United States Patent [19]

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[54] **METHOD OF CONSTRUCTING A DWELLING**

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[51] **Int. Cl.** **E04g 21/00,** E04h 1/04

[58] **Field of Search** 52/745, 236, 234, 79, 173, 52/136, 64–70

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[57] **ABSTRACT**

A method of building construction, particularly for a dwelling, in which a central open-sided building module including the kitchen, bath, closets and all utilities such as heating, plumbing and electrical facilities and the like, and wall, roof and floor panels, and the necessary columns and beams, are all fabricated at a factory and transported to a building site. The central module is placed on a prepared foundation and the wall panels are placed in spaced relation to it, the columns and beams are then placed in connecting and supporting relation to the central module and wall panels, thus forming a framed building, after which the end wall, roof and floor panels are put in place to complete the enclosed dwelling.

1 Claim, 7 Drawing Figures

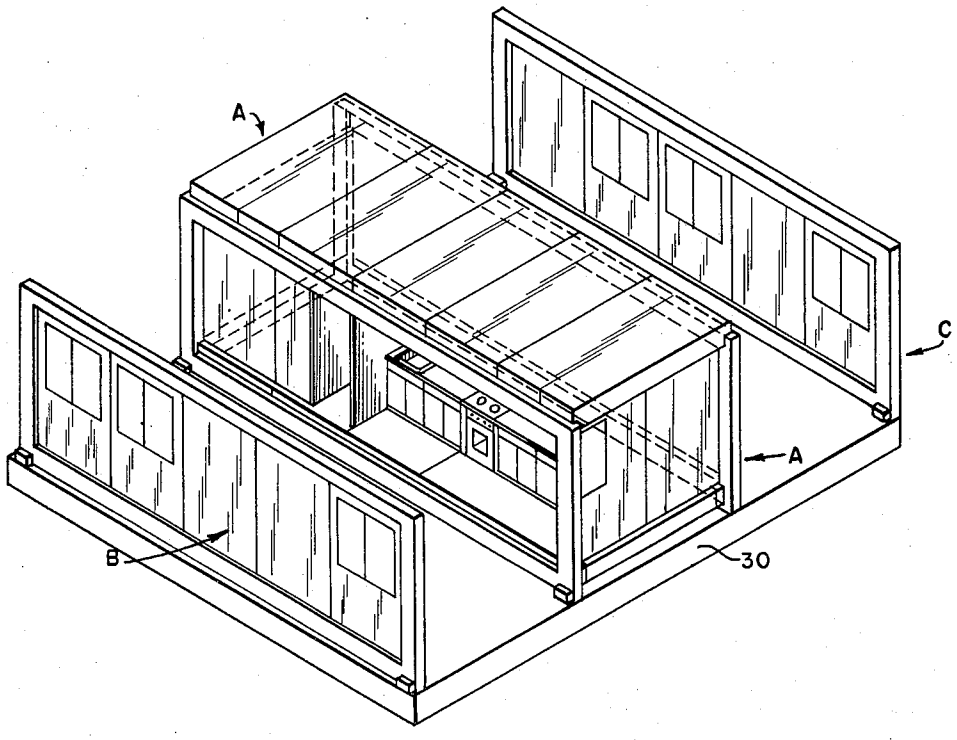


Fig. 1

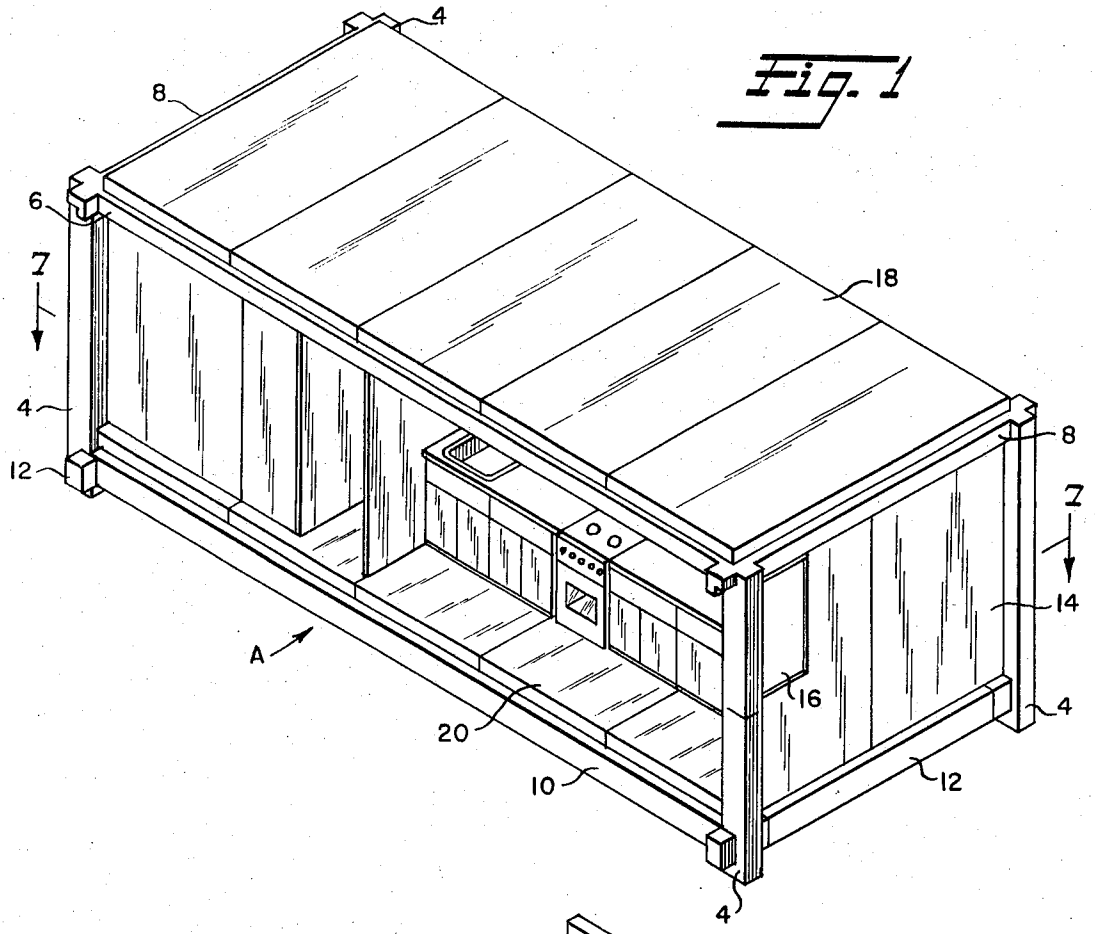


Fig. 2

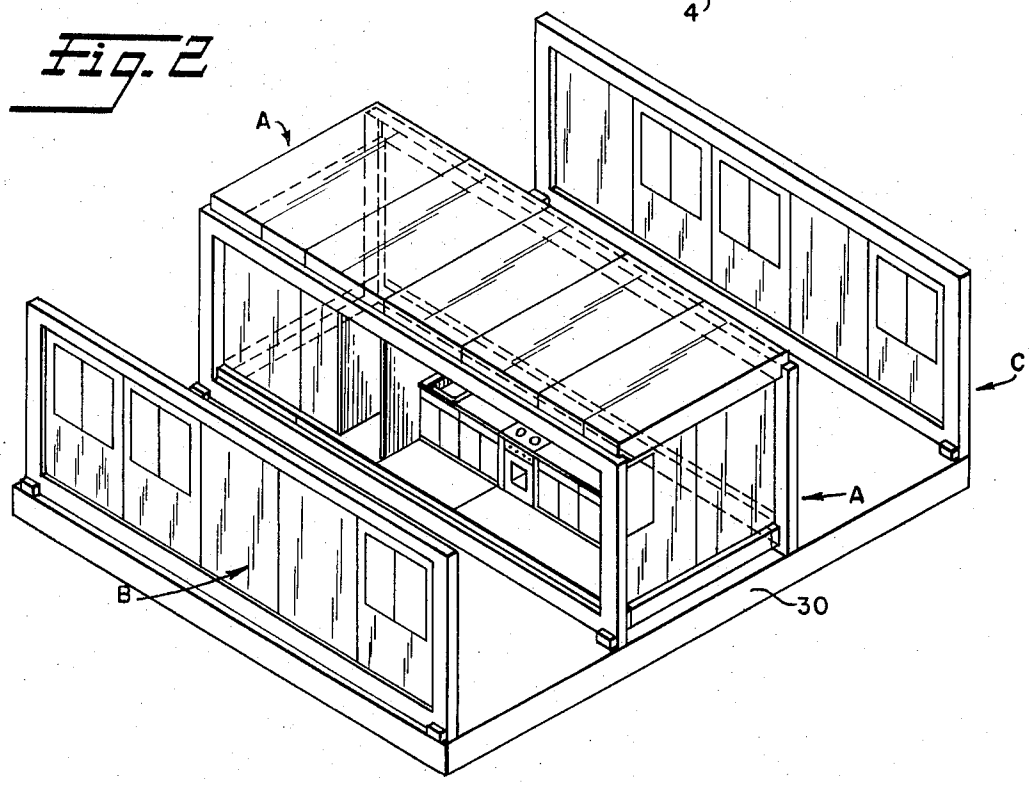


Fig. 3

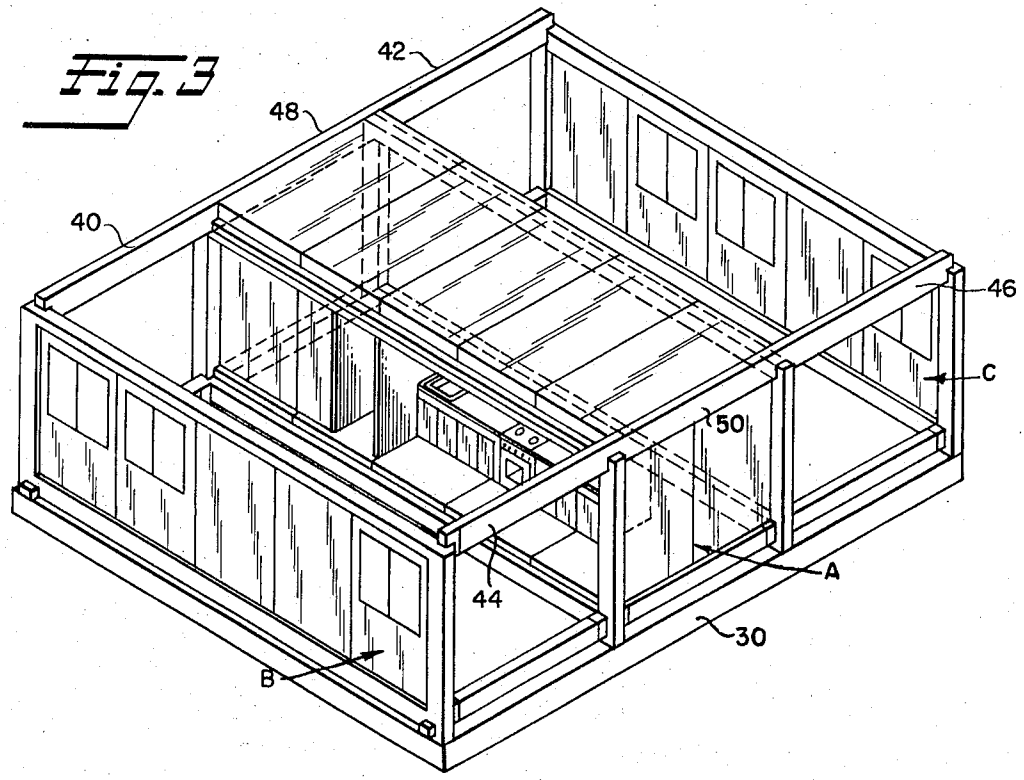


Fig. 4

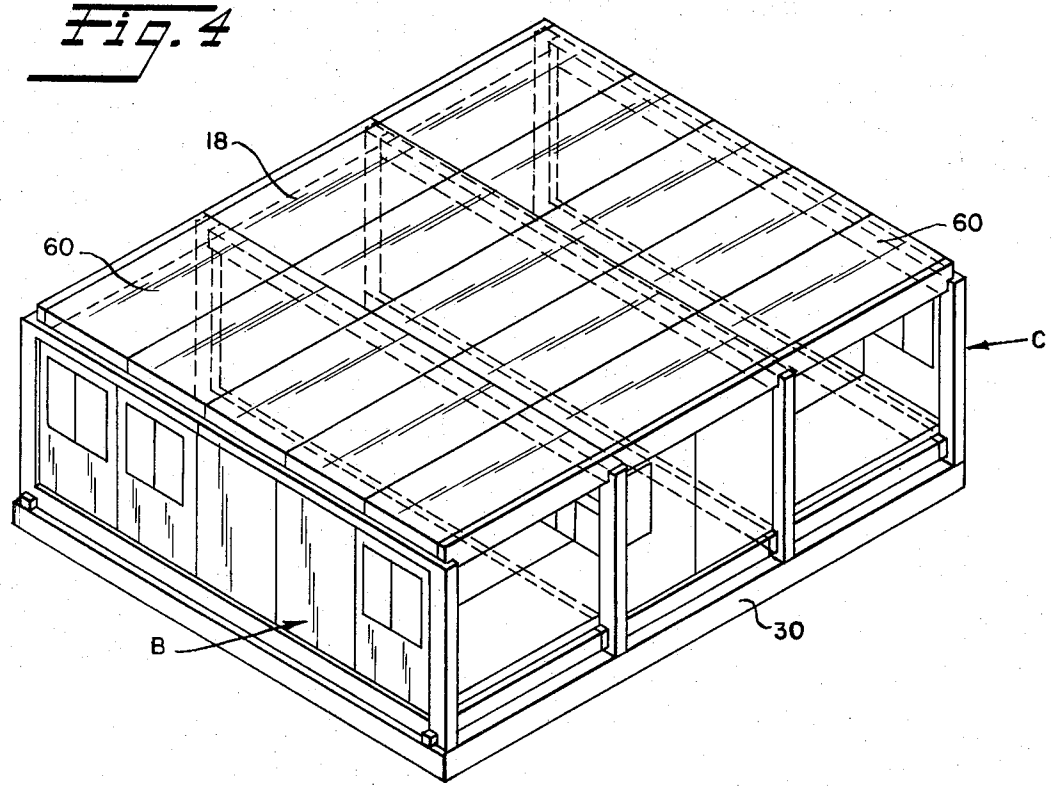
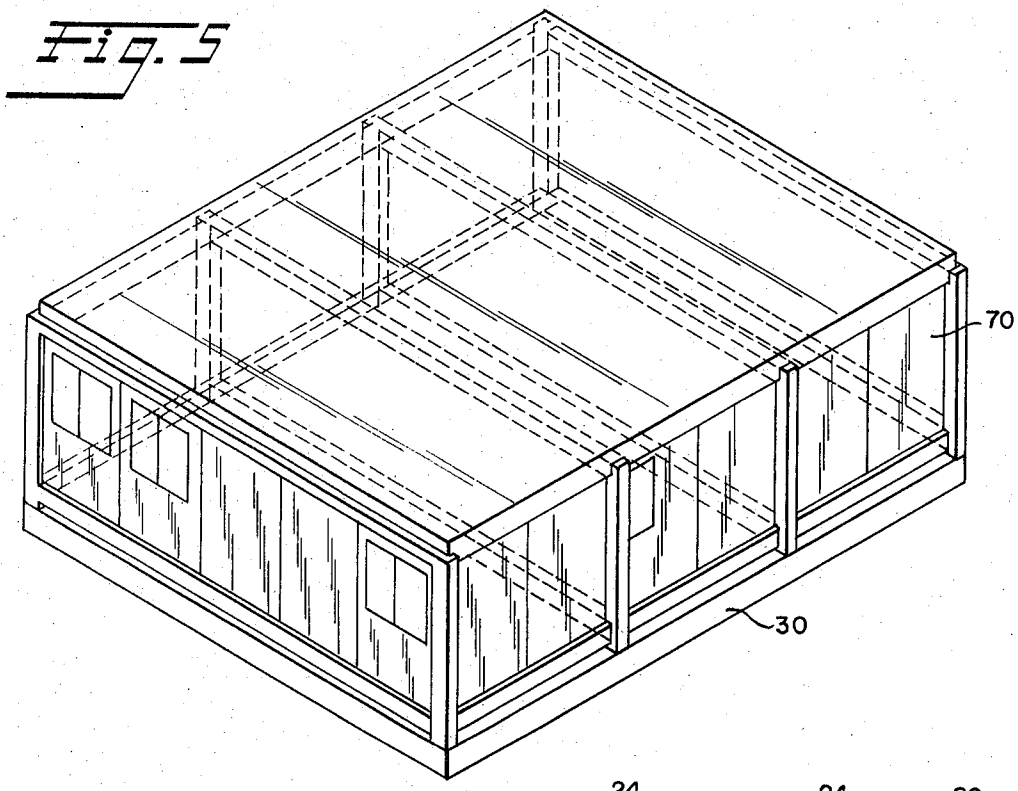


