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Improved carrier for plants

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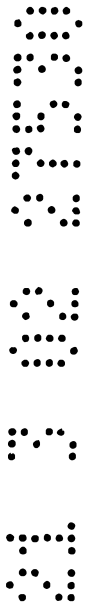
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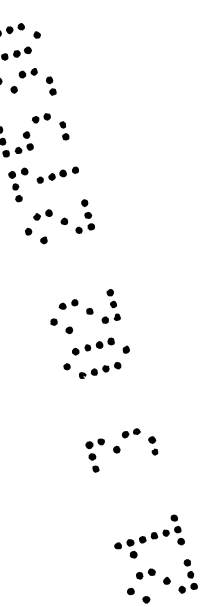
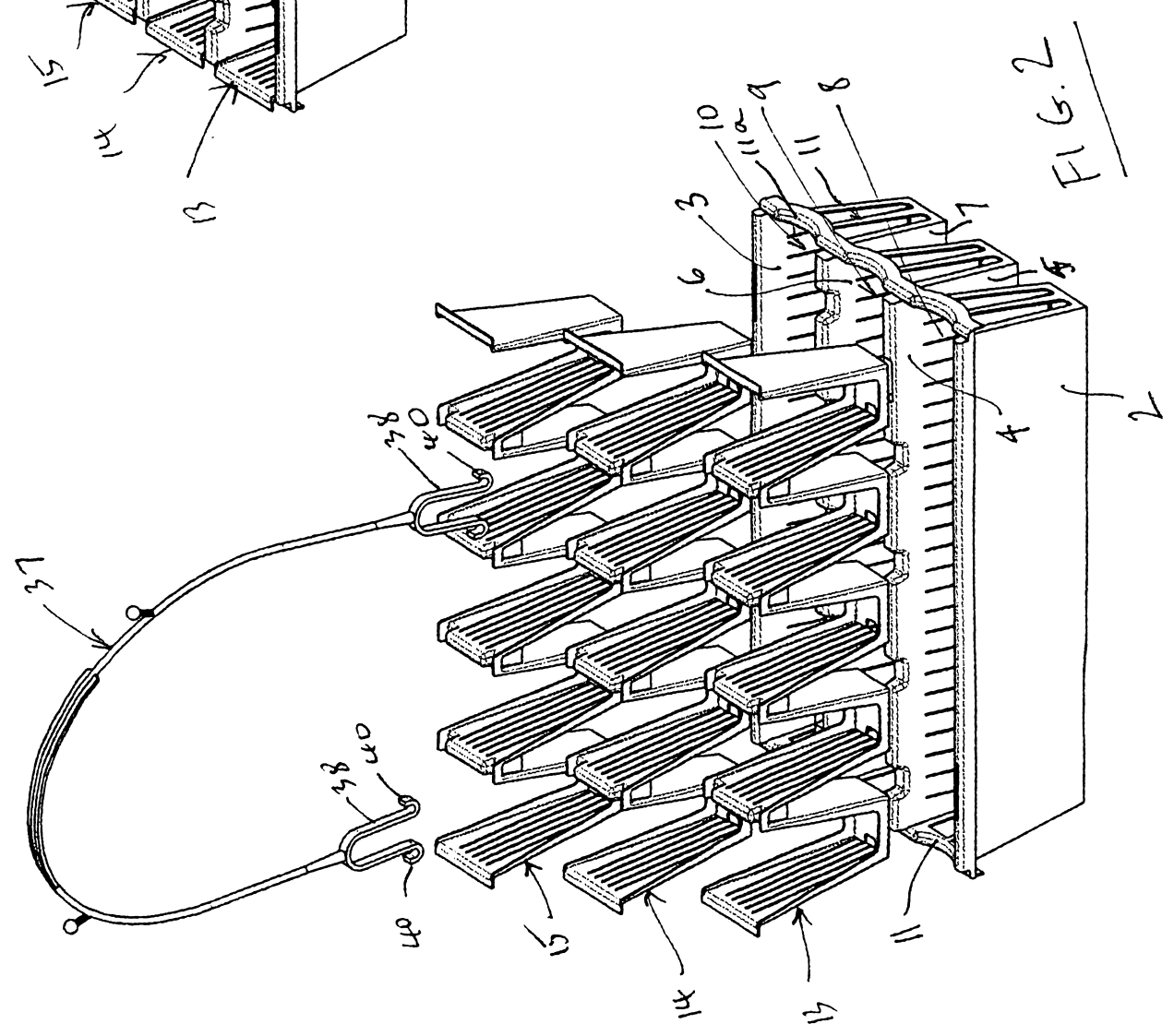
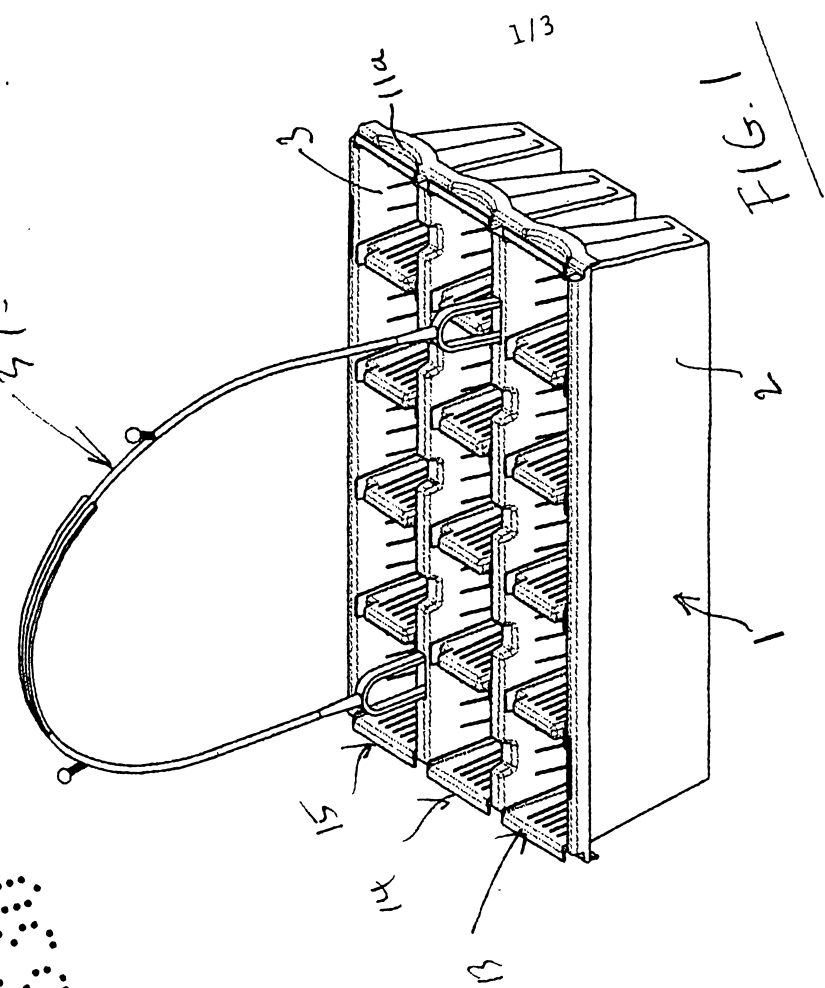
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ABSTRACT

