

*300-200-100*  
*7-14-60*

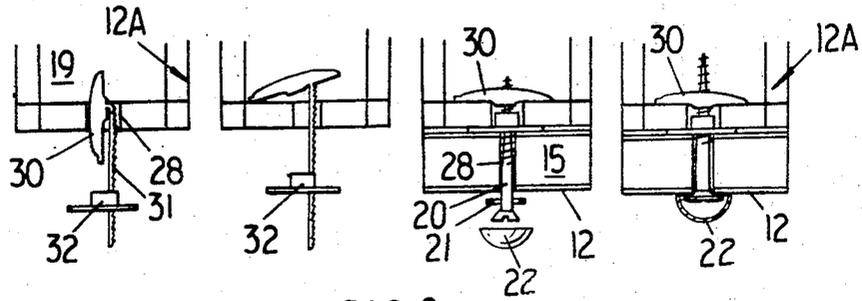


FIG. 8.

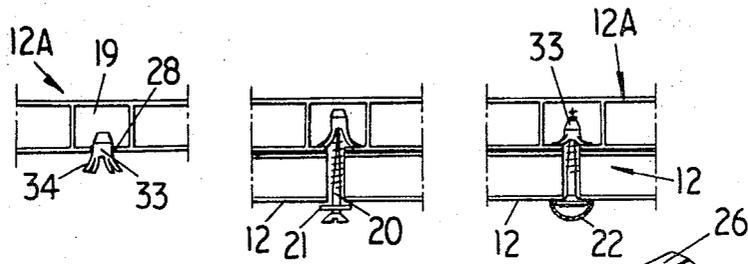


FIG. 9.

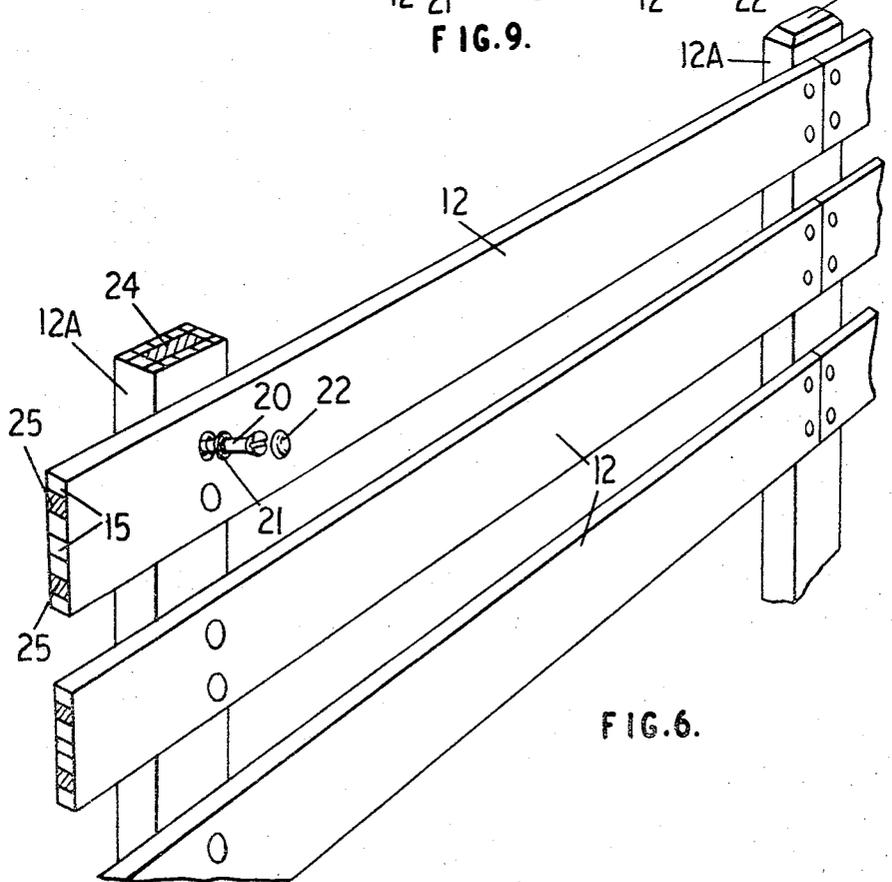


FIG. 6.

