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(56) Documents Cited:
GB 1014721 A WO 2005/038155 A1
NL 006902326 A US 3721056 A
US 3292327 A

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(54) Abstract Title: **Modular construction system**

(57) The modular construction system comprises a number of similar units 3 and associated support elements 4 which can be secured to provide an assembly of units. The support elements are provided at least at the sides of the units and can be assembled to provide a framework with adjacent spaces in each of which a unit can be installed. The units are preferably identical with a rectangular parallelepiped construction and each unit may comprise provide a residential area 5 or a space for a vehicle 8. A garden space may be provided on the roof of units and the residential parts may comprise a balcony. A residential unit is preferably provided as a first floor with a space for a vehicle comprising the ground floor. The support elements are preferably beams or girders which may have a length greater than the height of the units so as to act as anchoring in a sea, lake or riverbed.

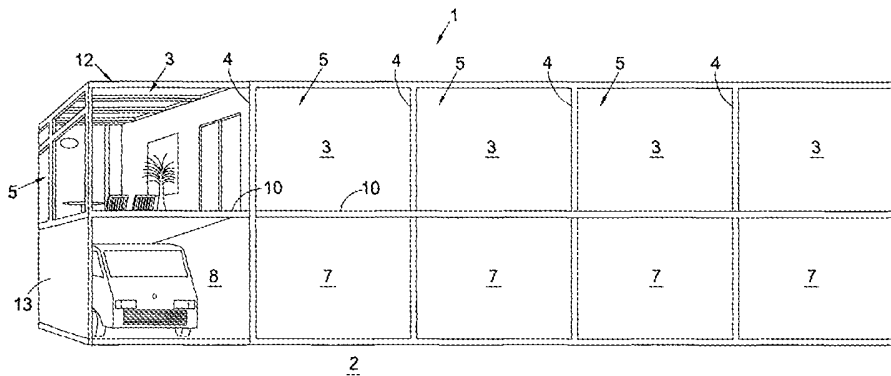


Fig. 1

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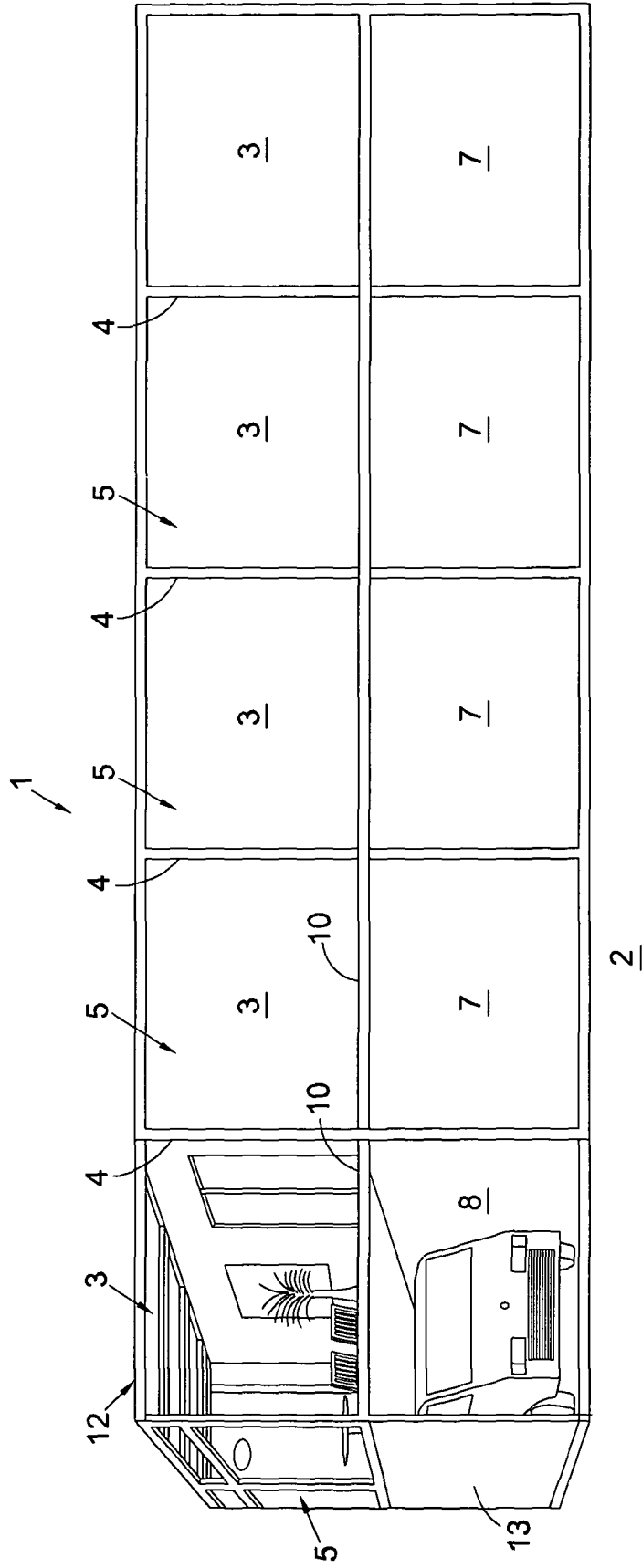


