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Publication number:

**0 150 946  
B1**

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## EUROPEAN PATENT SPECIFICATION

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Date of publication of the patent specification:  
**28.10.87**

⑤

Int. Cl.4: **E 04 H 12/22**

①

Application number: **85300235.0**

②

Date of filing: **14.01.85**

⑤

**Method of making post supports.**

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Priority: **12.01.84 GB 8400789**  
**06.04.84 GB 8408896**

⑦

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Date of publication of application:  
**07.08.85 Bulletin 85/32**

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Publication of the grant of the patent:  
**28.10.87 Bulletin 87/44**

④

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Designated Contracting States:  
**BE CH DE FR IT LI NL SE**

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**EP 0 150 946 B1**

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## Description

This invention relates to post supports and more particularly to a method of making post supports of metal comprising a box section for receiving a post and an elongate ground engaging portion which can be driven into the ground to hold the post support steady.

Post supports of this type have usually previously been made by forming a box section with a closed or substantially closed base portion and welding the underside of the base of the box section onto the end of the ground engaging portion, which is normally of cruciform cross section (GB-A-1 461 802).

According to the invention a post support comprising a post receiving box section and an elongate ground engaging portion is produced by forming the box section with slots at its lower end of dimensions appropriate closely to engage with one end of the ground engaging portion, introducing the ground engaging portion into the slots in the base of the box section and welding the ground engaging portion into the slots to attach the ground engaging portion rigidly to the box section.

It has been found that this minor modification in the manufacturing process produces a surprising increase in the strength of the bond between the box section and the ground engaging portion.

The box section at its lower end may be closed or open. When the box section is closed at its lower end the slots are formed in the base and may extend partially up the wall of the box section. When the box section has an open lower end the slots extend partially up the wall of the box section.

The ground engaging portion may be introduced into the slots in the base of a close-ended box section through the box and in the case where the ground engaging portion is a tapered section the length of the slots in the base of the box section will normally be slightly less than the maximum cross-sectional length of the received part of the tapered ground engaging portion so that the ground engaging portion is retained in the box section with its end proud of the base. With this arrangement the post support can be driven into the ground by applying force to the ground engaging portion rather than to the base of the box section.

Preferably, however, the ground engaging portion is introduced into the slots from underneath the box. Advantageously in this case the ground engaging portion has maximum dimension equal to the relevant external dimensions of the box section so that in order that the ground engaging portion can be introduced into the aperture in the base, the slots extend up the corners and/or the sides of the box by a distance at least equal to the thickness of the material of the base to allow the plane of the top of the ground engaging portion to lie level with or above the top surface of the base of the box section.

When the box section does not have a base the slots extend up the corners and/or the sides of the box section a distance sufficient to give an adequate strength of weld.

The box section may have a plane internal surface or it may be formed with intumed flanges or the like,

or other means for enabling an over- or undersized post to be received tightly within the box section; for example, as described and claimed in our copending patent application GB-A-2 140 057.

The ground engaging portion may be of any desired shape or section but is preferably of cruciform cross section. The cruciform cross section may, for example, be a tau or a triffin cross but is preferably a saltire. When the ground engaging portion is of saltire cross section, the arms preferably extend diagonally of the box as this gives the greatest length of weld and also provides considerably more stability against movement of the post support when it is in the ground.

The invention will now be described in greater detail by way of example with reference to the drawings in which:

Fig. 1 is an exploded view of a first form of post support to be produced in accordance with the invention;

Fig. 2 shows an exploded view of a second form of post support to be produced according to the invention;

Fig. 3 shows an exploded view of a third form of post support to be produced according to the invention; and

Fig. 4 shows an exploded view of a fourth form of post support to be produced according to the invention.

With reference to Fig. 1 the first form of post support comprises a hollow box section 1 of substantially square cross section and a ground engaging portion 2, which is of saltire cross section and which tapers from one end to the other. At its larger end 3 the span of the ground engaging portion is substantially equal to the diameter of the base 4 of the box section 1.

