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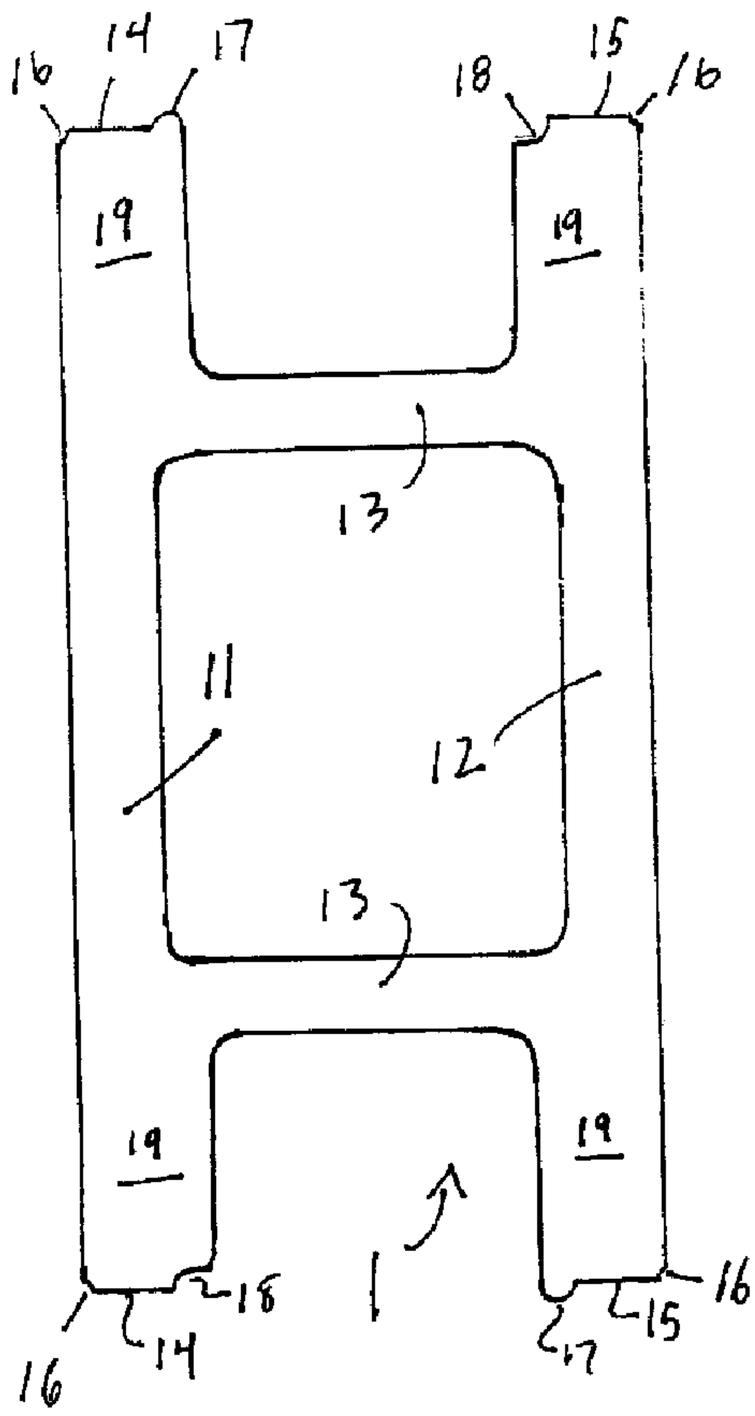
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(54) Titre : BLOC EN BETON
(54) Title: CONCRETE BLOCK



(57) Abrégé/Abstract:
A concrete block for construction, the block having a front wall and a rear wall. The front and rear walls are spaced apart by a pair of transverse webs. Each of the front and rear walls comprises a middle portion and a pair of end portions, wherein the end portions have a uniform thickness that is greater than the thickness of the middle portion.

ABSTRACT

A concrete block for construction, the block having a front wall and a rear wall. The front and rear walls are spaced apart by a pair of transverse webs. Each of the front and rear walls comprises a middle portion and a pair of end portions, wherein the end portions have a uniform thickness that is greater than the thickness of the middle portion.