A carrier system for plants including a carrier basket 1 having pairs of side walls 2 and 4 defining a series of truncated V-shaped cavities 8, 9 and 10 having end walls 11 and bottom walls 12, each cavity 8 to 10 receiving a shaped plant holder 13, 14 and 15, with each plant holder including spaced cell elements defined by angular side walls 16, 17 connected by bottom walls 26, the side walls and bottom walls having inwardly directed flanges 31 and 32 which provide side support for the plant and growing medium carried by the cell elements.

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AUSTRALIA

Patents Act 1990

**ORIGINAL
COMPLETE SPECIFICATION
STANDARD PATENT**

Invention Title: **Improved carrier for plants**

The following statement is a full description of this invention, including the best method of performing it known to us:

IMPROVED CARRIER FOR PLANTS

Field of the Invention

This invention relates to carriers for plants.

Background of the Invention

5 Seedlings are usually displayed for sale in individual plant pots or in trays usually comprising seedling punnets. Individual plant pots have the disadvantage that they occupy more nursery space than trays, while trays have the disadvantage that punnets must be removed individually from the tray for sale, often resulting in damage to the removed punnet of seedlings and/or to the remaining tray of punnets.

10 In US Patent 5,927,009, a plant carrier is described which overcomes many of the problems associated with storing and selling plants in a form ready for planting. However, the plant carrier described in this patent has certain disadvantages, including the tendency for the plants to fall out of the holder and/or for the holders to flex during removal and handling from the carrier thereby
15 resulting in loss of or damage to the plants.

Summary of the Invention and Object

It is an object of the present invention to provide an improved plant carrier which overcomes at least the major disadvantages of the plant carrier described in the above prior art patent document.

20 The invention therefore provides a carrier system for plants including a carrier basket having at least a pair of side walls, end walls and a bottom wall for supporting one or more plant holders, each plant holder having a multiplicity of spaced end walls defining individual plant cells, characterised in that said spaced end walls are formed within inwardly directed flanges for holding the plant and
25 associated growing medium within each cell, said flanges serving to laterally support the plant and growing medium and to reinforce the plant holder against inadvertent flexing during removal and handling, whilst facilitating easy manual removal of each plant from its associated cell when the plant holder is removed from the carrier.

30 In one preferred form of the invention, adjacent end walls defining said cells include reinforcing webs extending between said adjacent end walls to reduce

flexibility between adjacent plant cells.

The adjacent side walls are preferably inclined towards each other to define connected V-shaped plant holders.

5 The bottom walls extending between adjacent side walls are preferably formed with drainage holes, and the side walls may be formed with reinforcing ribs to further reinforce the plant holders.

10 The carrier basket may have a multiplicity of adjacent side walls against which the flanges of the plant holders rest when the plant holders are received within the carrier basket. The side walls of the carrier basket are preferably inwardly inclined whereby the side walls present parallel truncated V-shaped structures for receiving the plant holders.

In another preferred form of the invention, each plant holder is formed with a locking tab adapted to engage co-operating locking means on said carrier to cause said holders to be captively retained within the carrier basket.

15 In a preferred form, each locking tab is positioned at the outer most end wall of each plant holder to engage drainage openings in the respective end bottom walls of each cell thereby preventing easy removal of the plant holders from the carrier basket.

20 This form of the invention is intended to provide the carrier basket and the associated plant holders with a useful after-use, such as a carrier for fishing hooks, small gardening implements, seeds or anything else requiring a means of temporary transport.

25 In order that the invention may be more readily understood, one presently preferred of the invention will now be described with reference to the accompanying drawings in which :

Figure 1 is a perspective view of a carrier basket supporting plant holders;

Figure 2 is an exploded view corresponding to Figure 1 in which the plant holders are removed from the carrier basket;

Figure 3 is an enlarged perspective view of one plant holder;

30 Figure 4 is a perspective view of an empty carrier basket, without handle, and

Figure 5 illustrates a modified carrier basket incorporating locking tabs.

Description of Preferred Embodiments

Referring firstly to Figures 1 to 4 of the drawings, the carrier system embodying the invention includes a carrier basket 1 having outer side walls 2, 3 and pairs of intermediate side walls 4, 5 and 6, 7 defining a series of truncated V-shaped cavities 8, 9, 10 each having open form end walls 11 and similarly open form bottom walls 12 defined by spaced narrow moulded elements. As illustrated in Figures 1 and 2, the end walls 11 have a top member 11a having a downwardly curved configuration which enables the plant holder to be described below to be more easily removed from the carrier 1.