The base 4 of the box section has four intersecting slots 5 forming a saltire shaped aperture the width of which slots is such as to closely correspond to the thickness of the material from which the ground engaging portion is made. The slots 5 extend up the corners 6 of the box section 1 by a distance substantially equal to the thickness of the base 4 of the box so that the end 3 of the ground engaging portion 2 can be received in the slots 5 and lie substantially flush with the inside surface of the base 4. In this position the ground engaging portion 2 is welded into the slots 5 in the box section 1 by forming four V-shaped welds on the under surface of the base 4 of the box section 1 and also by producing vertical welds in the corners 6.

The arrangement shown in Fig. 2 is substantially the same except that in this case the ground engaging portion is in the shape of a triffin cross and the aperture 8 is formed by a Y-shaped arrangement of slots extending between two corners 6 and the midpoint 7 of the opposite side of the base 4.

With reference to Fig. 3 the third form of post support comprises a hollow box section 11, open at both ends, of substantially square cross section and a ground engaging portion 12, which is of saltire cross section and which tapers from one end to the other. At its larger end 13 the span of the ground engaging

portion 12 is substantially equal to the diameter of the lower end 14 of the box section 11.

In the lower corners 16 of the box section 11 are formed slots 15 of width such as to closely correspond to the thickness of the material of the ground engaging portion 12 and of height such that a sufficiently strong weld can be produced to affix the ground engaging portion 12 in the slots 15.

The arrangement shown in Fig. 4 is substantially the same as that shown in Fig. 3 except that in this case the ground engaging portion 12 is in the shape of a triffin cross and the slots 18 are formed in two corners 16 and the mid point 17 of the opposite side of the box section 11.

### Claims

1. A method of producing a post support comprising a post receiving box section (1; 11) and an elongate ground engaging portion (2; 12) which comprises forming the box section with slots (5; 15) at its lower end of dimension appropriate closely to engage with one end (3; 13) of the ground engaging portion, introducing the ground engaging portion into the slots (5; 15) in the base (4; 14) of the box section (1; 11) and welding the ground engaging portion (2; 12) into the slots (5; 15) to attach the ground engaging portion (2; 12) rigidly to the box section (1; 11).

2. A method according to Claim 1, wherein the box section (1) is closed at its lower end and the slots (5) are formed in the base and partially up the walls of the box section (6).

3. A method according to Claim 1, wherein the box section (11) is open at its lower end and the slots (15) extend partially up the wall of the box section (16).

4. A method according to Claim 1 or Claim 2, wherein the ground engaging portion (2) is introduced into the slots (5) through the box (1).

5. A method according to Claim 4, wherein the ground engaging portion (2) is a tapered section and the length of the slots (5) in the base of the box are slightly less than the maximum cross sectional length of the received part of the tapered ground engaging portion so that the ground engaging portion (2) is retained in the box section (1) with its end proud of the base.

6. A method according to any one of Claims 1 to 3, wherein the ground engaging portion (2; 12) is introduced into the slots (5; 15) from underneath the box (1; 11) and the ground engaging portion (2; 12) has maximum dimension equal to the relevant external dimensions of the box section (1; 11).

7. A method according to any one of Claims 1 to 6, wherein the box section (1; 11) is provided with means for enabling an over- or undersized post to be received tightly within the box section.

8. A method according to Claim 7, wherein said means comprise inturned flanges arranged to dig into an undersized post to hold it rigidly in the box section (1; 11).

9. A method according to any one of Claims 1 to

8, wherein the ground engaging portion (2; 12) has a saltire cross section.