CONCRETE BLOCK

The present invention relates to the field of concrete building products, and in particular, provides an improved concrete building block that can be used in dry stack, i.e., mortarless building environments.

There are numerous building blocks available on the market, and one of particular relevance to the present invention is described in relation to Figures 44 to 50 of Applicant's pending U.S. Patent Application No. 11/224,170. The block shown in those figures is of a rectangular design, with substantially parallel front and rear walls that are provided with deep grooves or projecting tongues at their ends, so as to permit consecutive blocks in a course of blocks be interlocked, to form a straight and level course of blocks. The front and rear walls are spaced apart by transversely extending webs. The walls increase gradually in thickness from the web to the ends thereof.

The block of the present invention is, essentially, a modified and improved version of the aforesaid block shown in Applicant's pending U.S. application. The specific improvements made in the design of the block of the present invention include thickening the front and rear walls of the block, from the transverse web, and utilizing vertical beads that project outwardly from the ends of the wall panels for block to block alignment, instead of tongue and groove, or overlapping joints for end to end connection.

The upper and lower surfaces of the block of the present invention may be substantially flat or may be profiled, for instance as shown in Figure 2 of USSN 11/224,170.

In a broad aspect, then, the present invention relates to a concrete block for construction, said block having a front wall and a rear wall, said front and rear walls being spaced apart by a pair of transverse webs, each of said front and rear walls comprising a middle portion and a pair of end portions, wherein said end portions have a uniform thickness that is greater than the

thickness of said middle portion.

In drawings that illustrate the present invention by way of example:

Figure 1 is a top view of a stretcher block embodying the present invention;

Figure 2 is a top view of a corner block embodying the present invention;

Figure 3 is a top view of a corner connection using a stretcher and a corner block according to the present invention;

Figure 4 is a top view of a half length block, according to the present invention;

Figure 5 is a side view of a wall construction embodying the present invention.

Referring now to the drawings, the present invention provides a building system that uses three specially designed blocks:

1. a stretcher block 1
2. a corner block 2
3. a half length block 3.

Each stretcher block 1 and corner block 2 is twice as long from end to end as it is wide, from front surface to rear surface. This permits blocks to be placed in staggered courses and to form corners.

Each stretcher block 1 has a front wall 11, a rear wall 12 parallel thereto, and webs 13 transversely extending between the front and rear walls 11, 12. The front and rear walls 11, 12 end in vertically extending front and rear end wall surfaces 14, 15. At each end of the block, end wall surfaces 14, 15 are coplanar with each other.

Each corner of the block, where a front 11 or rear 12 wall ends is beveled with a small angled surface 16, which may be convex, concave or planar. At the inside edge of end wall surfaces, a vertical bead 17 or groove 18 is formed. One bead 17 and one groove 18 is formed at each end of the block, so that each end is provided with a groove 18 and a bead 17. The front 11 and rear

12 walls each have one groove and one bead formed therein (at opposite ends) whereby blocks laid end to end in a course will have the bead of one wall fitting into the groove of the next, with the end walls 14, 15 on adjacent blocks firmly abutting each other.

The ends 19 of the front and rear walls are considerably thicker than the portions of the walls between the webs 13, which adds needed strength to the ends to protect them against cracking during transport. The middle portions of the walls 11, 12 are not as susceptible to breakage, since they form a rigid box channel with the transverse webs 13.

Referring now to Figure 2, the present invention provides a corner block 2 that is provided with front 21, rear 22 walls connected together by first and second transverse webs 231, 232. Inner transverse web 231 may be eliminated entirely, if desired, to improve the water resistance of walls constructed with the blocks of the present invention. That is, eliminating web 231 will permit concrete or grout poured into a wall constructed with the blocks of the present invention more freely, so that a continuous concrete core is formed around the corners of such a wall.

The front and rear walls 21, 22 are also connected together, at one end, by a planar end wall 24. The other ends 29 of the front and rear walls 21, 22 of corner block 2 are thickened similar to the ends of front and rear walls 11, 12 of the stretcher block, and also have coplanar end surfaces 25, 26. The corners 16 of the corner block are beveled in a manner similar to the stretcher block 1. Accordingly, corner 2 and stretcher 1 blocks can be aligned end to end in a straight line. Moreover, the end surfaces 25, 26 of walls 21, 22 of the corner blocks 2 are provided with beads 17 and grooves 18 in a manner similar to stretcher block 1.

