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(54) **Securing of building elements without using mortar or glue**

(57) The invention relates to a building method. A building is erected by stacking building blocks. The building blocks are connected by means of pins engaging in holes in opposing sides of adjoining blocks. In cross-

section the holes are preferably round. At each connecting side there are preferably four holes. After erecting of the building, the formed wall constructions are stabilized by plastering the wall with stucco, reinforced with glass fibre.

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Description

[0001] The invention concerns an improvement of the so-called "dry building-system", with is a way of creating buildings without applying any mortar or glue.

[0002] Ages ago this was an accepted way of building structures, for example by the Inca's in Central and South America, as well as by the Greek, building the ancient temples.

[0003] The pyramids in Egypt where also build without any mortar between the sandstone blocks.

[0004] The presented invention is a dry building system, with the application of cell-concrete blocks as the basis.

[0005] Until today building with this material was operational in three different way's, to know;

A.: the elements are being put together with a sand-cement mortar,

B.: the elements are being put together with a specially produced glue, or

C.: the elements are brought together in an building structure where the interlocking is being made by synthetic strips, with are to be put in a slot in the buildingblock. This slot is made into the blocks on four sides.

[0006] The way of building, described under A means that the cell-concrete blocks are build together with a mortar in between the blocks. This is also the case by the description under B, although here instead of mortar, a specially made glue is used to create a monolith structure. The glue has the same quality as the blocks.

[0007] Both systems have the problem of the coefficient of expansion, where the expansion of each block is accumulated into a total expansion, with the result that building without a expansion-joint is not possible.

[0008] This problem of the accumulation of the coefficient of expansion is not important any more for the system described under C. This is so because there is no mortar or glue between the blocks with as result that the expansion stay's restricted to each separate bloc.

[0009] The system under C, with under the trademark "TASTA" is being developed end sold, has some disadvantages, with bij the new invention are being eliminated.

[0010] At first is it necessary to cut in the blocks a slot in four sides, with the possibility of cleaving of the structure under extreme high pressures. The building structure is in danger of colliding whenever that happens.

[0011] A second disadvantage is the fact that the connecting strips have to be made specially for the system at considerable cost. The invention concerning this application, with the trade mark "**Cocklock Building Systems Q&Q**", which will be introduced on the building market in the last quarter of 1993, concerns building with cell-concrete, or blocks of another stony material. The blocks will be connected with synthetic specially made

connecting pins (see drawing of Connecting pin nr. C-3) to be placed in the horizontal joint between the blocks.

[0012] In this manner the blocks can be put together in a way of "dry-stacking" and form so a solid wallconstruction, while the stability of the construction is realized by plastering the wall's with stucco, reinforced with glass fibre.

[0013] In each block has to be drilled four holes in the top- and bottomside, while the position of the holes is so chosen that not only the punch-effect is to be eliminated, but also the wallconstruction becomes in longitudinal axis certainly valid. This is the effect of the situation that de pins of one block allways are connected with two other blocks on each side (bottom and top). See the enclosed drawings.

[0014] The position of the pinholes makes it possible to place the blocks in any way to choose in the wall. There is no right or left and no front- or backside. This makes building with this system a very easy exercise.

[0015] The securing-pins are on both sides of a cone-form, what makes the inserting of the pins in de holes an easy task. The cross-shape of the pins is related to the production by jet-moulding of the synthetic mass.

[0016] In case of connecting interior walls under an angle of 90 degrees, the blocks as well as the already erected wall are being drilled-in with connectionholes for the pins to put in. In case of door- and windowopenings as well as free openings ther are brought in lintels of the same cell-concrete as the blocks and on the job there are to be drilled in the pinholes. The door- and windowframes are being mounted in the wall-openings after de stacking of the blocks, but before the applying of the plaster on the wall.

Claims

1. The securing of dry stacking of building-elements by using synthetic pins, together with reinforced plaster, with the characteristic feature that the disadvantages of the acculated coefficient of expansion is being eliminated. Building without expansion-joints is hereby made possible.
2. Securingsystem according to conclusion 1, with the characteristic feature, that using round pinholes make the construction better resistant to extreme tensions or pressures, through with cleaving of the construction is not to be expected.
3. Securingsystem according to conclusion 1, with the characteristic feature, that as much as possible the in the market obtainable materials are used, with the effect that there is a minimum dependence of service industries.
4. Securingsystem according to conclusion 1, with the characteristic feature, that as an effect of the use of

one single type of securingpin in only the horizontal joints between the blocks, a quicker way of erecting the construction is realised.