10. A method according to Claim 9, wherein the saltire is arranged diagonally of a rectangular box section (2; 12).

### Patentansprüche

1. Verfahren zur Herstellung eines Pfostenträgers bestehend aus einem den Pfosten aufnehmenden Gehäuseteil (1; 11) und einem länglichen im Boden einzulassenden Teil (2; 12), dadurch gekennzeichnet, dass man das untere Ende des Gehäuseteils mit Nuten (5; 15) versieht, die so dimensioniert sind, dass das eine Ende des im Boden einzulassenden Teils einen eng anliegenden Sitz darin hat, in diese Nuten (5; 15), die sich im unteren Bereich (4; 14) des Gehäuseteils (1; 11) befinden, das im Boden einzulassende Teil einführt und dann das im Boden einzulassende Teil (2; 12) in den Nuten (5; 15) verschweisst, um das im Boden einzulassende Teil (2; 12) fest mit dem Gehäuseteil (1; 11) zu verbinden.

2. Verfahren nach Anspruch 1, dadurch gekennzeichnet, dass das Gehäuseteil (1) an seinem unteren Ende geschlossen ist und die Nuten (5) im Gehäusoboden und teilweise aufwärts in den Gehäusewänden (6) gebildet werden.

3. Verfahren nach Anspruch 1, dadurch gekennzeichnet, dass das Gehäuseteil (11) an seinem unteren Ende offen ist und die Nuten (15) so angebracht werden, dass sie sich teilweise aufwärts in die Gehäusewände (16) erstrecken.

4. Verfahren nach Anspruch 1 oder Anspruch 2, dadurch gekennzeichnet, dass man das im Boden einzulassende Teil (2) durch das Gehäuseteil (1) in die Nuten (5) einführt.

5. Verfahren nach Anspruch 4, dadurch gekennzeichnet, dass das im Boden einzulassende Teil (2) verjüngt ist und die Länge der im Gehäuseboden befindlichen Nuten (5) etwas geringer ist als die maximale Querschnittslänge des aufzunehmenden Teils des verjüngten im Boden einzulassenden Teils, so dass das im Boden einzulassende Teil (2) fest im Gehäuseboden gehalten wird.

6. Verfahren nach irgendeinem der Ansprüche 1 bis 3, dadurch gekennzeichnet, dass man das im Boden einzulassende Teil (2; 12) von der unteren Seite des Gehäuseteils (1; 11) in die Nuten (5; 15) einführt, wobei das im Boden einzulassende Teil eine maximale Abmessung aufweist, die gleich den entsprechenden äusseren Abmessungen des Gehäuseteils (1; 11) ist.

7. Verfahren nach irgendeinem der Ansprüche 1 bis 6, dadurch gekennzeichnet, dass das Gehäuseteil (1; 11) mit Einrichtungen versehen ist, die einen festen Sitz von grösser oder kleiner dimensionierten Pfosten in dem Gehäuseteil ermöglichen.

8. Verfahren nach Anspruch 7, dadurch gekennzeichnet, dass die Einrichtungen nach innen gerichtete Flansche sind, die in den kleiner dimensionierten Pfosten eindringen, um ihn fest im Gehäuseteil (1; 11) zu halten.

9. Verfahren nach irgendeinem der Ansprüche 1 bis 8, dadurch gekennzeichnet, dass das im Boden

einzulassende Teil (2; 12) im Querschnitt ein Kreuz darstellt.

10. Verfahren nach Anspruch 9, dadurch gekennzeichnet, dass das Kreuz diagonal in einem rechteckigen Gehäuseteil (2; 12) angeordnet ist.

### Revendications

1. Procédé de fabrication d'un support de poteau comprenant une section en caisson recevant le poteau (1; 11) et une partie allongée s'engageant dans le sol (2; 12) selon lequel on munit la section en caisson de fentes (5; 15) à son extrémité inférieure, avec des dimensions appropriées pour s'emboîter étroitement avec une extrémité (3; 13) de la partie s'engageant dans le sol, on introduit la partie s'engageant dans le sol dans les fentes (5; 15) de la base (4; 14) de la section en caisson (1; 11) et on soude la partie s'engageant dans le sol (2; 12) dans les fentes (5; 15) afin de fixer la partie s'engageant dans le sol (2; 12) rigidement sur la section en caisson (1; 11).

