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(54) Floating residential structure

(57) A block of residential buildings floating on water in the sea; in order for the residential buildings to be stable in water and remain in a vertical position, the buildings (6,7...11) are interlinked with rigid connections (16) to form a block of buildings (Figure 3); the centers of gravity of the buildings in a block (full stops-C6,C7... C11) are placed along the perimeter line of the same circumference; these centers of gravity are evenly spread along the line of the above mentioned circumference. The distance between the rows of residential buildings in a block (L1) equals to the average distance between the crests of high waves (14) which occur when a strong wind is blowing, multiplied by the coefficient *c* =1, *c*=2... Thus the length of service of the rigid connections between the buildings is prolonged. In the sea the block of residential buildings is orientated in such a way that the rows of buildings (B1) are perpendicular to the direction of the prevalent strong wind. Submerged parts of buildings in a block to 44.7% of the total height of the buildungs. 1. The novelty of our application is in the provision of the stability of the block of buildings floating on water:

❖ Through the allocation of the buildings-6, 7, 8... 11 (draught 2, FIG 3,4), and of the rows of buildings-1.2.3 of the block around the common center of grafity symmetrically taking into consideration the distance between the high waves (in the storm), and

❖ Through the definite orientation of the direction of the rows of buildings of the block-B1 (rows 1,2,3), regarding the direction of high waves and winds-A1.

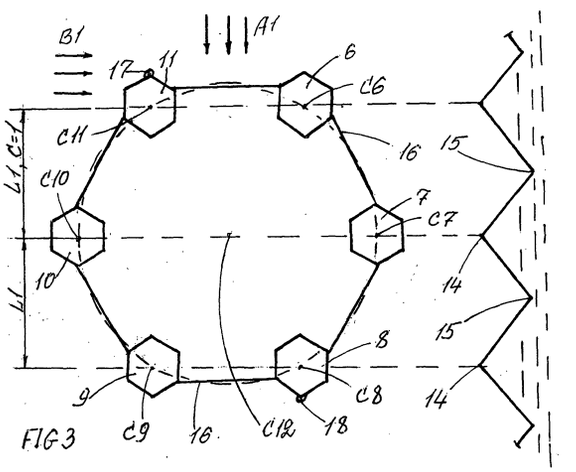

FIG 3

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(Cont. next page)

FIG4

table No 02

Block of Buildings	
No ROW of Buildings	No No of Buildings in row
I	6, 11
II	7, 10
III	8, 9

20.08.2002 Patent Application
Auto CAD: SHIMON STRIZHAKOV
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Description

[0001] The main idea of the invention is to build in sea , to make dwelling - house floating on water.

I Part.

[0002] The calculations have shown that the eight - storied building is sank into the water at the range of 44.7% from its height.

[0003] These calculations were made with reinforced concrete building which has the thickness of walls, bottom and a roof of 30 centimetre (cm.) ; the height of ceilings (from the floor) is 210 cm. The building in shape of 6 -sides straight prism, - has 60 metres in perimeter. There are a lift and stairs in the centre of the building.

[0004] Investigations of models showed that the building of such type, - individual building is not stable in water and does not keep vertical position and bends to the surface of the water.

[0005] Model becomes stable in water and keeps vertical position if we make the bottom heavy in order to give a model to sink into the water up to 90 % of the whole height, but this is not advisable for many reasons.

[0006] Models of buildings with rigid connections in the block were tested. the tests showed that these blocks of models are steady in water when submerged in different depths. (16 ,Fig1, Fig2).

[0007] The most suitable shape of the buildings in water is 6 or 8 - sides prism but not quadrangular as usual. So, the first kind has a high strength and durability.

[0008] The buildings on the ground can be destroyed by the earthquake and flood, but as to the buildings in water can't be destroyed.

[0009] The buildings in sea makes ecology of the earth better.

II Part.

[0010] The buildings of freely swimming construction is still unknown for me and I hadn't found an analogue among the american patents:

[0011] There are american patents:

1. 4,966,495
SEMISUBMERSIBLE VESSEL WITH CAPTURED CONSTANT TENSION BUOY
Filed Jul 19, 1988, Ser 221422
Int Cl. 5 B63B 35/44
U.S.C1 405-224 23 claims
A platform, the base of which is floating caisson with a boring hole in the centre.