**BUILDING COMPONENTS**

This invention relates to a building component and an assembly of building components particularly ones suitable for constructing fences or the like.

In one aspect the present invention provides a building component for forming fencing or the like comprising an elongate plastic hollow extrusion of substantially rectangular section having its hollow interior divided into a plurality of channels by partitions.

In another aspect the invention provides an assembly of building components for forming fencing including a plurality of rails each consisting of an elongate plastic hollow extrusion of substantially rectangular section having its hollow interior divided into a plurality of channels by partitions parallel to the shorter sides, and a plurality of posts each comprising an elongate plastic hollow extrusion having its hollow interior divided into a plurality of channels by partitions extending substantially parallel to each of its sides.

The extrusions are preferably of hard PVC and core members of timber or hollow steel sections for example may be formed as a close sliding fit in some of the channels. The invention extends to a fence formed from a plurality of posts and rails as described above, these members being secured together for example by screws.

Embodiments of building components, in accordance with the invention, will now be described, by way of example only, with reference to the accompanying drawings of which:

FIGS. 1 to 4 show sections through four alternative designs of building components intended as rails,

FIG 5 shows a section through a building component intended as a post,

FIG. 6 shows some posts and rails secured together to form a fence,

FIG. 7. is a perspective view of an end cap, and

FIGS. 8 and 9 show two alternative means for securing together the rails and posts.

Each building component comprises a hollow plastic extrusion of rectangular form, preferably made of hard PVC. The hollow interior of each extrusion 12 intended as a rail is divided into a plurality of parallel channels by partitions 13 parallel to the shorter sides 14. FIG. 1 shows a section having outer dimensions 0.743 inches  $\times$  2.115 inches suitable as a rail for a paling fence in which two partitions 13 each of thickness 0.035 inches divided the interior into three equal channels 15 of width 0.651 inches: the outside thickness of the walls is 0.046 inches. FIG. 2 shows a rail having outer dimensions 0.743 inches  $\times$  3.999 inches suitable for ranch fences and screens divided by four partitions 13 each of thickness 0.035 inches into five channels 15 symmetrically arranged so that the channels are alternatively small and large, of widths 0.151 inches and 0.907 inches respectively an outside wall thickness 0.046 inches FIG. 3 shows a larger rail of outer dimensions 0.743  $\times$  5.371 inches and wall thickness 0.046 inches suitable for ranch fences and screens in which six partitions 13 of thickness 0.035 inches divide the rail into seven channels again symmetrically arranged, the outer to two channels on each side and center channel having a width 0.55 inches and the other two channels having a width 0.907 inches. FIG. 4 shows a rail of outer dimension 1.156 inches  $\times$  4.65 inches and wall thickness 0.065 inches suitable for heavy duty applications in which the partitions 13 divide the rail into five channels 15, the three central ones of which are larger having a width of 1.026 inches than the two outer channels having a width 0.651 inches. FIG. 5 shows a section 12A of outer dimensions 1.938 inches  $\times$  2.938 inches and a wall thickness 0.046 inches suitable for a post in which partitions 13 of thickness 0.035 inches and parallel to the shorter sides 14 and partitions 16 of the same thickness and parallel to the longer sides 17 divide the hollow interior into a central channel 18 of 1.026 inches  $\times$  2.026 inches surrounded by a plurality of symmetrically arranged outer channels 19 the corner channels being square sectioned of dimension 0.375 inches the single channel along the short sides and between the corners being of length 1.026 inches and the three channels along

the long sides and between the corners having a width 0.651 inches. Each of the channels 15 18 and 19 is suitable to receive as a sliding fit a core member to extend the whole length of the rail or post. The core members may, for example, be of time timber or steel sections.