2. Procédé selon la revendication 1, caractérisé en ce que la section en caisson (1) est fermée à son extrémité inférieure et que les fentes (5) sont formées dans la base et remontent partiellement sur les parois de la section en caisson (6).

3. Procédé selon la revendication 1, caractérisé en ce que la section en caisson (11) est ouverte à son extrémité inférieure et que les fentes (15) se prolongent partiellement vers le haut dans la paroi de la section en caisson (16).

4. Procédé selon la revendication 1 ou 2, caractérisé en ce que la partie s'engageant dans le sol (2) est introduite dans les fentes (5) à travers le caisson (1).

5. Procédé selon la revendication 4, caractérisé en ce que la partie s'engageant dans le sol (2) est une partie effilée et la longueur des fentes (5) de la base du caisson est légèrement inférieure à la longueur de la section transversale maximale de la portion reçue de la partie effilée s'engageant dans le sol de façon que la partie s'engageant dans le sol (2) soit retenue dans la section en caisson (1) avec son extrémité en saillie à partir de la base.

6. Procédé selon l'une quelconque des revendications 1 à 3, caractérisé en ce que la partie s'engageant dans le sol (2; 12) est introduite dans les fentes (5; 15) à partir du dessous du caisson (1; 11) et la partie s'engageant dans le sol (2; 12) a une dimension maximale égale aux dimensions extérieures correspondante de la section en caisson (1; 11).

7. Procédé selon l'une quelconque des revendications 1 à 6, caractérisé en ce que la section en caisson (1; 11) est équipée de moyens qui permettent à un poteau sur-dimensionné ou sous-dimensionné d'être étroitement reçu à l'intérieur de la section en caisson.

8. Procédé selon la revendication 7, caractérisé en ce que lesdites moyens comprennent des rebords tournés vers l'intérieur disposés pour s'incruster dans un poteau sous-dimensionné afin de le maintenir rigidement dans la section en caisson (1; 11).

9. Procédé selon l'une quelconque des revendications 1 à 8, caractérisé en ce que la partie s'engageant dans le sol (2; 12) a une section transversale en forme de sautoir.

10. Procédé selon la revendication 9, caractérisé en ce que le sautoir est disposé sur la diagonale d'une section en caisson rectangulaire (2; 12).