5. Securingsystem according to conclusion 1, with the characteristic feature, that there is much less building moist left in the construction in relation to the traditional buiding systems. 5
6. Securingsystem according to conclusion 1, with the characteristic feature, that as a direct effect of the dry-stacking of buiding-blocks there is no chance of thermal-bridges; the result is a better thermal insulation. 10
7. Securingsystem according to conclusion 1, with the characteristic feature, that this system is usable for almost any size of building block, only will it be needed to chance the exact position of the pinholes in case of alteration the blocks. 15 20

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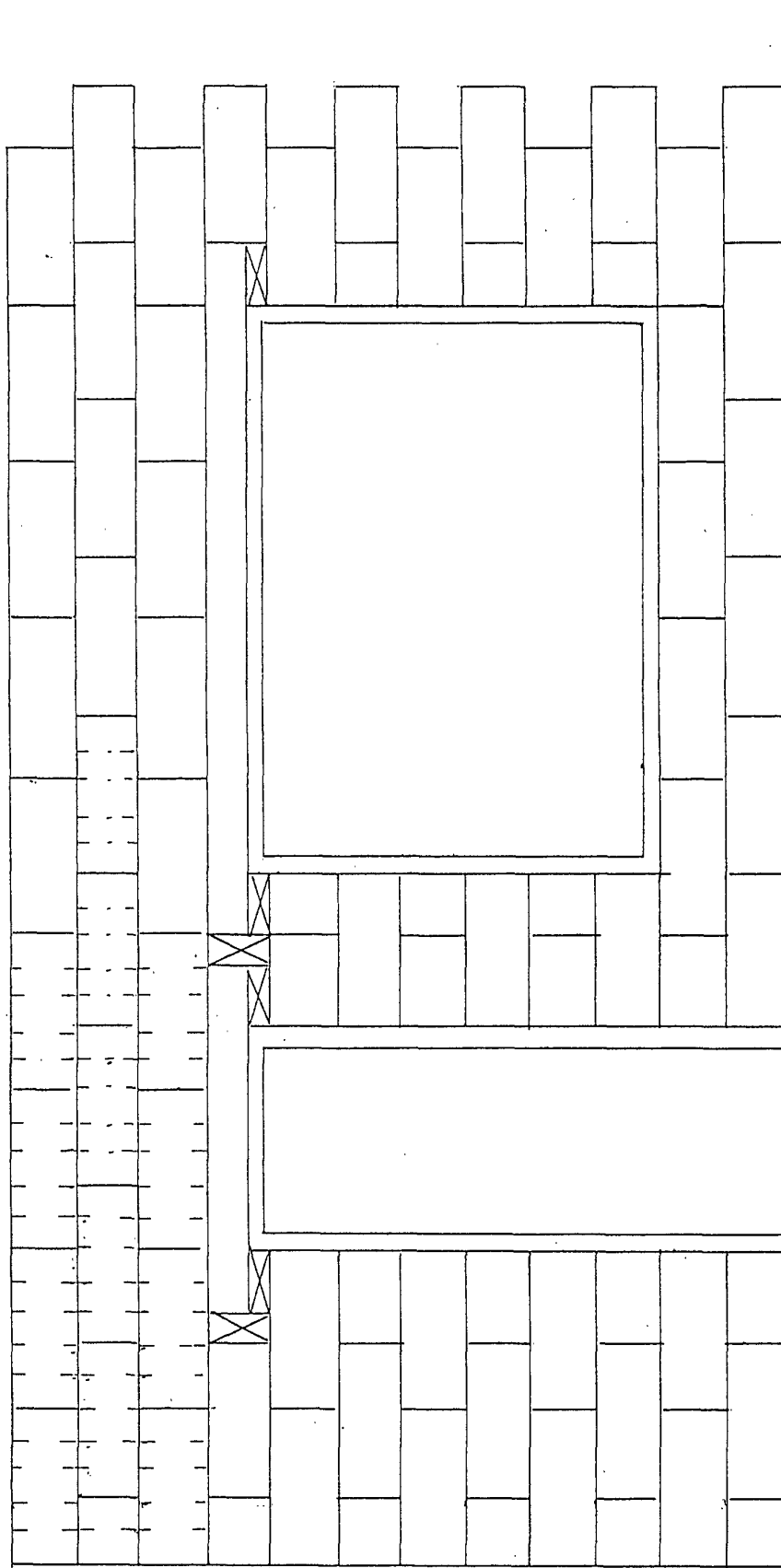
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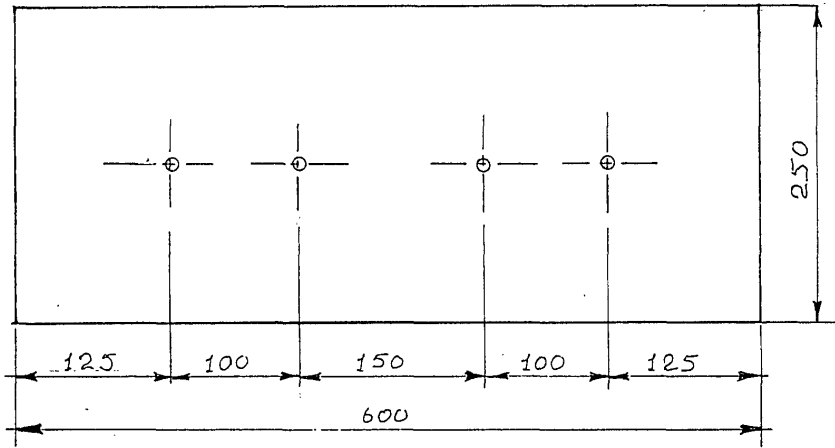
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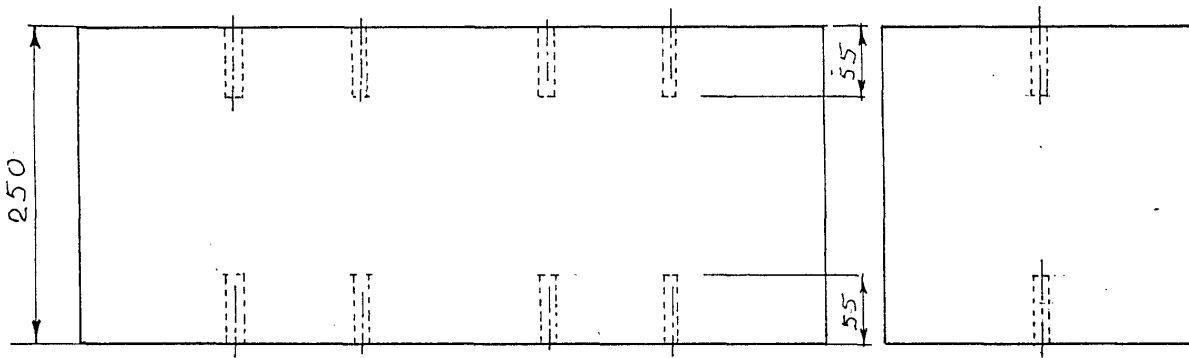