Fig. 1

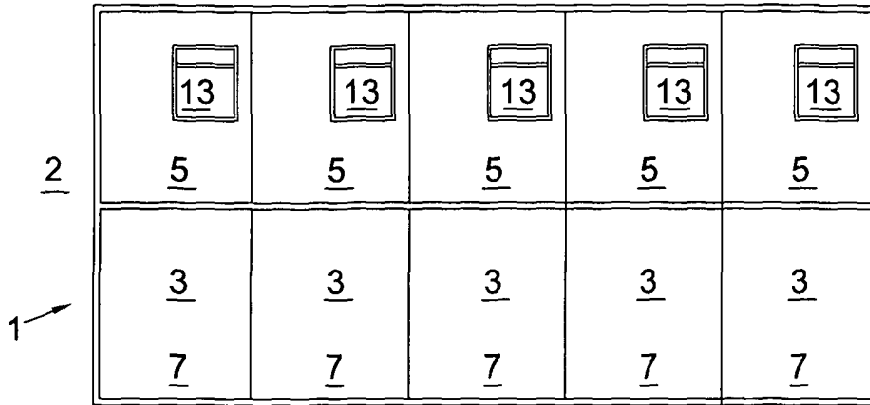


Fig. 2

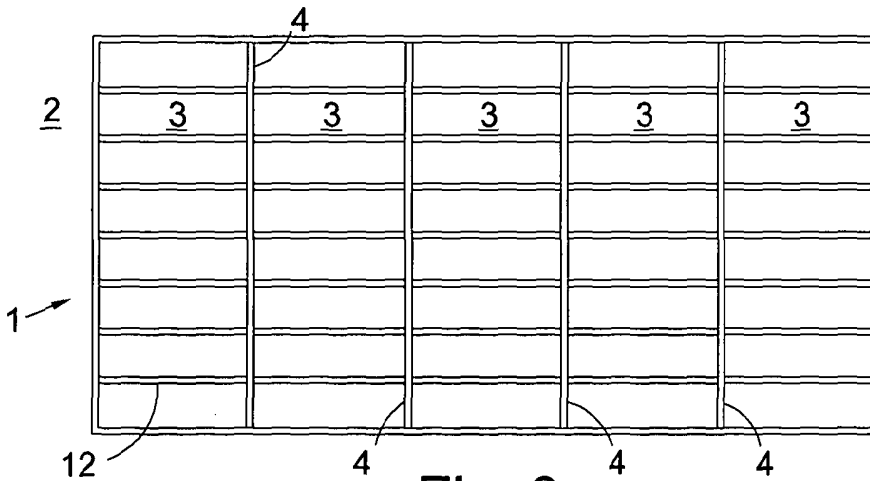


Fig. 3

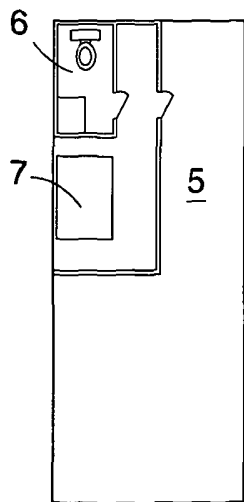
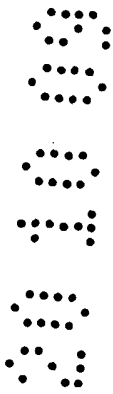