FIG. 6 shows an arrangement in which rails 12 each of the section shown in FIG. 3 and two posts 12A each according to FIG. 5 are secured together to form a fence. The parts are secured by screws 20 provided with washers 21, plastic domes 22 being finally fitted over the heads of the screws. It will be seen that the central channel 18 of the post 12A is provided with a timber core 24 while the outer channels 19 are left hollow. Any one or more of the channels 19 may be provided with a core member if desired. In the case of the rails, the two channels 15 not directly on the outsides but spaced one channel in, are provided with core members 25, these core members being pretapped to provide holes for the screws 20. The plastic rail extrusions may for example be formed in lengths of 10, 12 or 14 feet.

FIG. 7 shows a moulded end cap 26 for closing off the end of a rail section of the type shown in FIG. 1. Similar end caps are provided for the ends of the other rail sections and also for the tops of the posts 12A as shown at 26 in FIG. 6. The end cap is formed with legs 27 for fitting inside the channels where they are retained by friction.

FIGS. 8 and 9 show alternative securing means which may be used when no core members are provided. FIG. 8 shows stages in process of securing a rail to a post, the rail and post having been previously drilled with holes 28 to receive the securing means. In the first stage, shown in the left hand one of the parts of FIG. 8 an elongate anchor member 30 having a toggle strip 31 attached thereto is pushed through the hole 28 in the post with its long dimension parallel to the axis of the hole its narrow dimensions smaller than the hole. In the second stage the anchor member is turned by means of the toggle strip so that its long dimension is normal to the axis of the hole and it cannot pass back through the hole. A washer 32 has the toggle strip threaded therethrough and engaged therewith and the assembly is pulled tight and the surplus end of the toggle strip cut off. The rail 12 is not placed against the post with the head of the washer 32 between the post and rail and a screw 20 with its washer 21 and plastic dome 22, similar to those used in the arrangement of FIG. 6 is inserted through the rail to engage in the anchor member 30.

The arrangement shown in FIG. 9 is somewhat similar except for the shape of the anchor member shown at 33 which has flexible feet 34 which, after they have been deformed to be pushed through the hole 28 in the wall of the post, spring outwardly and engage the inside surface of the post. The insertion of a screw into the anchor member 33 draws the anchor member towards the wall deflecting the legs further.

I claim:

1. A fence structure comprising two or more extruded plastics material support posts each arranged vertically and each comprising a hollow annular wall structure of rectangular cross section, said wall structure including an inner wall and an outer wall and a plurality of internal webs extending between said inner wall and said outer wall to divide the annular space therebetween into a plurality of rectangular cross section cells, one or more extended plastics material rails extending between said support posts, each comprising a hollow annular shell of rectangular cross section and a plurality of internal walls extending between the longer sides of said shell structure to divide the space within said shell structure into a plurality of rectangular cross section cells, and means for attaching said rails to said support posts.

2. A fence structure according to claim 1 wherein said plurality of internal webs of each said post includes webs arranged to continue the sides of said inner wall across said annular space to said outer wall at each end of each side of the inner wall.

3. A fence structure according to claim 1, wherein said plurality of internal webs of each said post further includes to two

further webs symmetrically disposed along the longer sides of said wall structure.

4. A fence structure according to claim 1, including a core member arranged to be a sliding fit in each of one or more of a said cells of one or more of a said support posts.

5. A fence structure according to claim 4, wherein one or more of a said core members in each said support posts is provided with one or more screw-threaded holes and said outer wall of said wall structure is provided with an aperture in register with each said screw-threaded hole, said means for attaching said rails to said support posts including a screw-threaded bolt passing through the rail into one of said holes.

6. A fence structure according to claim 1, including a core member arranged to be a sliding fit in each of one or more of said cells on of one or more of said rails.

7. A fence structure according to claim 1, wherein said means for attaching said rails to said support posts comprise an aperture through the rail, an aperture in at least said outer wall of said post wall structure, an anchor member shaped to be insertable through said aperture in said outer wall and then to be turned to engage against the inside of said outer wall, and a screw-threaded bolt passing through said rail aperture and said wall aperture into said anchor member to hold said rail.

8. A fence structure according to claim 1, including an end cap mounted on top of each said support post, said end cap comprising a moulded plastics material body having a plurality of tongues extending therefrom to enter respectively and engage with a plurality of said spaces in said posts.

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