Each cavity 8 to 10 receives a shaped plant holder 13, 14, 15 in the manner illustrated in Figure 1. Each plant holder 13 to 15, which is shown in greater detail in Figures 2 and 3 of the drawings, includes spaced cell elements defined by angular side walls 16, 17; 18, 19; 20, 21; 22, 23 and 24, 25 connected by bottom walls 26, 27, 28, 29 and 30, said side walls and bottom walls having inwardly directed flanges 31 and 32 respectively on either side to provide side support for the plant and growing medium carried by the cell elements and confined by the carrier basket side walls 2 to 7. To further reinforce the plant holders 13 to 15 reinforcing webs 33 extend between adjacent side walls 17, 18; 19, 20; 21, 22 and 23, 24. Each bottom wall 26 to 30 includes a pair of spaced drainage holes 34 and the upper ends of the side walls 17 to 24 are formed with reinforcing indentations 35. The outermost walls 16 and 25 have outwardly directed flanges 36 which are spaced above the end walls 11 to provide a gripping portion for removal of each of the carriers 13 to 15 from the basket 1.

As illustrated in the drawings, the side walls 2 to 7 and 16 to 25 may include reinforcing ribs to further strengthen the moulded structure. A handle 37 has U-shaped connecting ends 38 which engage slots 39 in the basket and have upturned end portions 40 which engage the basket to prevent withdrawal of the ends 38 from the slots 39. It will be appreciated that the distance between the legs of end portions 38 corresponds to the length of the openings 39 and that the leg portions of 38 must be compressed for entry into the openings 39 so that following relaxation of the

legs, the portions 40 engage under the portions of the carrier basket 1 adjacent the openings 39.

It will be appreciated that carrier basket 1 having other than three cavities 8 to 10 may be provided. Where an even number of cavities is provided, the handle 37 would be connected to the carrier basket by means of centrally located openings so that the basket is balanced when carried by means of the handle 37.

It will be appreciated from the above that the flanges 31 and 32 serve the dual purpose of making each of the plant holders 13 to 15 less likely to flex when removed from the carrier basket 1, as well as to tend to retain the seedlings and associated growing medium within the plant holders until manually removed for planting. This combination of effects makes the carrier system more attractive to the purchaser and less likely to result in damage to the plants during transport and ultimate use.

Referring to Figure 5, a carrier basket 70, similar to the carrier basket 1, is modified to include locking mechanism comprising inwardly projecting lugs 71 at the ends of each bottom wall 72, similar to bottom wall 12, positioned to engage the end drainage holes 34 in the plant holders 13 to 15. This engagement is achieved by squeezing the side walls 16 and 25 towards the adjacent side walls to present the holes 34 for engagement by the lugs 71. This locking mechanism need only be engaged when the carrier is required to be used for a purpose which requires the plant holders 13 to 15 to be secured to the carrier basket 70.

The locking tab/locking detail combination illustrated in Figure 5 enables the conversion of the plant carrier system 1 so that the plant holders are fixed to the carrier basket thereby enabling the carrier system to be used for another purpose once the plants have been removed from the plant holders. For example, the carrier could be used to house fishing gear, assorted nails, screws and other fasteners for the home handyman or seeds and small gardening implements for the gardener.