View of wall-system.

"COCKLOCK BUILDING SYSTEM Q&q"

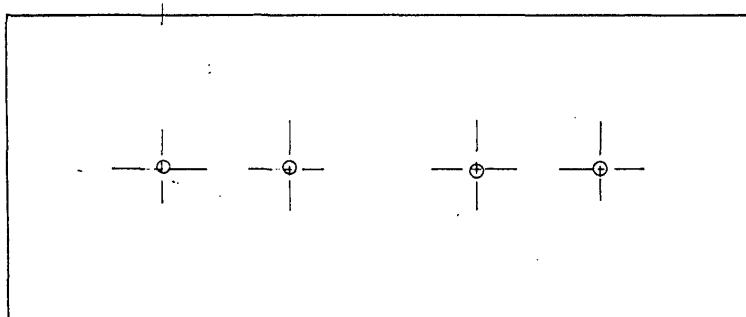


Top-view.



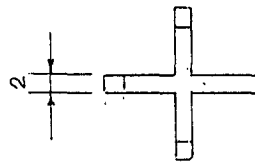
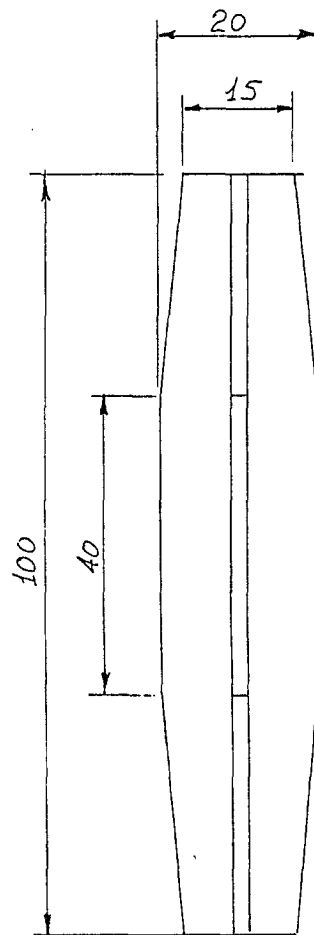
Front-view.

Side-view.



Bottom-view.

"COCKLOCK BUILDING SYSTEMS Q&Q "



Securing-pin type C-3.