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⑤④ Building comprising a plurality of similar basic building elements interconnected on the building site, and method of erecting a building such as this.

⑤⑦ Building comprising a plurality of similar self-supporting basic building elements interconnected on the building site. The roof, the floors and the walls are applied after interconnecting the basic building elements.

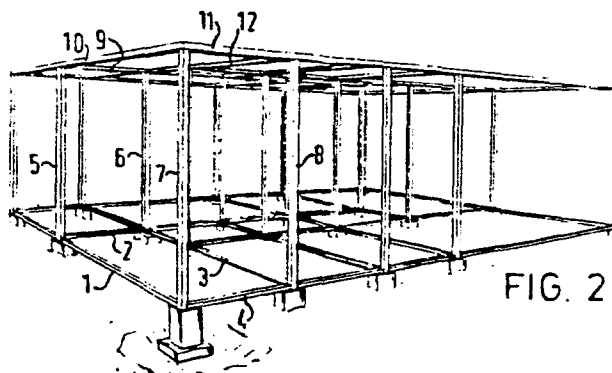


FIG. 2

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TITLE MODIFIED
see front page

Building comprising a plurality of similar basic building elements interconnected on the building site

The invention relates to a building comprising a plurality of similar basic building elements interconnected on the building site. In the building industry, particularly in developing countries, there is a need for a building
5 system which permits of rapidly erecting houses and the like on a building site with a minimum of labour. Particularly in developing countries professional knowledge on the building site is limited and it is, therefore, preferred to use as far as possible prefabricated elements. However, the building
10 system to be employed has to be such that a high degree of flexibility of design is ensured.

The invention has for its object to provide a building system which allows a great variety in design and in which nevertheless basic subassemblies are employed. Accord-
15 ding to the invention this is achieved in that the basic building elements are individually self-supporting and are shaped in the form of a cubic frame of steel beams. The beams

of the frame may be interconnected by screw joints. Moreover, the basic elements can be interconnected by screw joints. On the building site it is sufficient to erect the frame by interconnecting the beams by means of screw bolt joints, which operation can be carried out by unskilled labour. The frame is anchored to the foundation for example, by anchoring bolts embedded in the foundation, which pass into bores in the frame beams so that they can be fixed by means of nuts. The resultant frame structure satisfies all requirements of conventional building technology i.e. supporting function and storm resistance.

On both sides of the horizontal or vertical beams on the outer side walls can be erected, a cavity being left between said walls. The wall preferably consists of prefabricated elements, which are preferably fastened to said beams. These elements may be made of synthetic material or another suitable material. The invention provides the possibility of attaching the wall elements to the beams with the aid of strips damping the contact noise on the contact places with the elements. For the floor and the roof there may be used prefabricated elements. The partitions may also be built from prefabricated elements. Conduits for heating, electricity and water may be disposed above the ceilings or beneath the floor. As an alternative they may be arranged vertically or horizontally through the cavities of the walls.

The invention will be described more fully with reference to the accompanying drawing of an embodiment. In the drawing:

Figure 1 is a schematic plan of a building in accordance with the invention,

Figure 2 is a perspective view of a building erected from basic elements embodying the invention,

Figure 3 is a perspective view of the building of Figure 2 in the finished state,

Figure 4 is a perspective view of a corner of a basic element in accordance with the invention, and

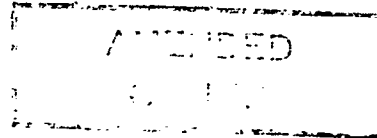
5 Figure 5 illustrates a corner of a basic element in accordance with the invention at the fastening area on the foundation.

The building comprises a plurality of similar basic elements consisting each of a cubic steel beam frame. Each
10 frame comprises a base of four beams 1, 2, 3 and 4, four vertical posts, 5, 6, 7 and 8, and an upper or roof part consisting of four beams 9, 10, 11 and 12. At the corners the beams are interconnected by means of bolt-and-nut joints. To this end, for example, the vertical post 6 (Figure 4) may
15 have a flange 13. Each frame is anchored by means of bolt--and-nut joints (see Figure 5) to the foundation 14. The bolts may be embedded, for example, in the concrete of the foundation.