Fig. 5



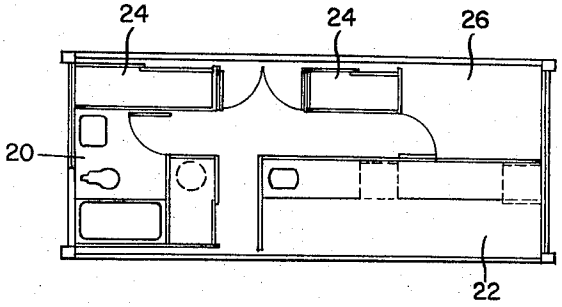


Fig. 6

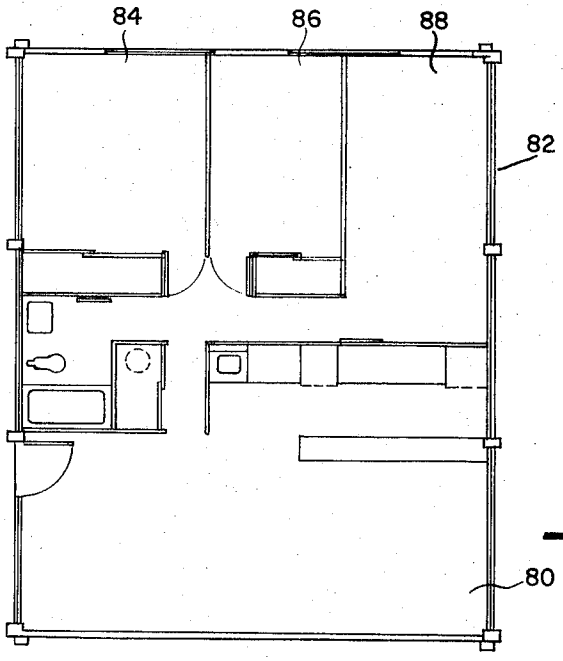


Fig. 7

METHOD OF CONSTRUCTING A DWELLING

BACKGROUND OF THE INVENTION

It has heretofore been proposed, and is now known in the construction art, to fabricate the basic components of a dwelling house, such as the walls, roof trusses and the like, at a centrally located factory and to transport these to a building site where they are assembled and erected on a prepared foundation to complete a dwelling. There are disadvantages to this method of building construction, not the least of which is that central facilities such as the bathroom, kitchen and closets and utilities such as air conditioning, heating, electric and plumbing units and outlets must be added to the building after the components have been assembled.

SUMMARY OF THE INVENTION

By the present invention I have provided a new method of prefabricated building construction in which all of the components of a finished dwelling house are fabricated at a centrally located factory and are transported to the building site where they are erected on a prepared foundation. In accordance with the invention the components fabricated at the factory include a central module forming the heart of the finished building and including at least the kitchen, bathroom, clothes and other closets, and all utilities necessary for the dwelling, such as the electrical, heating, air conditioning and plumbing units and piping, wiring and outlets. In addition, the wall, roof and floor panels are also constructed at the central factory together with the columns and beams necessary to connect these to the central module at the building site. The components constructed in accordance with the invention permit rapid and strong construction with consequent decrease in cost, thus providing a quickly erected and less expensive dwelling.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the central module, which is fabricated at a centrally located factory;

FIG. **2** is a perspective view showing the central module and wall panels assembled in place on a foundation at the building site;

FIG. **3** is a perspective view showing the addition of beams to the central module and wall panels at the building site;

FIG. **4** shows the addition of roof and floor panels to the assembled parts;

FIG. **5** shows the addition of the end wall panels to the framed building;

FIG. **6** is a floor plan of the central module, and

FIG. **7** is a typical floor plan of the interior of the finished dwelling.

DESCRIPTION OF THE INVENTION

The principal component of the building construction method provided by the invention is a central module A, which is shown particularly in FIG. **1** of the drawings, and it will be seen that it comprises a frame in the form of a rectangular parallelopiped having four vertical corner columns **4** the upper ends of which are connected by upper side beams **6** and end beams **8** and the lower ends of which are connected by lower side beams **10** and lower end beams **12.** This module is preferably made without side walls as it forms the interior

cell or unit of the finished building, but has end walls **14,** one or both of which may have in it a window **16.** The module also has a roof **18** and floor **20.** Within the module, and as particularly shown in FIG. **6,** there are installed at the factory all of the necessary facilities required in a habitable dwelling such as a bathroom **20,** a kitchen **22,** one or more closets **24** and the necessary utilities such as heating, air conditioning, electrical and plumbing installations which are shown collectively at **26.** This central module is transported from the factory to the building site, where it is placed in proper position on a prepared foundation **30** which is of such size and configuration that it will support the entire dwelling including the module A.