The front and rear walls 21, 22 are provided with grooves 28 on their surfaces alignable with beads 17 of a stretcher or corner block. The grooves 28 are also provided on the outer surface of end wall 24. Grooves 28 are positioned on the walls 21, 22 such that a stretcher 1 can be butted against a corner block 2 firmly and snugly, to construct a right angle corner. Grooves 28 are provided on each wall 21, 22 to permit right or left corners being made without special right

and left corner blocks. Grooves 28 are provided on end wall to permit stretcher blocks to be aligned with the closed end wall 24 of a corner block 2. This novel feature permits the easy construction of four way corner, or cross-shaped wall structures using the present invention.

The present invention also provides a half-width block 3, as shown in Figure 4. Use of this block permits walls to be constructed with vertical non-corner edges, such as in connection with doors and windows. Half-width blocks may also be used in the construction of four-way corners.

Half-width blocks are provided with four equal length walls 31, each of which is provided with vertical grooves 32 spaced from the beveled corners 33. Grooves 32 are alignable with the beads 17 on the ends of the stretcher 1 or corner blocks.

It will be observed that because the ends 14, 15 of the front and rear walls of the stretcher 1 are coplanar (as are the ends 25, 26 of the front and rear panels of a corner block 2), then aligning a course of stretchers is simplified, as is making a corner square.

It will also be understood that after a wall or other structure is built using the blocks of the present invention, the wall should the be filled with concrete or grout, so as to create a continuous concrete wall, with no cracks or seams extending therethrough. It if becomes necessary to lay the blocks in such a way that a seam extending through a wall is created, then durable caulk, or mortar should be applied to the entire inner surface of such a crack or seam, to ensure the wall is water resistant to the maximum extent.

WE CLAIM:

1. A concrete block for construction, said block having a front wall and a rear wall, said front and rear walls being spaced apart by a pair of transverse webs, each of said front and rear walls comprising a middle portion and a pair of end portions, wherein said end portions have a uniform thickness that is greater than the thickness of said middle portion.

2. The concrete block as claimed in claim 1, wherein said middle portions have a thickness about the same as said webs, thereby defining, with said webs, a vertically extending box channel.

3. The concrete block as claimed in claim 2, wherein each said end terminates in a flat surface perpendicular to said front and rear walls.

4. The concrete block as claimed in claim 3, wherein said flat surfaces on each respective end of said front and rear walls is coplanar.

5. The concrete block as claimed in claim 4, wherein each said flat surface on each end of a said front and rear wall is provided with a vertically extending, integrally formed bead or groove, each said groove being dimensioned to fit with a said bead.

6. The concrete block as claimed in claim 5, wherein there is a bead and a groove at each end of a said block, and a bead and a groove at each end of a said wall.

7. The concrete block as claimed in claim 5, wherein said block is provided with an end wall at one end thereof.

8. The concrete block as claimed in claim 7, wherein said front and rear walls are provided

on their outer facing surfaces, with grooves alignable with said beads.

9. The concrete block as claimed in claim 8, wherein said end wall is provided on its outer surface with grooves alignable with said beads.