By differently combining the basic elements the
20 desired design can be obtained. The vertical posts 6, for example, may coincide with a partition. Further the partitions may be arranged detachedly.

After the erection of the skeleton the building is completed by operating from top to bottom. It is preferred to
25 first mount the roof, which provides the possibility of continuing work even in rainy weather so that during the entire building operations the influence of wind, water and so on on the building work is minimized. Since the skeleton is self-supporting, such a building process is practicable. Subsequently the outer walls of standard elements of different
30 types can be erected. It is also possible to build up the outer walls in a conventional way from bricks, light-weight concrete elements, concrete elements or wood and the like. The floor may also be made from standard elements, but as an
35 alternative normal girders with floor slabs may be used to this end.

It will be obvious that a building according to the invention does not require skilled labour on the building site. The mounting operations are simple enough to be carried out by unskilled labour. The inner and outer walls finally
5 hide the steel frame from sight so that esthetically the building according to the invention is not inferior to a traditional building.



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CLAIMS

1. A building comprising a plurality of similar basic building elements interconnected on the building site, whereby said basic building elements are individually self-supporting and are shaped in the form of a cubic frame of steel beams characterized
5 in that the beams of the frame and the basic elements are interconnected by screw joints.
2. A building as claimed in claim 1, characterized in that on both sides of the horizontal or vertical beams on the outer side walls are erected between which
10 a cavity is left.
3. A building as claimed in claim 2, characterized in that the wall is made from prefabricated elements.
4. A building as claimed in claims 1-3, characterized in that prefabricated elements are used for the
15 floor and the roof.
5. A building as claimed in claims 1-4, characterized in that a strip of material damping the contact noise is arranged between the wall and floor parts and the adjoining beams.
- 20 6. A method of erecting a building as claimed in one or more of the preceding claims characterized in that the steps of anchoring the beams of one or more elements to the foundation on the building site

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and of connecting said beams with one another or with the basic elements, the steps of interconnecting said elements, disposing the roof elements, applying the cavity wall elements, arranging the floor elements
5 and of erecting inner wall elements.

7. A method as claimed in claim 6, characterized in that the roof elements are first disposed.

8. A method as claimed in claim 7, characterized in that the conduits for heating, electricity and
10 water are disposed above the ceilings and in the outer cavity wall.

9. A method as claimed in claims 6-8, characterized in that the inlet and outlet ducts for the central heating radiators are passed through the inner cavity
15 wall into or out of the rooms.

10. A method as claimed in claims 6-9, characterized in that hot or cool air is conducted through the cavity of the outer wall and the space between the ceiling and the roof.

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CLAIMS

1. A building comprising a plurality of similar basic building elements interconnected on the building site, characterized in that said basic building elements are
5 individually self-supporting and are shaped in the form of a cubic frame of steel beams.

2. A building as claimed in claim 1, characterized in that the beams of the frame are interconnected by screw joints.

10 3. A building as claimed in claim 1-2, characterized in that the basic elements are interconnected by screw joints.

4. A building as claimed in claims 1-3, characterized in that on both sides of the horizontal or
15 vertical beams on the outer side walls are erected between which a cavity is left.

5. A building as claimed in claim 4, characterized in that the wall is made from prefabricated elements.

6. A building as claimed in claim 1-5,
20 characterized in that prefabricated elements are used for the floor and the roof.

7. A building as claimed in claims 1-6, characterized in that a strip of material damping the contact noise is arranged between the wall and floor parts and the adjoining beams.

5 8. A method of erecting a building as claimed one or more of the preceding claims characterized in that the steps of anchoring the beams of one or more elements to the foundation on the building site and of connecting said beams with one another or with the basic elements, the steps of
10 interconnecting said elements, disposing the roof elements, applying the cavity wall elements, arranging the floor elements and of erecting inner wall elements.

9. A method as claimed in claim 8, characterized in that the roof elements are first disposed.

15 10. A method as claimed in claim 8, characterized in that the conduits for heating, electricity and water are disposed above the ceilings and in the outer cavity wall.