The claims defining the invention are as follows:

1. A carrier system for plants including a carrier basket having at least a pair of side walls, end walls and a bottom wall for supporting one or more plant holders, each plant holder having a multiplicity of spaced end walls defining individual plant
5 cells, characterised in that said spaced end walls are formed within inwardly directed flanges for holding the plant and associated growing medium within each cell, said flanges serving to laterally support the plant and growing medium and to reinforce the plant holder against inadvertent flexing during removal and handling, whilst facilitating easy manual removal of each plant from its associated cell when
10 the plant holder is removed from the carrier.
2. The carrier system of claim 1, wherein adjacent end walls defining said cells include reinforcing webs extending between said adjacent end walls to reduce flexibility between adjacent plant cells.
3. The carrier system of claim 1 or 2, wherein the adjacent side walls are
15 inclined towards each other to define connected V-shaped plant holders.
4. The carrier system of any preceding claim, wherein the side walls are formed with reinforcing ribs to further reinforce the holder.
5. The carrier system of any preceding claim, wherein the bottom walls extending between adjacent side walls are formed with drainage holes.
- 20 6. The carrier system of any preceding claim, wherein the carrier basket has a multiplicity of adjacent side walls against which the flanges of the plant holders rest when the plant holders are received within the carrier basket.
7. The carrier system of claim 6, wherein the side walls of the carrier basket are inwardly inclined whereby the side walls present parallel truncated V-shaped
25 structures for receiving the plant holders.
8. The carrier system of any preceding claim, wherein each plant holder is formed with a locking tab adapted to engage co-operating locking means on said carrier to cause said holders to be captively retained within the carrier basket.
9. The carrier system of claim 8, wherein each locking tab is positioned at the
30 outward end wall of each plant holder to engage drainage openings in the respective bottom walls of each cell, thereby preventing easy removal of the plant holder from

the carrier basket.

10. The carrier system for plants substantially as hereinbefore described with reference to figures 1 to 4 or 5 of the accompanying drawings.