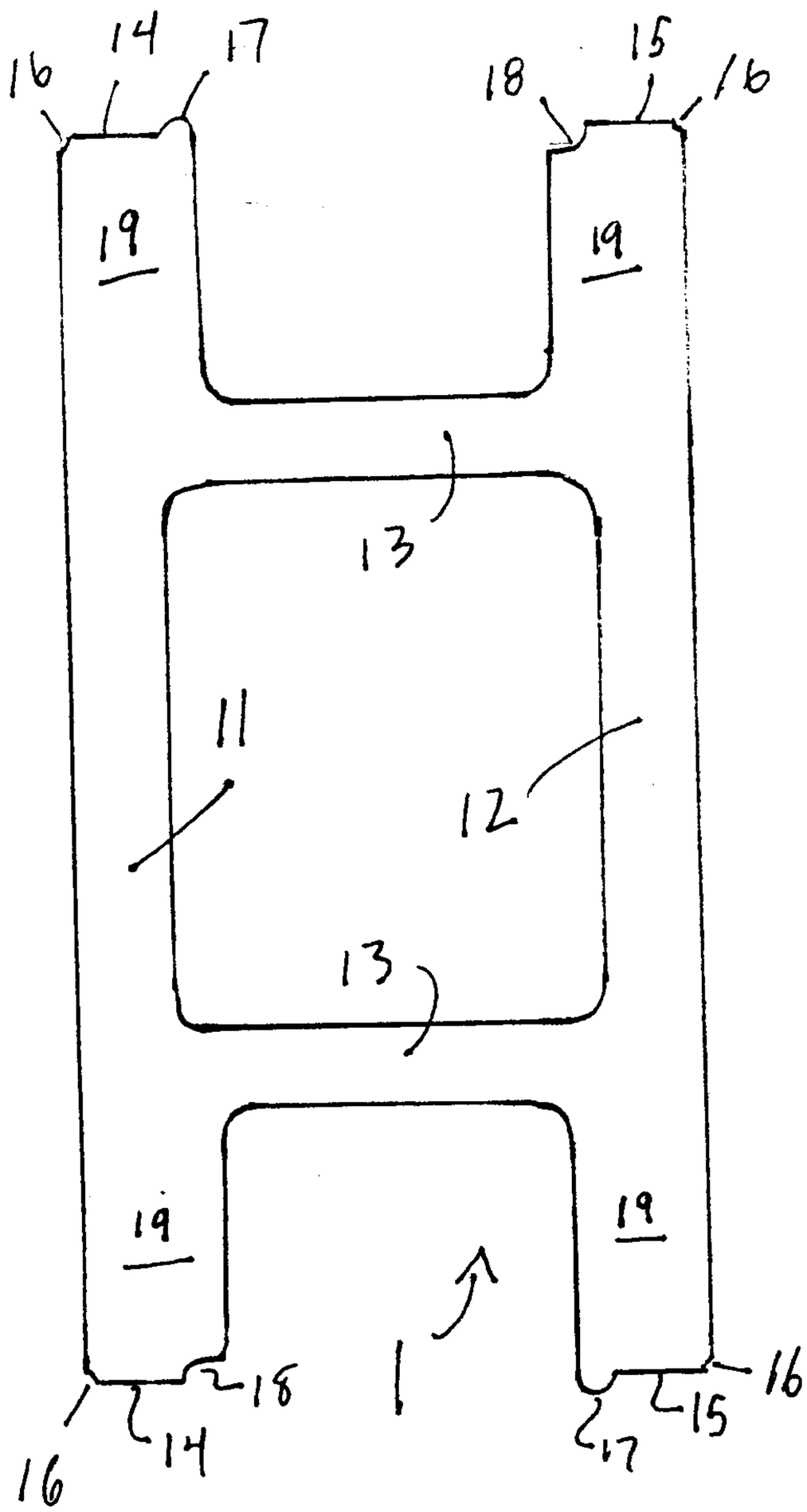


FIGURE 1