The other components necessary to make a complete dwelling are also fabricated at the factory, it being understood that the final dwelling will be larger than the central module. These other components consist of wall panels, roof panels, floor panels and the necessary beams and columns which are required to connect the central module to the walls, support the roof, and to enclose the central module and outlying walls to provide a complete building. All of these other prefabricated components are transported to the location of foundation **30** at the building site.

At the building site the central module A is first placed on the foundation and is connected thereto in any desired manner. The next step in the assembly of the building is to erect outer wall panels B and C in upright position on the foundation and in spaced relation to the open sides of the central module A, and these wall panels are connected to the foundation and supported in upright positions in any suitable manner. This step in the construction of the dwelling is shown in FIG. **2.**

The next step in the construction of the dwelling is the installation of the beams which connect the central module A to the upstanding walls B,C, and this step in the method according to the invention is illustrated in FIG. **3.** In this step beams **40,42** are placed in position at one end of the module and walls and extend, respectively, from the upper end of each wall to the adjacent end of the module, while at the other end of the module end wall beams **44,46** are placed in positions corresponding to beams **40,42.** It will be seen that the beams **40,42,44** and **46,** as shown in FIG. **3,** are placed in end-to-end relation with the beams **48** and **50** which form the upper edge of the central module at each end thereof. When this step of the method according to the invention has been completed, the central module and the end walls are connected in permanent rigid relation forming the frame of the dwelling and are ready for enclosure.

The enclosing steps of the invention are shown in FIGS. **4** and **5.** FIG. **4** shows the installation of the roof panels **60** which extend preferably from end walls B and C to the roof of the central module and are supported on the upper edges of the end walls and the upper side beams **6** of the central module and may be connected to these parts by nailing or in any other suitable manner. In the preferred form of the invention, which is shown in the drawings, the central module as fabricated at the factory is provided at the factory with the roof panels **18** and therefore in the roofing stage of the method which is shown in FIG. **4** the completion of the roof is made by adding the roof panels **60** to the space between the end walls B and C and the central

module so that the complete roof is made up of panels covering the central module and other panels covering, respectively, the spaces between each end wall and the central module. However, other roofing arrangements and procedures may be followed.

It will be understood that the central module, as made at the factory, will have a floor, and the next step in the practice of the method is to install floor panels in the rooms or spaces between the walls B and C and the central module, and this step in the method according to the invention is illustrated in FIG. **4.**

The next step in the practice of the method is illustrated in FIG. **5** and consists in the installation of end wall panels **70** to enclose the open ends of the rooms or spaces between the walls B,C and the central module.

When all of the described steps for the carrying out of the invention have been completed there will have been provided a complete, enclosed building having a central section in which all of the necessary facilities of the dwelling are located, and other rooms which may be of any number, arrangement, size and shape. A typical arrangement of the spaces between the central module and the walls B,C is illustrated in FIG. **7,** and it will be seen that one of these spaces **80** is not subdivided and is used as a large room, while the other space **82** is subdivided by interior partitions into three rooms **84,86,88** which may be used for any desired purpose.

I claim:

1. The method of constructing a dwelling which consists in the steps of:

a. prefabricating off-site a central modular part of the dwelling in the form of a rectangular parallelopiped having a floor, end walls and open sides, and containing functional rooms such as a kitchen, closets, a bathroom, utilities for the completed dwelling such as plumbing, electrical, heating and air conditioning units, and outlets for the utilities,

b. fabricating off-site the side walls, roof, flooring, columns and beams which are required in combination with the modular part to form a complete dwelling,

c. constructing at the site a foundation larger in horizontal area than the central modular part,

d. placing the central modular part on a part of the foundation,

e. erecting on other parts of the foundation in horizontally spaced relation to the central modular part the side walls which have been fabricated off-site,

f. connecting the side walls and the central modular part with beams,

g. erecting a roof supported by the side walls, central modular part and beams,

h. installing a floor in the spaces between the side walls and the central modular part, and

i. enclosing with walls the open spaces between the central modular part, the roof and the side walls.

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