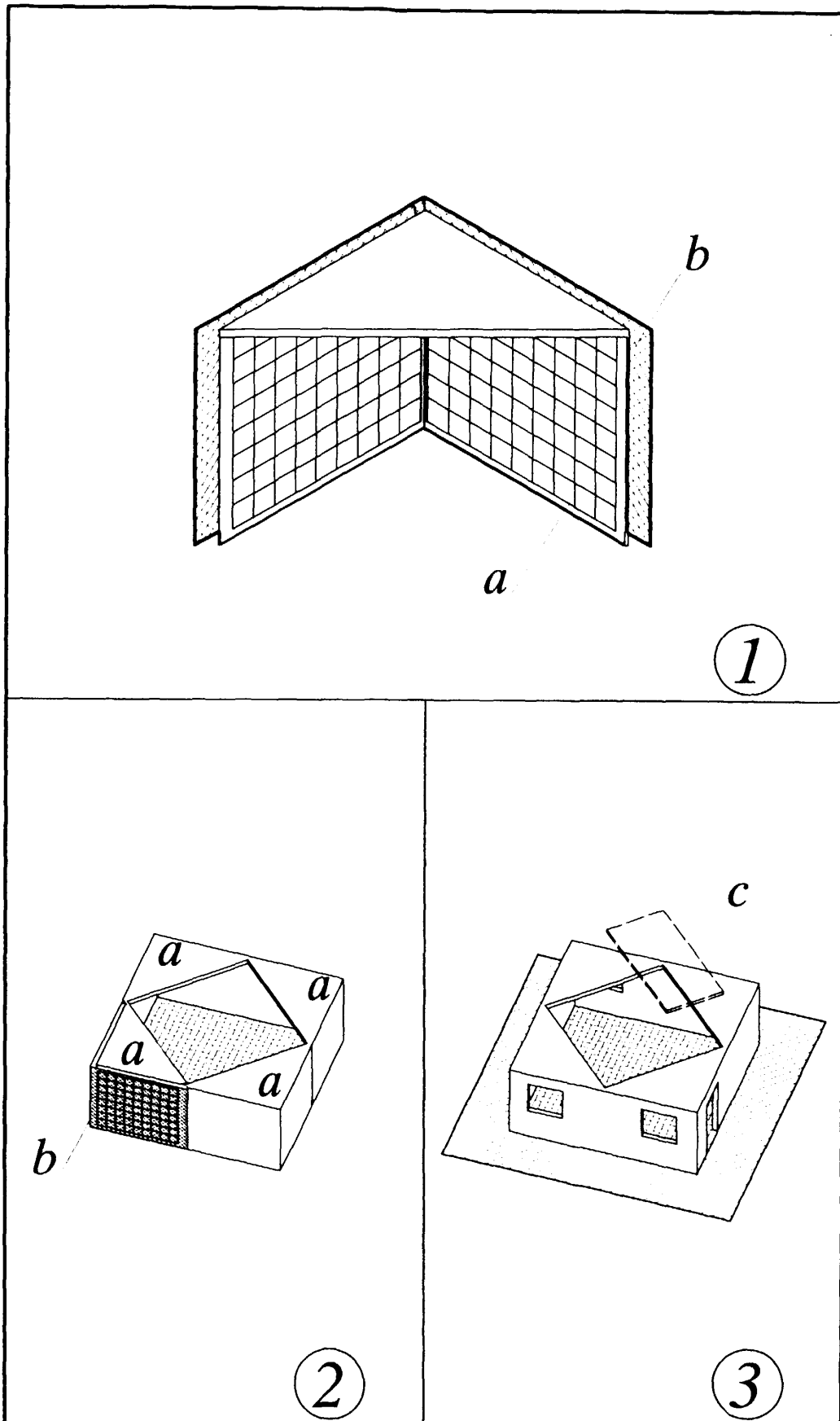
**[0006]** This brief description and the attached drawings clearly show the economic advantages that have motivated this innovation in the buildings field and which can be summed up as follows.