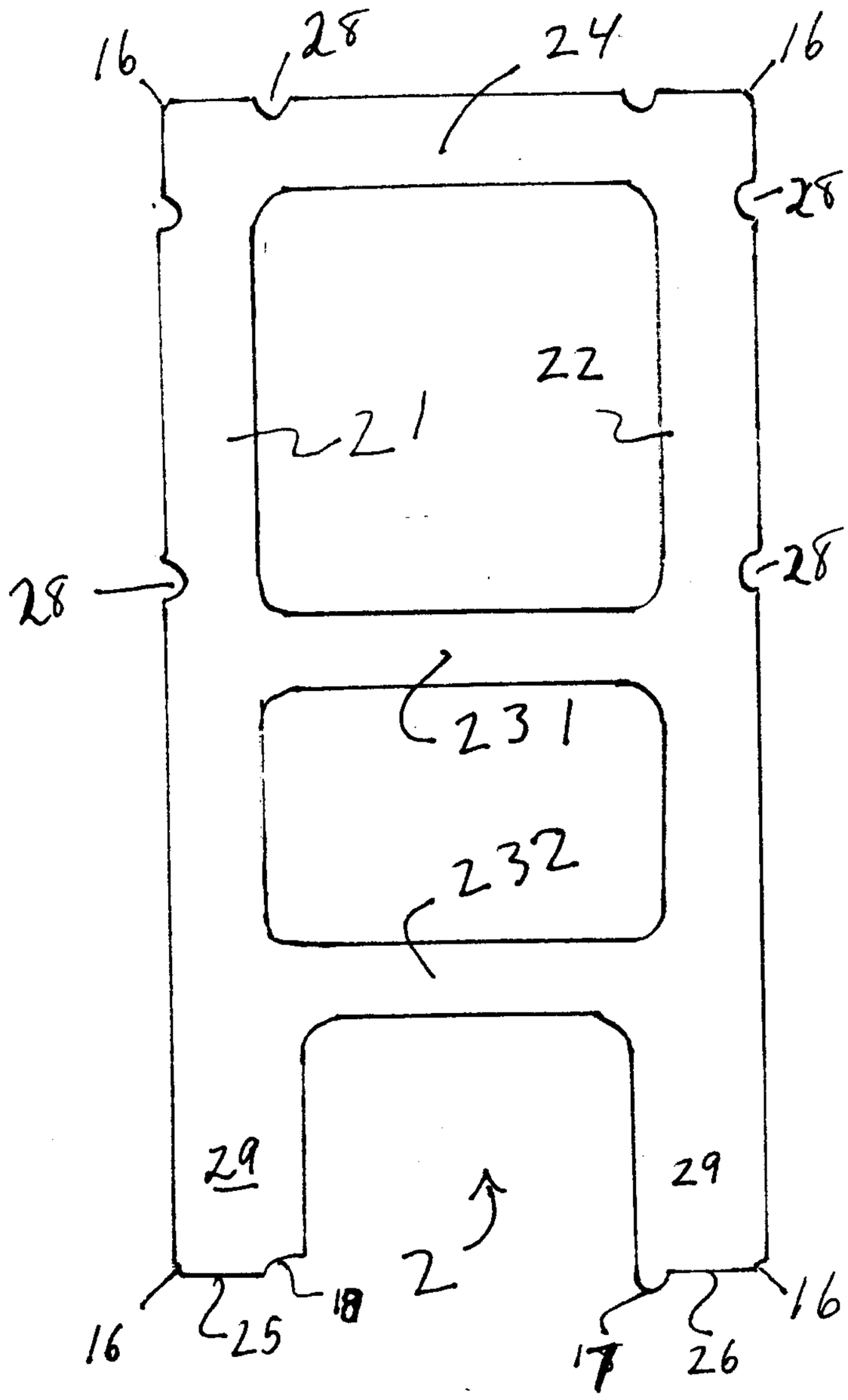


FIGURE 2

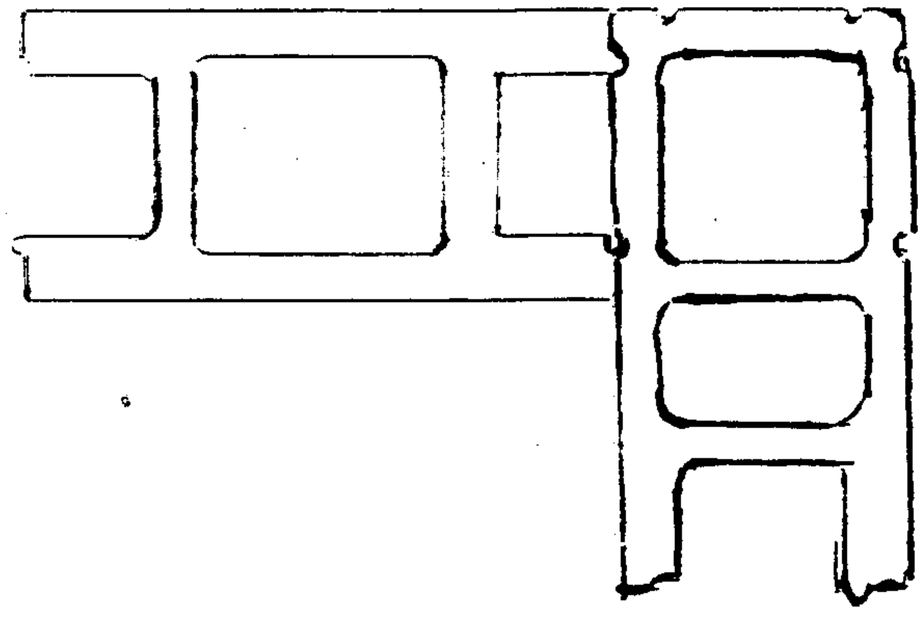