Fig. 4

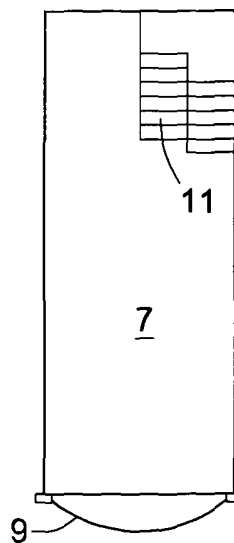


Fig. 5

A SET OF PARTS

The invention relates to a set of parts, particularly to such a set for providing a building construction, and a construction assembled from the set.

Provision of housing in all parts of the world is becoming of increasing importance as global population increases and available land becomes used up. Moreover, housing is expensive, particularly in those countries where purchasing of houses is popular. Indeed in some countries such as the United Kingdom, Government policy is such that any new housing development has to include multi-occupancy buildings such as apartment blocks.

The provision of inexpensive housing in a rapid build is thus a current requirement.

According to a first aspect of the invention there is provided a set of parts for providing a building construction, comprising a plurality of similar units and support elements therefor, the arrangement being such that the support elements can be secured to provide an assembly of the units.

The support elements may be at least at the sides of each unit, whereby they can be secured together to provide the construction.

The support elements may be separate from the units and assemblable to provide a framework having a plurality of adjacent spaces in each of which a unit can be installed. This provides an efficient and relatively simple construction method.

Each unit may comprise a residential part, and/or each unit may comprise a space for a vehicle.

Each unit may comprise a rectangular parallelepiped construction. This provides for repeatability of manufacture and assembly particularly when each unit may be of identical size.

Each unit may also comprise a roof adapted to provide a garden space.

The residential part may further comprise a living area, kitchen, and shower and/or bathroom facility.

The residential part may comprise a first floor part and the space for a vehicle comprising a ground floor part. This provides for a compact structure and, again a unit which is repeatable in manufacture and construction.

There may be an internal access between the first floor and ground floor. This again provides a compact, integral unit, particularly when there may be an internal stairway comprising said internal access.

The support elements may comprise a plurality of beams, girders or the like.

The beams, girders or the like at the sides of units may have a greater length than the height of the units whereby to provide for anchoring in a sea, estuary, lake or river bed. This can provide desired accommodation in otherwise inaccessible areas.

There may be more or fewer units which may be assembled together to provide a modular building construction. This allows for the provision of as many residential units as desired in a given location.

Each unit may have internal and/or sound insulation.

According to a second aspect of the invention there is provided a building construction, wherever assembled from a set of parts as hereinbefore defined.

The building construction may be assembled on a car park space and to that end may have dimensions of 7' x 10' or 7' x 12'. An 8' x 12' unit may also be provided.

The construction may have any desired configuration in plan, e.g. linear, octagonal, rectangular, triangular or the like.

A set of parts and a building construction assembled therefrom is hereinafter described, by way of example, with reference to the accompanying drawings.

Fig. 1 is a front elevation of a building construction assembled from a set of parts according to the invention;

Fig. 2 is a rear elevation of the construction of Fig. 1;

Fig. 3 is a site plan at roof level;

Fig. 4 is a detail of an upper storey; and

Fig. 5 is a detail of a lower storey.

Referring to the drawings there is provided a set of parts 1 for providing a building construction 2, comprising a plurality of similar units 3 and support elements 4 therefor, the arrangement being such that the support elements can be secured to provide an assembly of the units.

Each unit 3 has an upper storey or first floor 5 which provides a living space having a bedroom, kitchen 5, shower and/or bath area 7, and the lower floor or ground floor 7 comprising a garage space 8 having doors 9 of any desirable kind, e.g. up-and-over to provide for as little space requirement as possible. The first and second storeys 5, 7 are

separated by a floor 10, there being access between the storeys 5, 7 by stairs 11 in the lower floor 7.

The roof 12 provides a garden space, either with artificial turf, or with natural turf and/or soil for growing plants and/or produce. At least one wall includes a window 13. Each unit is identical, providing for a modular building construction.