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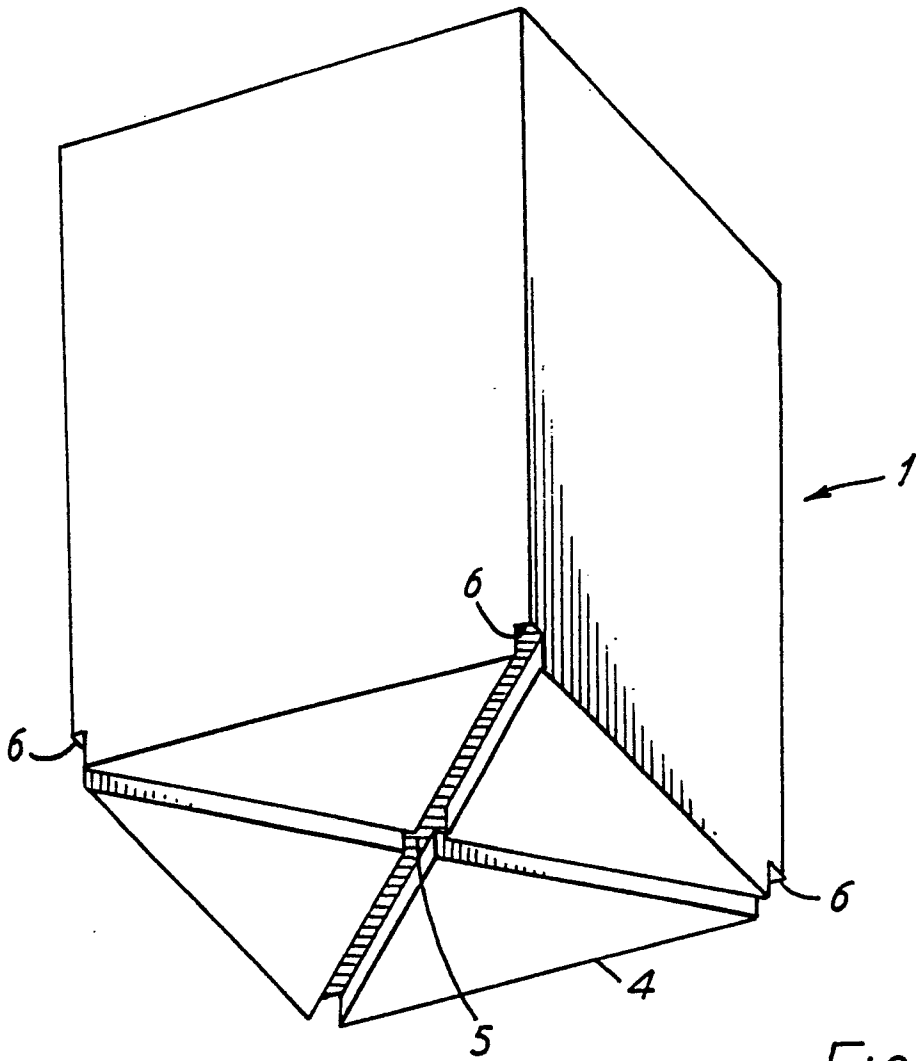
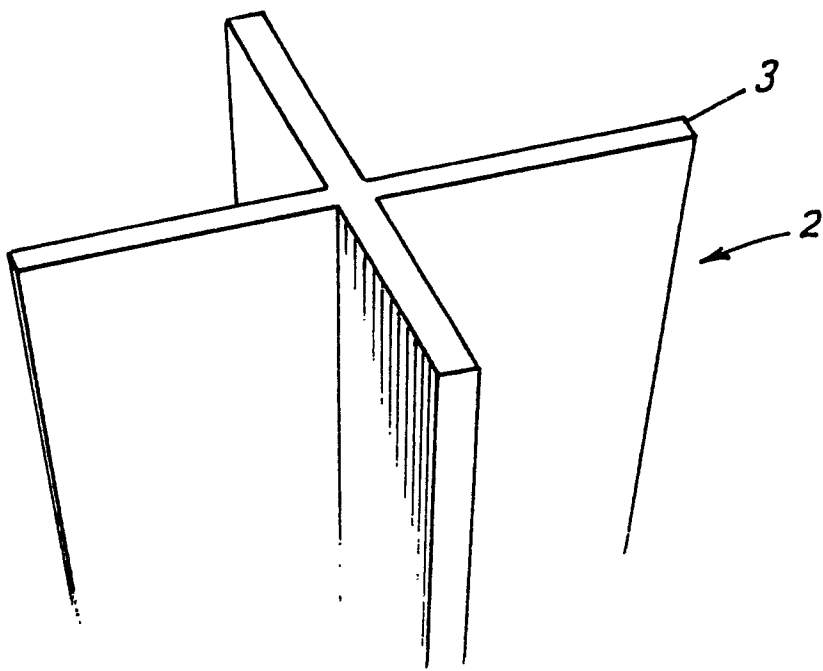