FIGURE 3

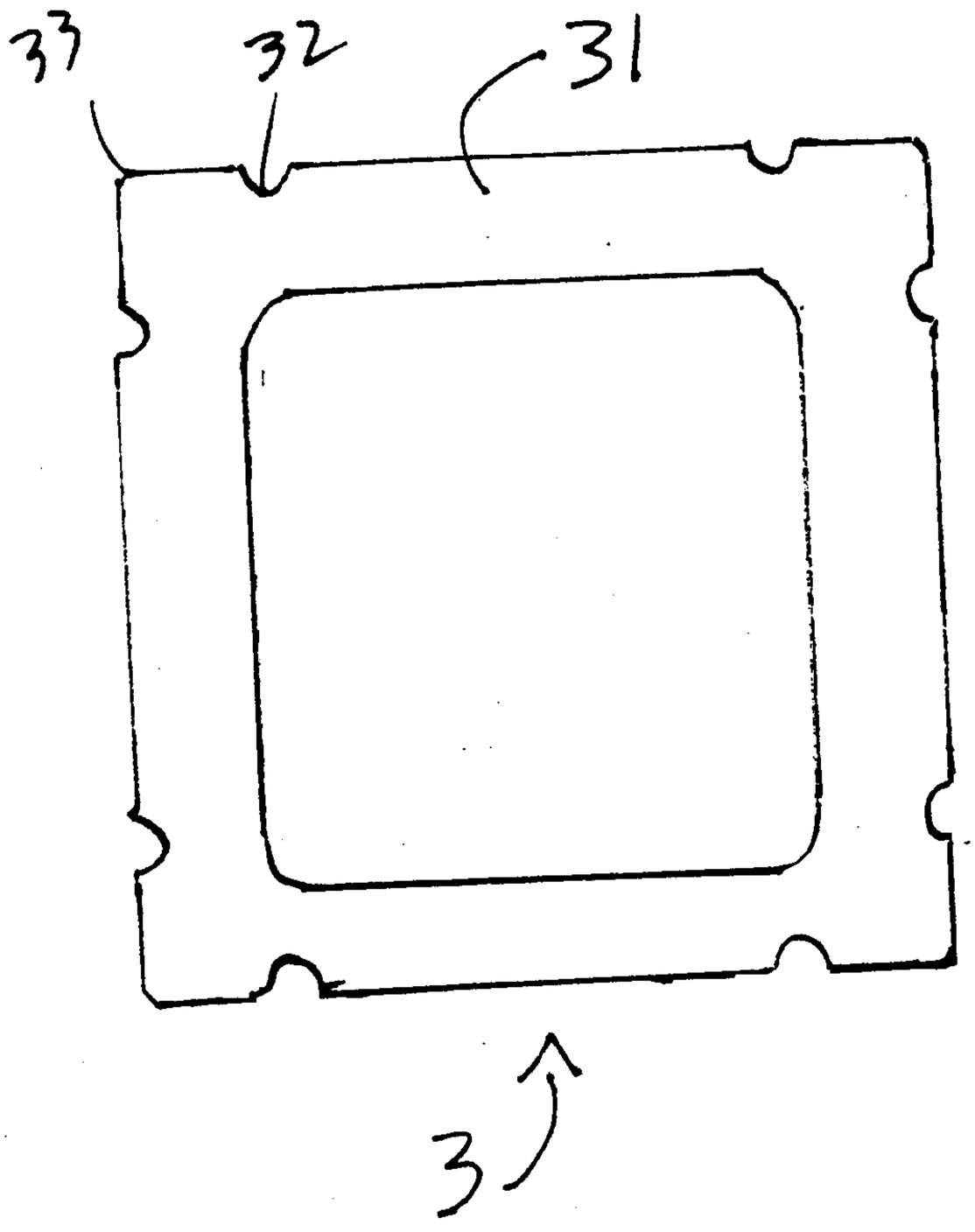


FIGURE 4