2. The second is the addition to patent No 4,966, 495;
10 / 1990, Ser No 405224
(patent No 5379559, 10 , 1995, us 005379559A)
Abstract
" A large semisubmersible building is made up of a submerged section"..
It is the store house for different materials.
It is kept stable in water by the system of ropes and anchors

3. No 3,738,113
"OFFSHORE OIL STORAGE STRUCTURE WITH SUBMERGENCE SHELL"
14,10,1971 Ser No 189,227
Int Cl E02B, 17/00, B65d, 89/10
U.S. Cl. 61-46,5 14 Claims
The third is a platform of a tower standing in the bottom of a sea with the top above the water.
Similar towers now are used for restaurants, aquariums and etc.
There are another patents analogues to the patent No 4,966,495 ;6, 19, 1988 but they are only platforms in sea:

4. No 4,241,685
U.S. Cl 114-264, 8 claims
Filed Nov. 6, 1978, Ser No 957,886:
Int Cl 3 B63B 35/44; B63G 35/00
SELF - STABILIZING FLOATING TOWER

5. No 4,181,453 U.S. Cl 405 - 203 10 claims
Filed Aug. 16, 1978, Ser No 934-282
Int. Cl 2 E02B 17/00 B63B,35/44
APPARATUS FOR POSITIONING AN OFF-SHORE WEIGHT STRUCTURE ON A PREVIOUSLY POSITIONED SEA BED UNIT

6. N 4,114,392
24,06,1977, Ser No 809897
Int Cl E02B, 17/00; U S Cl. 405-207
U.S.Cl. 405-207, 4 Claims
PLATFORM STRUCTURE FOR MARITIME INSTALLATIONS

7. N 2,972,973
05,06,1958, Ser No 733284
8 Claims / Cl. 114-43,5/
OFFSHORE PLATFORM

III Part.

The description of invention

[0012] Invention, that differs from those that were described before and other patents, as:

A. for the building and all the block of buildings to be steady in water, - the buildings are connected with rigid connections in the block (9, Fig 1, Fig 2) in such a way that, -

- the centre of symmetry and the centre of gravity

of every building of the block (these are points C1,C2....C11) are situated on the circumference of the same circle;

= second version transfer:

- the way is that the centre of the symmetry and the centre of gravity of each building are on the line of one circle (they are points: C1,C2.....C11, Fig1, Fig 3; draught 1/1,2/1);
- these centres of symmetry and the centres of gravity of the buildings (points C1,C2... C11) are evenly distributed on circle described above.

= second version transfer:

- all these points the centres of symmetry are evenly distributed on the circle.

Explanation: / Consequently, the centre of gravity of all buildings of the block is in the centre of the circle, in the points C5 of the block, Fig 1 and -C12- of the block, Fig 3.
Hexahedrons on the drafts are the cross - sections of the buildings 1,2.....11. The buildings have the shape of hexahedral prisms./
B. The distance between the rows of buildings in the block - L1 (Fig 1, Fig 3) is equivalent to the average distance between the crests of high waves, multiplied by the factor C = 1 or C = =2.../ in the Figures C = 1/
Explanation:
/ During the strong winds which usually blow in one direction for a long time (during a year)./
C. The block of buildings is oriented in the sea in such a way that the direction of the row buildings should be perpendicular to the direction of the strong winds mainly blowing here, that means they should be parallel to the crests of high waves.
Explanation
/ Figures - the rows of buildings in block , I,II,III - in the table No 01, 02;
the direction of the / rows of buildings in the block is marked by horizontal arrows - B1;
the main direction of strong winds is marked by vertical arrows A1/
/ the buildings simultaneously on the, points - 14, Fig 2, Fig 4, crest of wave or among (between) waves in cavity, points - 15, these spots B and C provide this effect.
It will diminish horizontal amplitude of swing and improve comfort of buildings.

Claims

1. A block of residential buildings floating on water in the sea; the residential buildings are each interlinked only to the two nearest buildings around the periphery of the block by rigid connections to form a block; the rigid connection interlink both the lower and upper of the residential buildings: the residential buildings are connected as straight hexahedron prisms; center of gravity of each residential building is situated on its axis of symmetry.

2. A block of residential buildings floating on water in the sea, as claimed in claim ; the center of symmetry of each residential buildings is placed on the perimeter line of the same circumference; the centers of gravity of the residential buildings are placed at even intervals along the perimeter length of the above mentioned circumference.