11. A method as claimed in claims 8-10 , characterized in that the inlet and outlet ducts for the central heating radiators are passed through the inner cavity
20 wall into or out of the rooms.

12. A method as claimed in claims 8-11, characterized in that hot or cool air is conducted through the cavity of the outer wall and the space between the
25 ceiling and the roof.

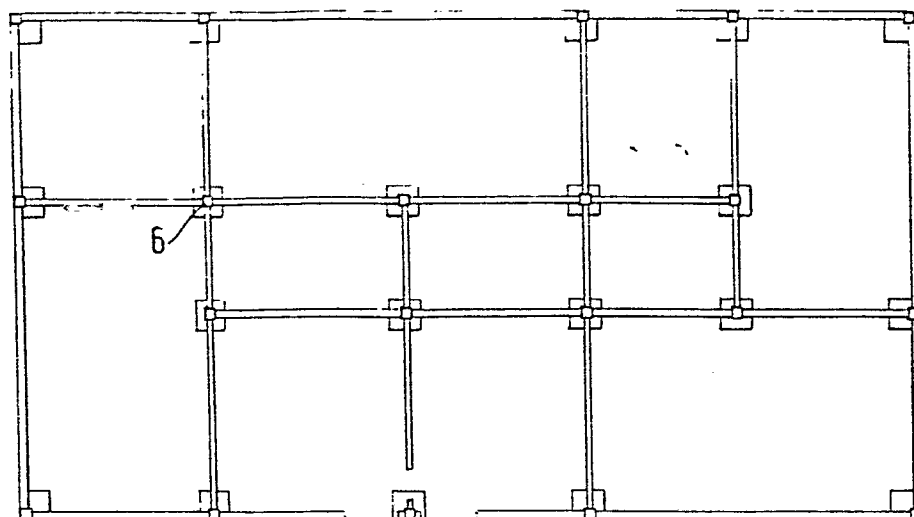


FIG. 1

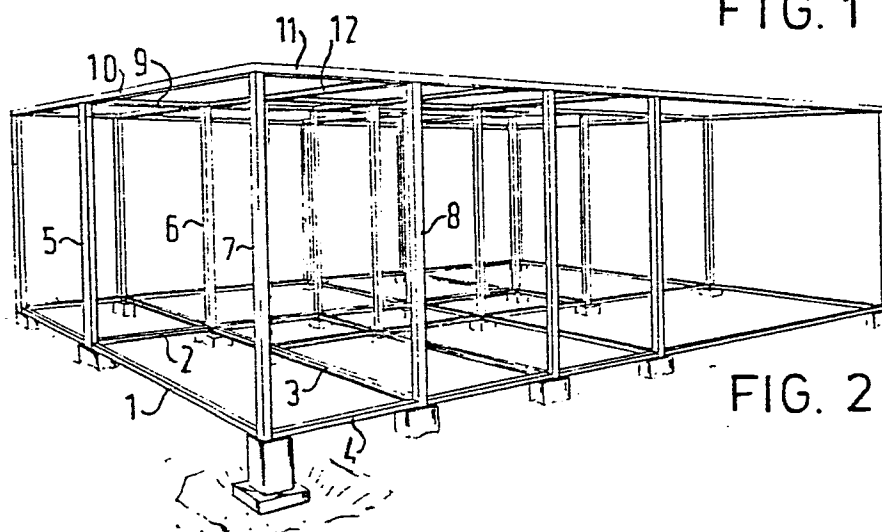


FIG. 2

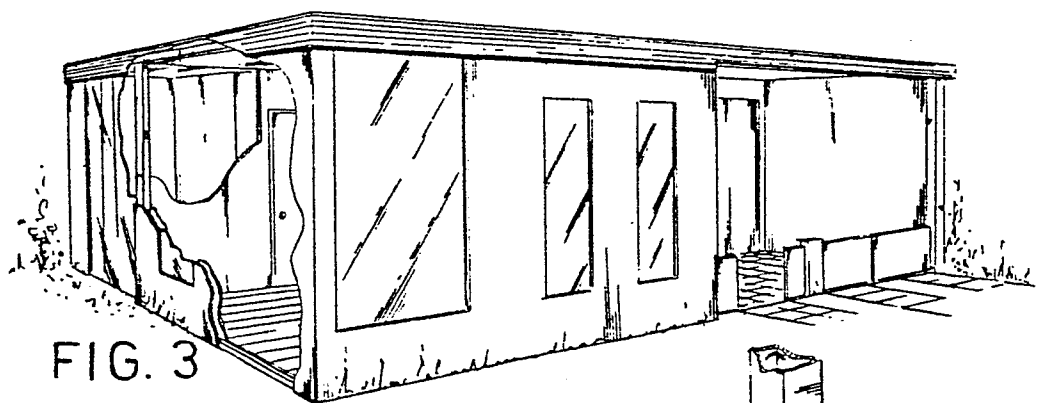


FIG. 3

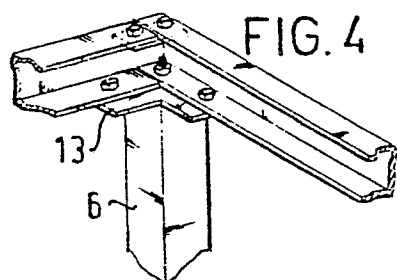


FIG. 4

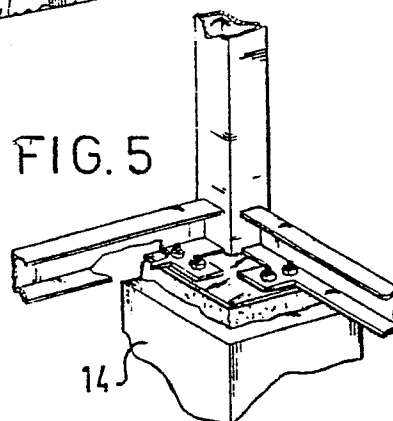


FIG. 5



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EUROPEAN SEARCH REPORT

6014775
Application number

EP 79 200 081.2

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	<u>FR - A - 1 029 744 (LE CORBUSIER)</u> * page 1, column 1, paragraph 3; page 2, column 1; fig. 1, 2, 6 *	1	E 04 B 1/348 E 04 B 1/24
X	<u>AU - B - 50 451 (G.H. RANCE)</u> * page 5; fig. 5 *	1	
	<u>FR - A - 2 072 082 (NATIONAL HOUSE)</u> * page 1; page 2, paragraph 3; page 5, paragraph 2; fig. 2, 3, 5, 6, 8 *	1-3, 5, 6, 10, 12	TECHNICAL FIELDS SEARCHED (Int. Cl.) E 04 B 1/00
	<u>FR - A - 1 429 344 (D. SANZ et al.)</u> * page 1, column 1; page 2, column 1; fig. 1 through 7 *	1-3	
	<u>DE - A - 2 162 927 (LONGINOTTI)</u> * fig. 1, 2; claims 1, 2 *	1, 2	
	<u>FR - A - 1 476 521 (INDUSTRIALISATION DU BATIMENT)</u> * page 1, column 1, paragraph 5; fig. 1 *	1	CATEGORY OF CITED DOCUMENTS X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
X	The present search report has been drawn up for all claims		&: member of the same patent family, corresponding document
Place of search Berlin		Date of completion of the search 08-10-1979	Examiner v. WITTEN



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EUROPEAN SEARCH REPORT

Application number
6214775

EP 79 200 081.2

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	<p><u>DE - A - 2 243 410</u> (H. PON)</p> <p>* claim 1; fig. 2, 4, 7 *</p> <p>---</p> <p><u>AU - B - 454 071</u> (SIGAL INDUSTRIES)</p> <p>* pages 3, 4, 5; fig. 2, 3 *</p> <p>-----</p>	<p>4-6, 12</p> <p>4</p>	<p>TECHNICAL FIELDS SEARCHED (Int. Cl.3)</p>