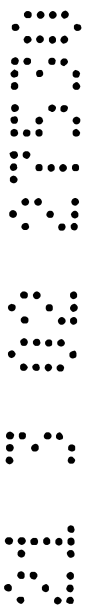
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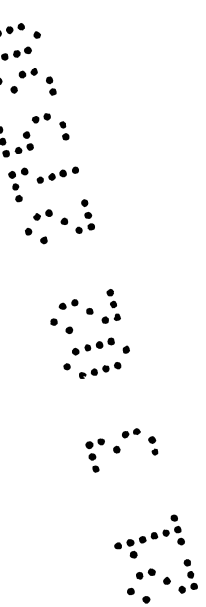
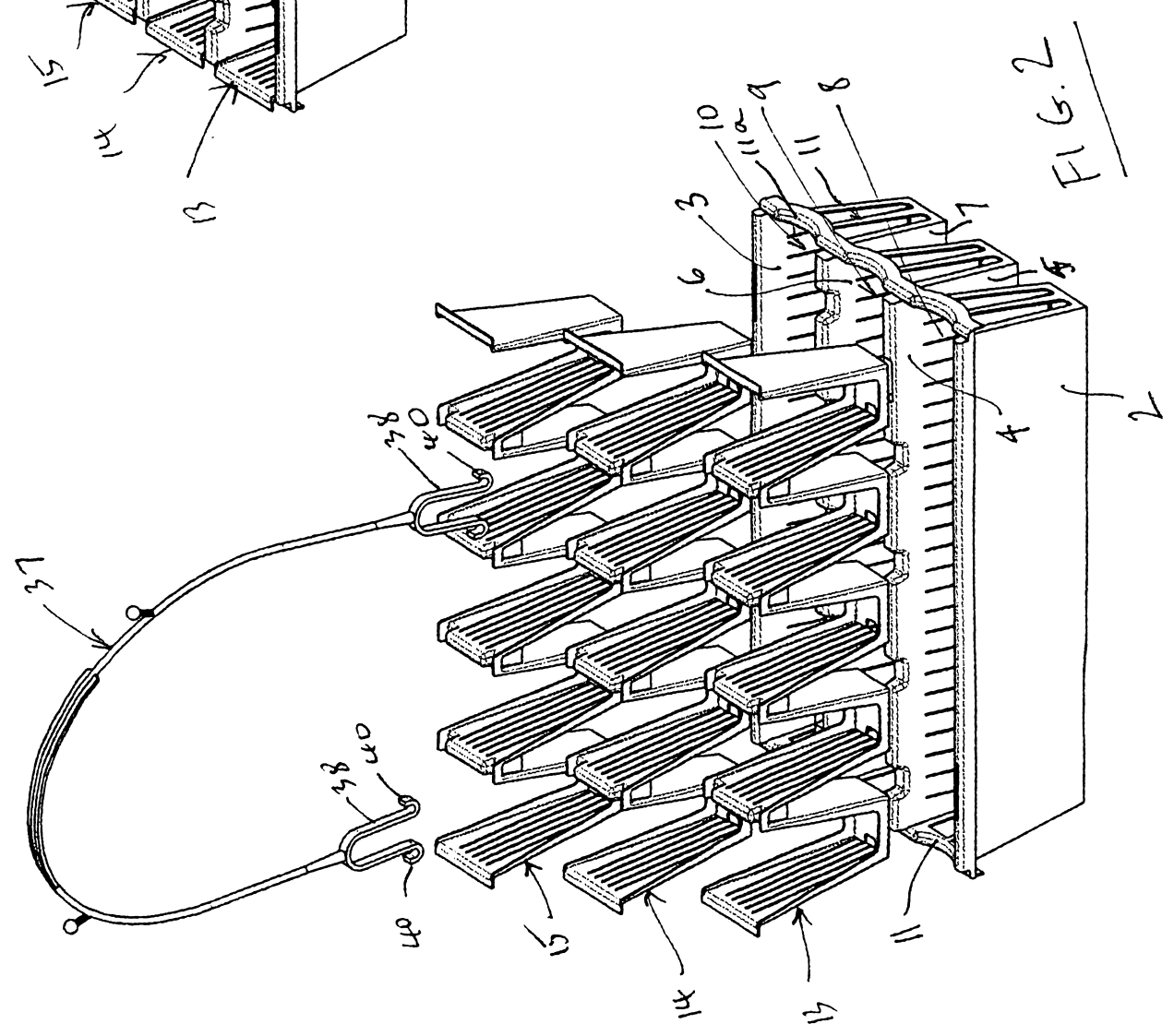