The units 3 are assembled using the support elements 4. These may be external frame parts comprising beams, girders or the like integral with each unit 3. Immediately adjacent units can be assembled by securing as by bolting adjacent support elements of adjacent units together to provide a multi-unit structure.

Alternatively, the support elements 4 may be separate and assemblable to provide a frame into which a unit 3 is inserted and secured in position.

Vertical support elements 4 may have a length greater than the height of a unit 3 so as to be assembled in an environmentally difficult location such as a sea, estuary, lake or river bed, in swampy areas, desert areas, on the moon or the like. Each unit is insulated for heat and/or sound so that each unit is self-contained. Also, each unit can be connected up to utilities' supplies such as water, oil, gas and electricity so that each unit 3 is a self-contained and liveable area. There may also be sustainable energy means such as solar panels or wind turbines on each unit 3.

It will be understood that using the invention described herein with reference to the drawings, as many units 3 as desired are securable together to provide a building construction of any size which may have more or fewer than the units shown in Fig. 1.

Also, the units may be assembled in any desired array in plan, such as linear as shown, orthogonal, rectangular, triangular, substantially circular or any desired practical arrangement.

The kitchen and/or shower or bathroom may be included in the unit 3 or building, or may be retrofitted.

CLAIMS

1. A set of parts for providing a building construction, comprising a plurality of similar units and support elements therefor, the arrangement being such that the support elements can be secured to provide an assembly of units.
2. A set according to Claim 1, the support elements being at least at the sides of each unit, whereby they can be secured together to provide the construction.
3. A set according to Claim 1, the support elements being separate from the units and assemblable to provide a framework having a plurality of adjacent spaces in each of which a unit can be installed.
4. A set according to any preceding claim, each unit comprising a residential part.
5. A set according to Claim 7, each unit comprising a space for a vehicle.
6. A set according to any preceding claim, each unit comprising a rectangular parallelepiped construction.
7. A set according to Claim 6, each unit being of identical size.
8. A set according to any preceding claim, each unit comprising a roof adapted to provide a garden space.
9. A set according to any of Claims 4 to 8, the residential part comprising a balcony.
10. A set according to Claim 9, the residential part comprising a living area, kitchen and shower or bathroom facility.

11. A set according to any of Claims 5 to 10, the residential part comprising a first floor part and the space for a vehicle comprising a ground floor part.
12. A set according to Claim 11, there being an internal access between the first floor and ground floor.
13. A set according to Claim 12, there being an internal stairway comprising said internal access.
14. A set according to any preceding claim, the support elements comprising a plurality of beams, girders or the like.
15. A set according to Claim 14, the beams, girders or the like at the sides of units having a greater length than the height of the units whereby to provide for anchoring in a sea, estuary, lake or river bed.
16. A set according to any preceding claim, more or fewer units being assembled together to provide a modular building construction.
17. A set according to any preceding claim, each unit having thermal and/or sound insulation.
18. A set of parts for providing a building construction, substantially as hereinbefore described with reference to the accompanying drawings.
19. A building construction, wherever assembled from a set of parts according to any preceding claim.
20. A building construction according to Claim 19, assembled on a car park space.
21. A building construction according to Claim 19 or Claim 20, having any desired configuration in plan.

22. A building construction substantially as hereinbefore described with reference to the accompanying drawings.

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Examiner: Mr Charles Jarman

Claims searched: 1-22

Date of search: 14 November 2008

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-21	WO2005/038155 A1 (VERBUS LIMITED) See whole document.
X	1-21	GB1014721 A (C. VAN DER LELY N.V.) See whole document.
X	1-21	US3721056 A (TOAN) See whole document.
X	1-21	US3292327 A (C. VAN DER LELY) See whole document.
X	1-21	NL6902326 A (ARNOLD ET AL) See whole document.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X:

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Worldwide search of patent documents classified in the following areas of the IPC

E04B; E04H

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC

International Classification:

Subclass	Subgroup	Valid From
E04H	0001/04	01/01/2006

Subclass	Subgroup	Valid From
E04B	0001/348	01/01/2006
E04H	0001/00	01/01/2006