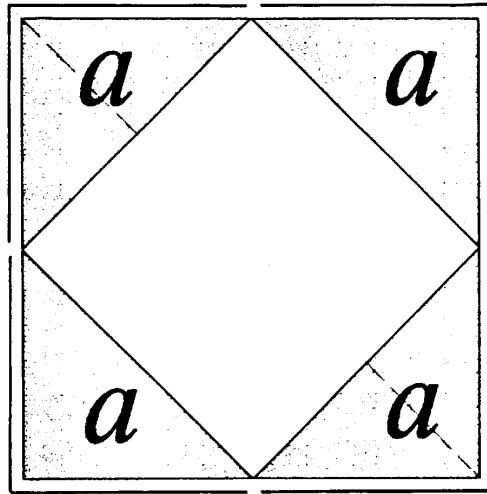
- constancy of the operative cycles deriving from the rigorous modularity of the moulds and thence of structures.
- ample, free spaces resulting from the possibility of placing the bearing walls at a notable distance while maintaining unaltered the dimensions of the prefabricated concrete slabs.
- the contemporaneous realisation of all the external

5 **Claims**

1. The orientation of the sides of the empty space in the concrete slabs in the basic cell due to the placing of the mould elements, endowed with perpendicular sides, in the intersecting points, at the diagonals of the square plan of the basic cell and derived cells, (fig. 4 - 5 - 6)

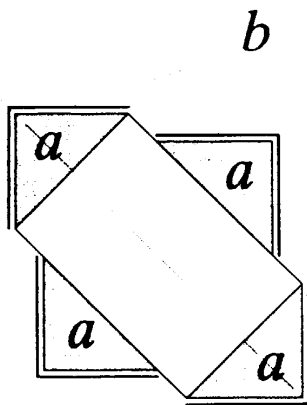
2. The internal element of the mould ( fig. 1 (a) ) as a fundamental element to realize structures with an empty space in the concrete slabs which have perpendicular sides, in the intersecting points, at the diagonals of the square plan of the basic cell and derived cells, ( fig. 4 - 5 - 6 ).





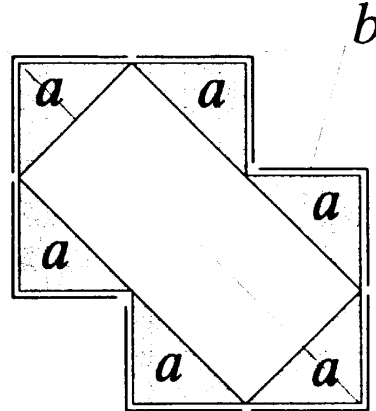
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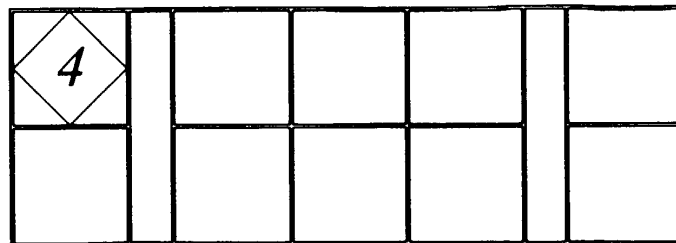
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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 83 0645

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.7)
A	US 3 729 875 A (FELSON R) 1 May 1973 (1973-05-01) * column 2, line 34 - column 3, line 15; figures 1,2 *	1,2	E04B1/348
A	EP 0 043 223 A (TERON WILLIAM) 6 January 1982 (1982-01-06) * page 2, line 26 - page 3, line 21; figure 1 *	1,2	
A	FR 2 482 158 A (SILMA SPA) 13 November 1981 (1981-11-13) * column 4, line 42 - column 6, line 55; figures 1,2 *	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			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>11 January 2001</b>	Examiner <b>Vrugt, S</b>
<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 &amp; : member of the same patent family, corresponding document</p>			

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

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