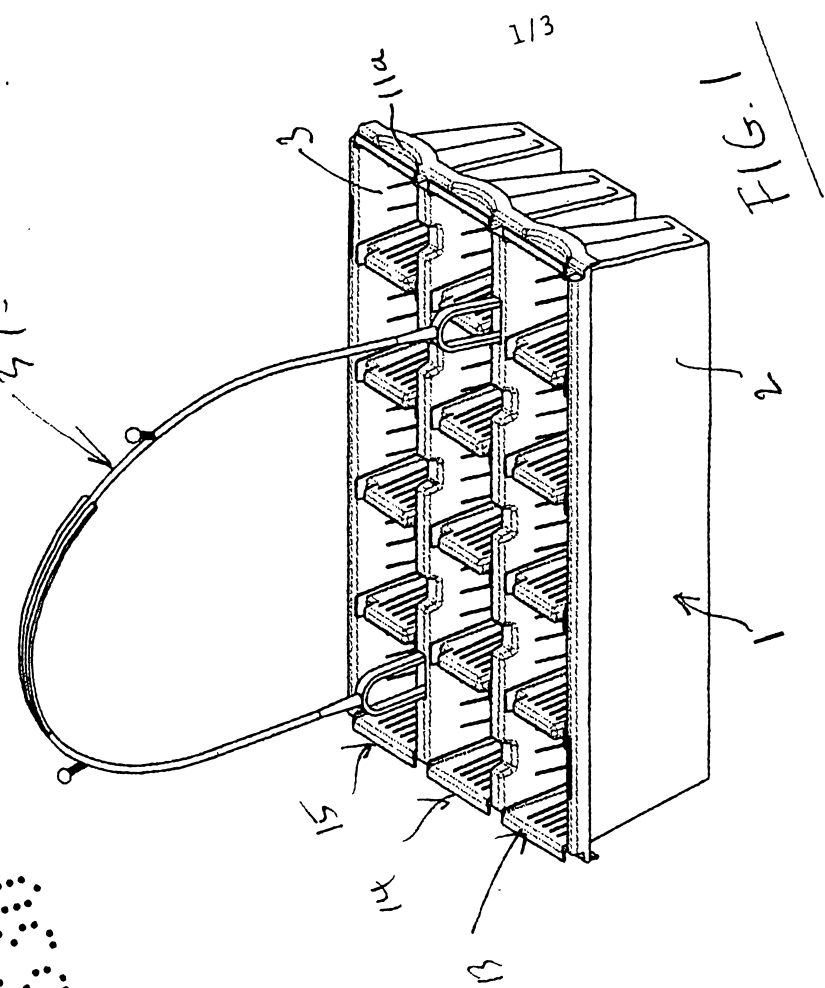
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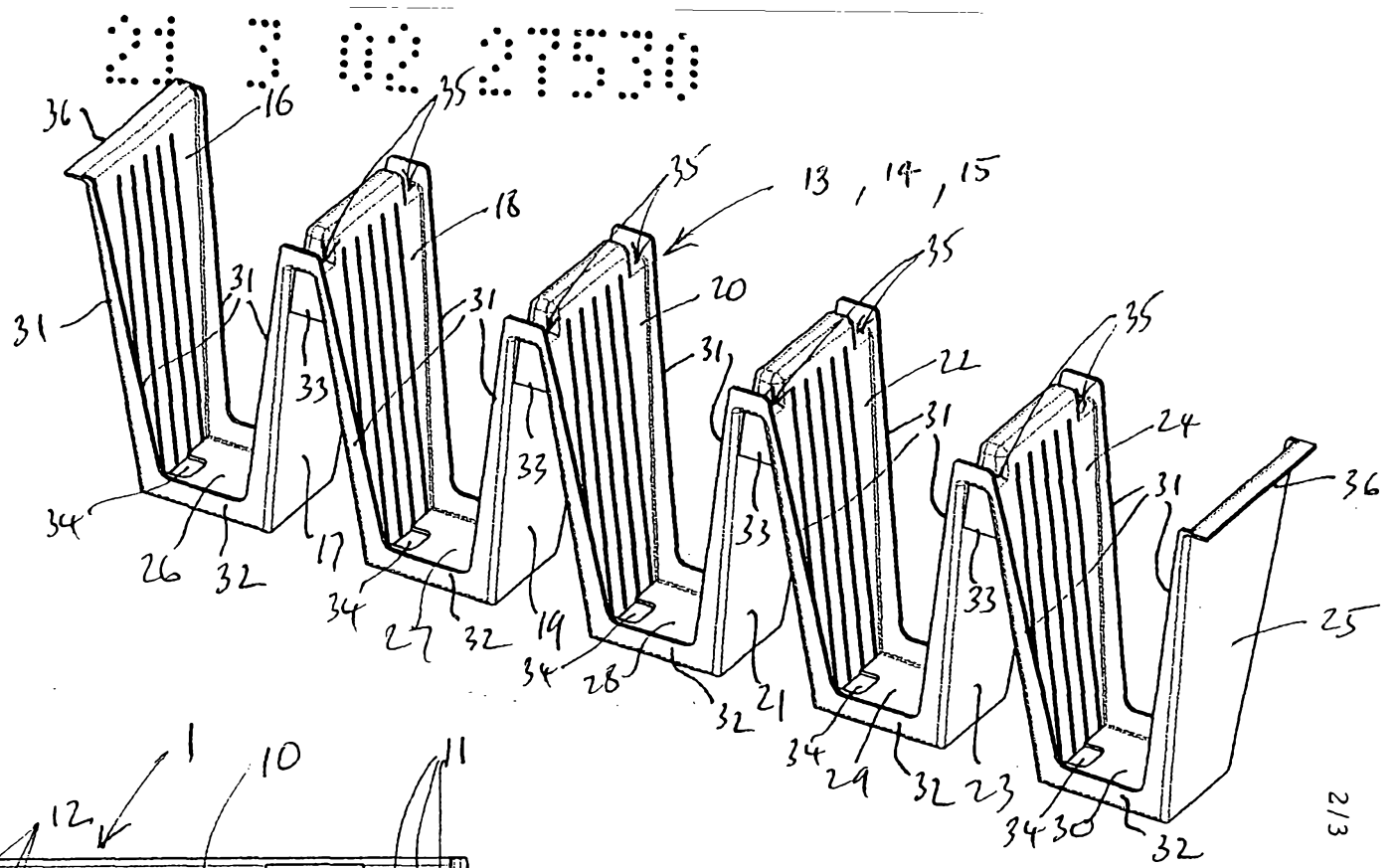