3. A block of residential building floating on water in the sea, as claimed in claim 2; the distance between the rows of the residential buildings in a block equals to the average distance between the crests of the high waves multiplied by the coefficient C=1, C=2 ...,

4. A block of residential buildings floating on water in the sea, as claimed in claim 3; in the sea the block of residential buildings is oriented in such a way that the rows of buildings are perpendicular to the direction of the prevalent strong wind.

5. A block of residential buildings on water in the sea, as claimed in claim 4; consequently, provision of the stability of building floating on the water realize:

   - through the allocation of the building and of the rows of buildings of the block around the common center of gravity symmetrically and taking into consideration the distance between the high waves (in the storm):

   - through the definite orientation of the rows of buildings of the block, regarding the direction of high waves and winds.

6. A block of residential buildings floating on water in the sea, substantially as described herein with reference to the accompanying drawings.

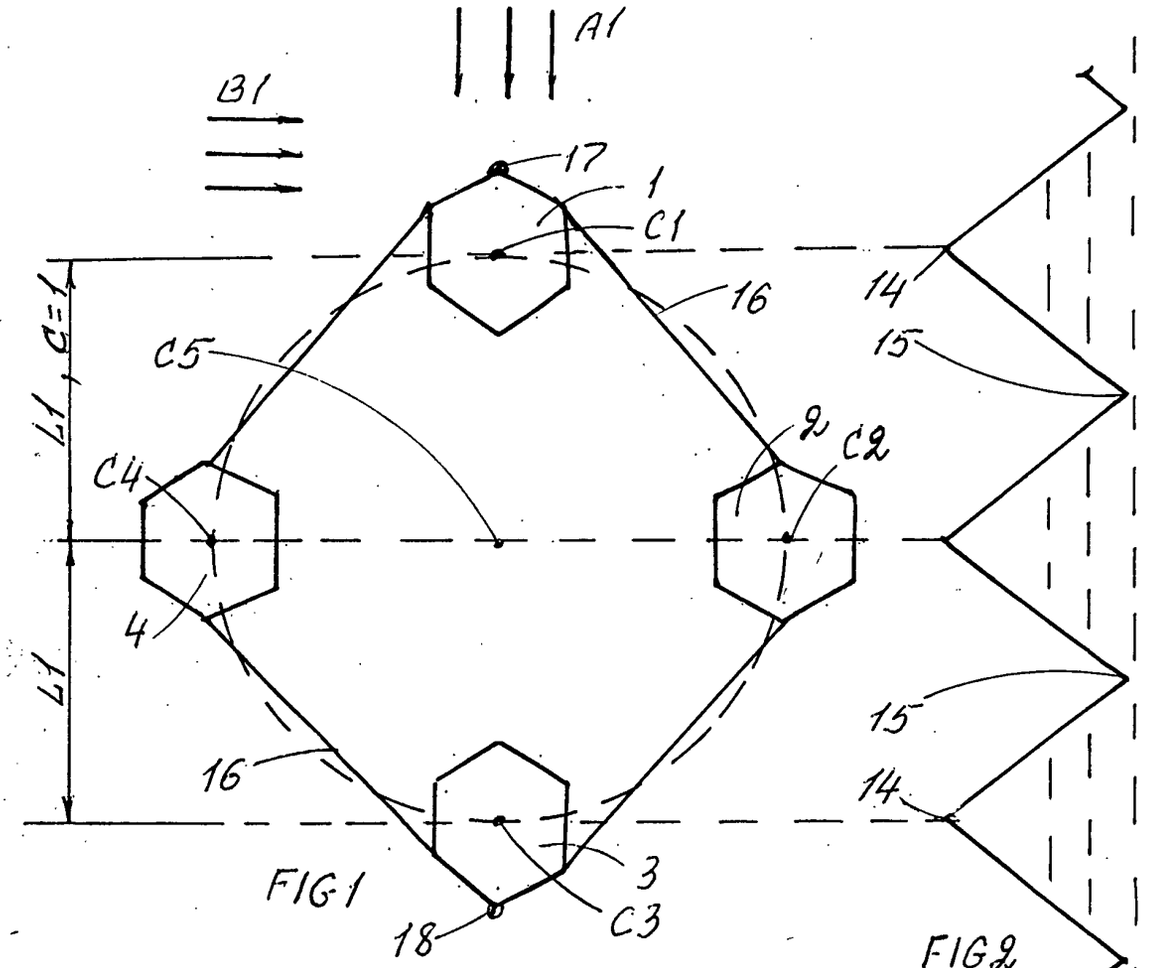

FIG 1

FIG 2

table No 01

Block of Building	
No ROW of Building	No No of Buildings in row
I	1
II	2, 4
III	3