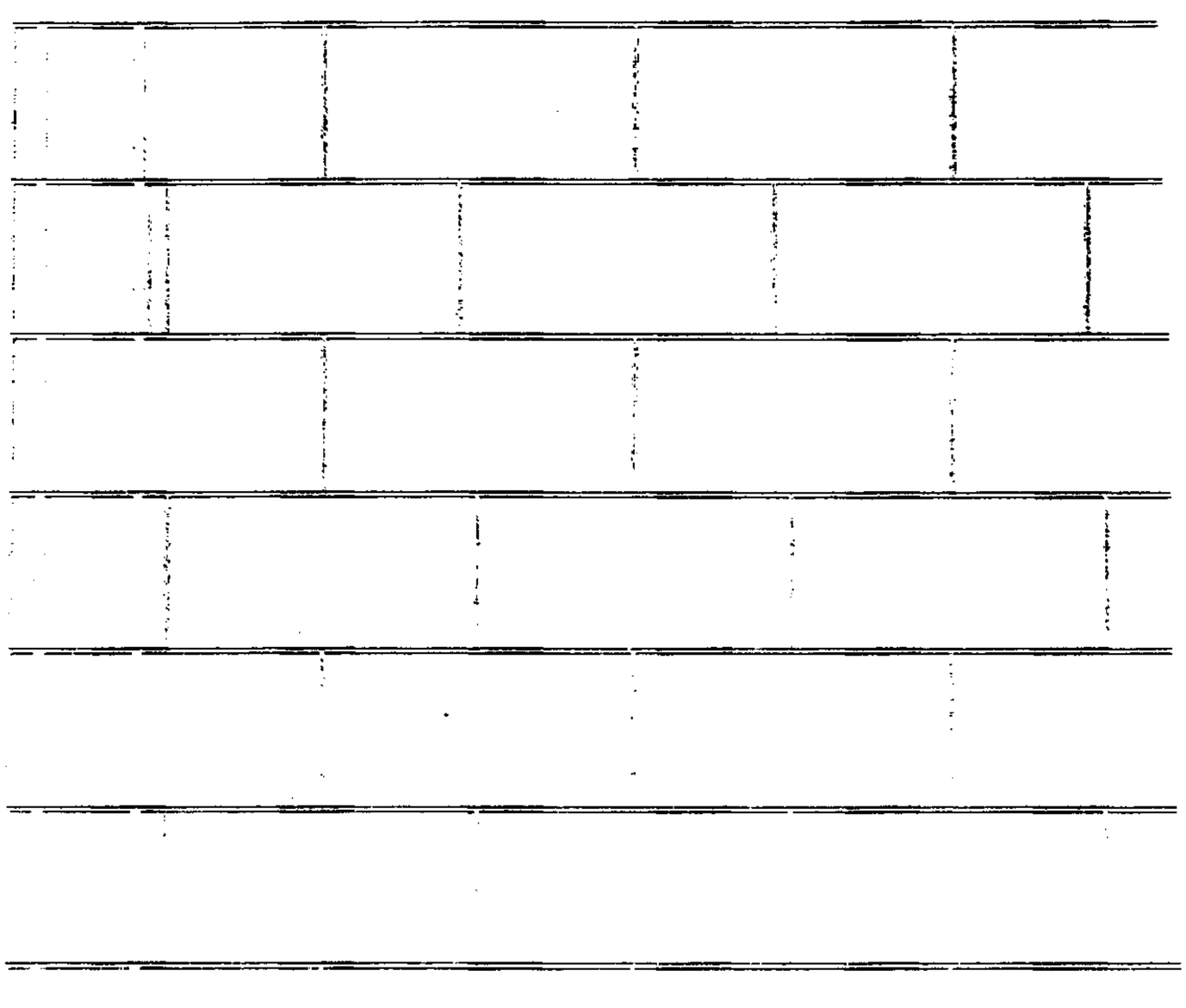
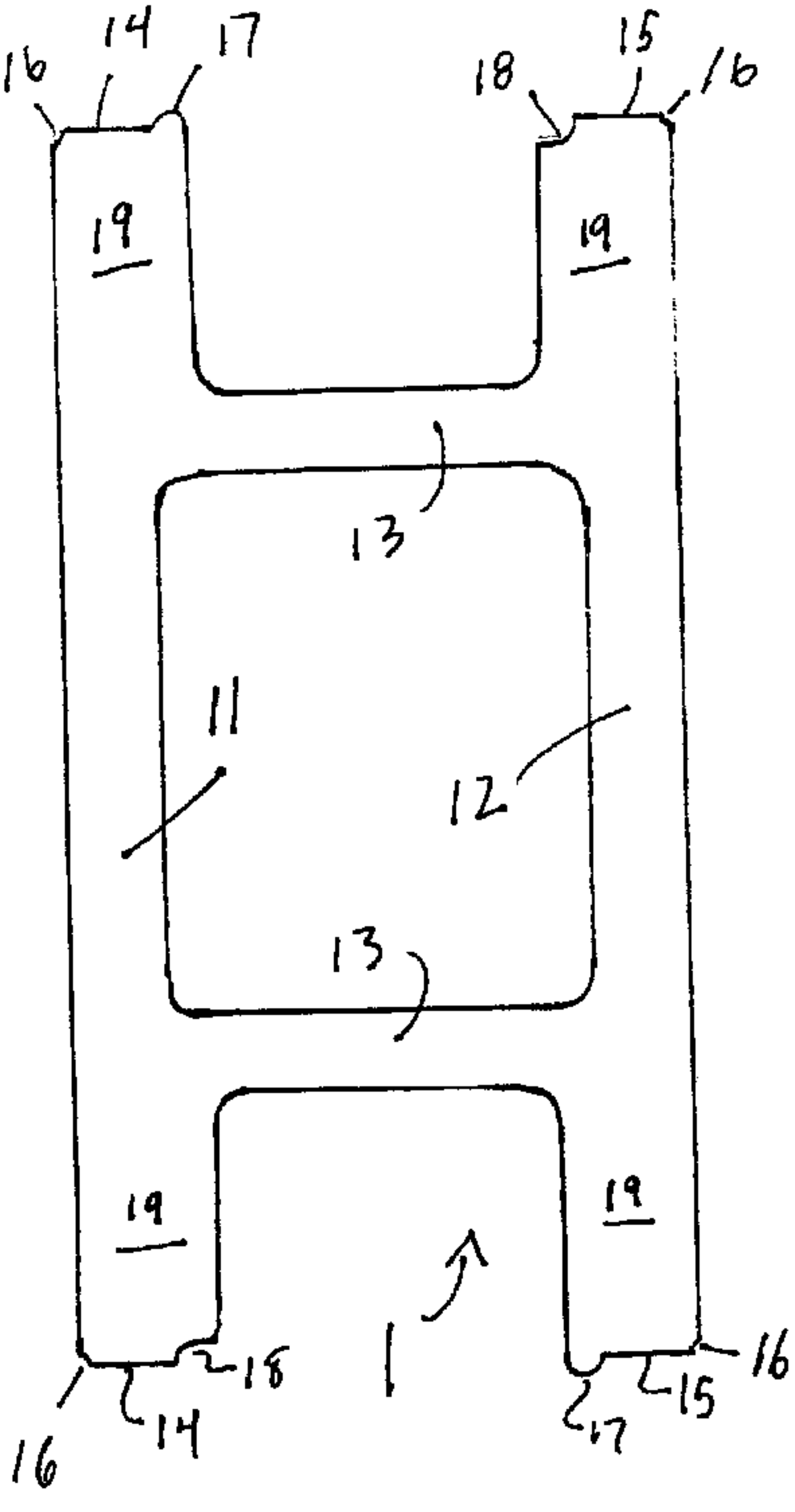


FIGURE 5


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