FIG. 3

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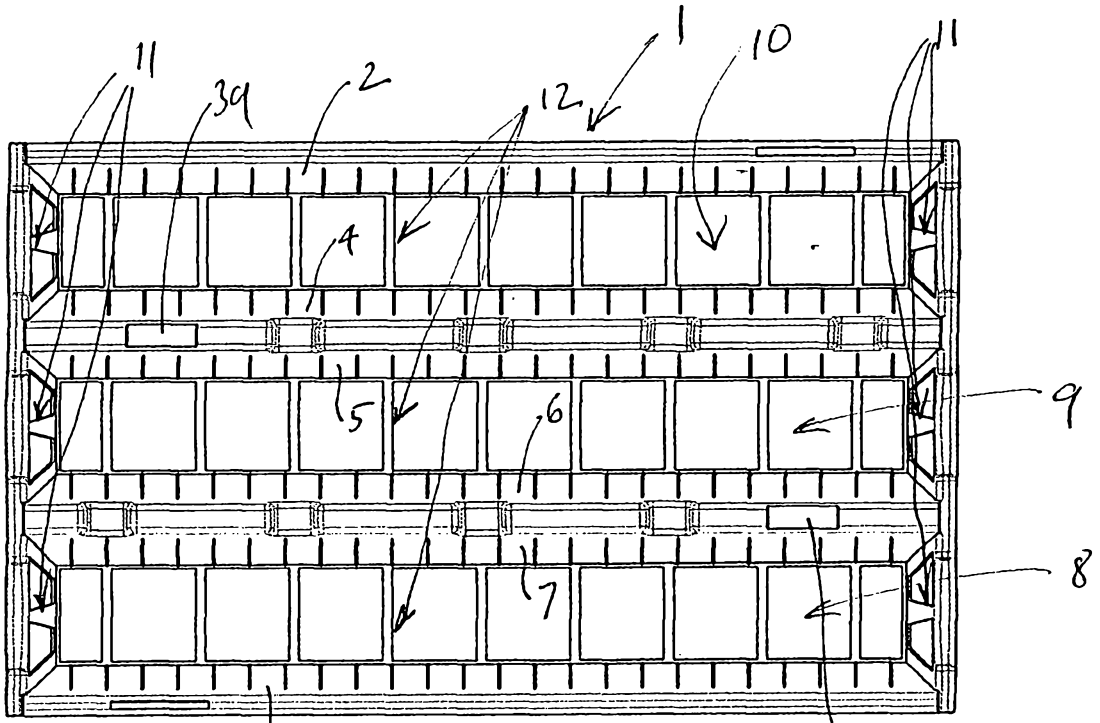


FIG. 4

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