20.08.2002. Application [illegible]
Autors: Shimon Strizhakov
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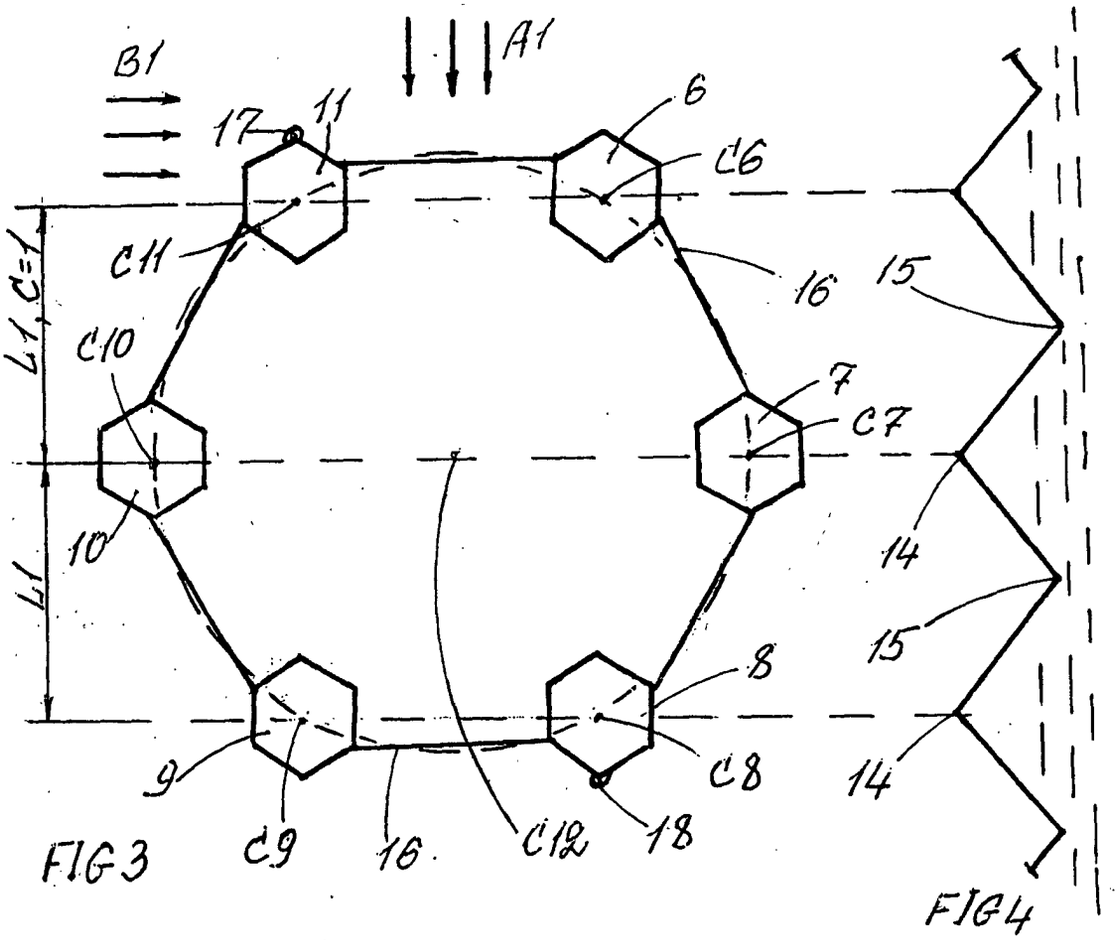

FIG3

FIG4

table No 02

Block of Buildings	
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20.08.2002 Patent Application

Autors: SHIMON STRIZHAKOV C5
FRED STRIZHAKOV 6

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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 9945

DOCUMENTS CONSIDERED TO BE RELEVANT

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A	FR 2 391 108 A (IND DEV PROGRAMME) 15 December 1978 (1978-12-15) * page 2, line 8 - page 3, line 6; figures 1,2 *	1-6	
A	US 5 555 838 A (BERGMAN GUNNAR B) 17 September 1996 (1996-09-17) * column 3, line 61 - column 4, line 46; figures 1,2 *	1	
A	US 2 565 369 A (HAMILTON RONALD M) 21 August 1951 (1951-08-21) * figures 1-4 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	15 September 2003	DE SENA HERNAND.., A

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

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