FIG. 1



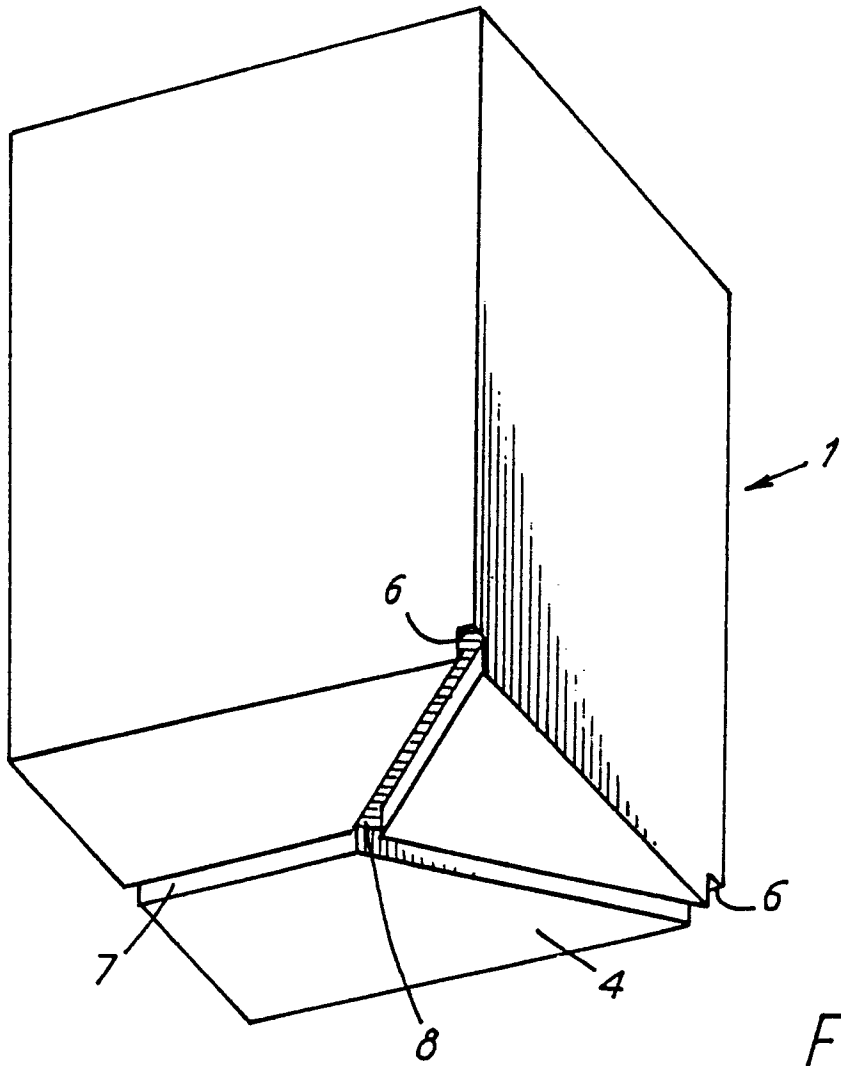
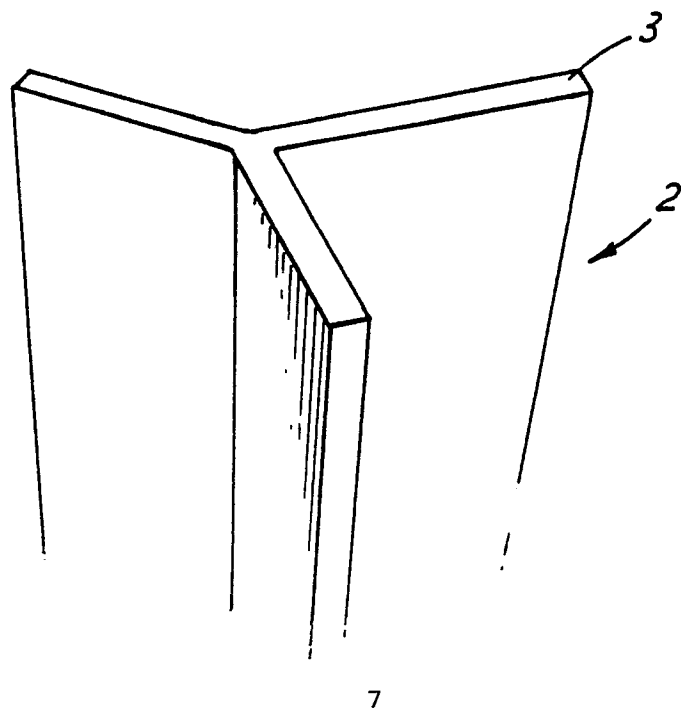


FIG. 2



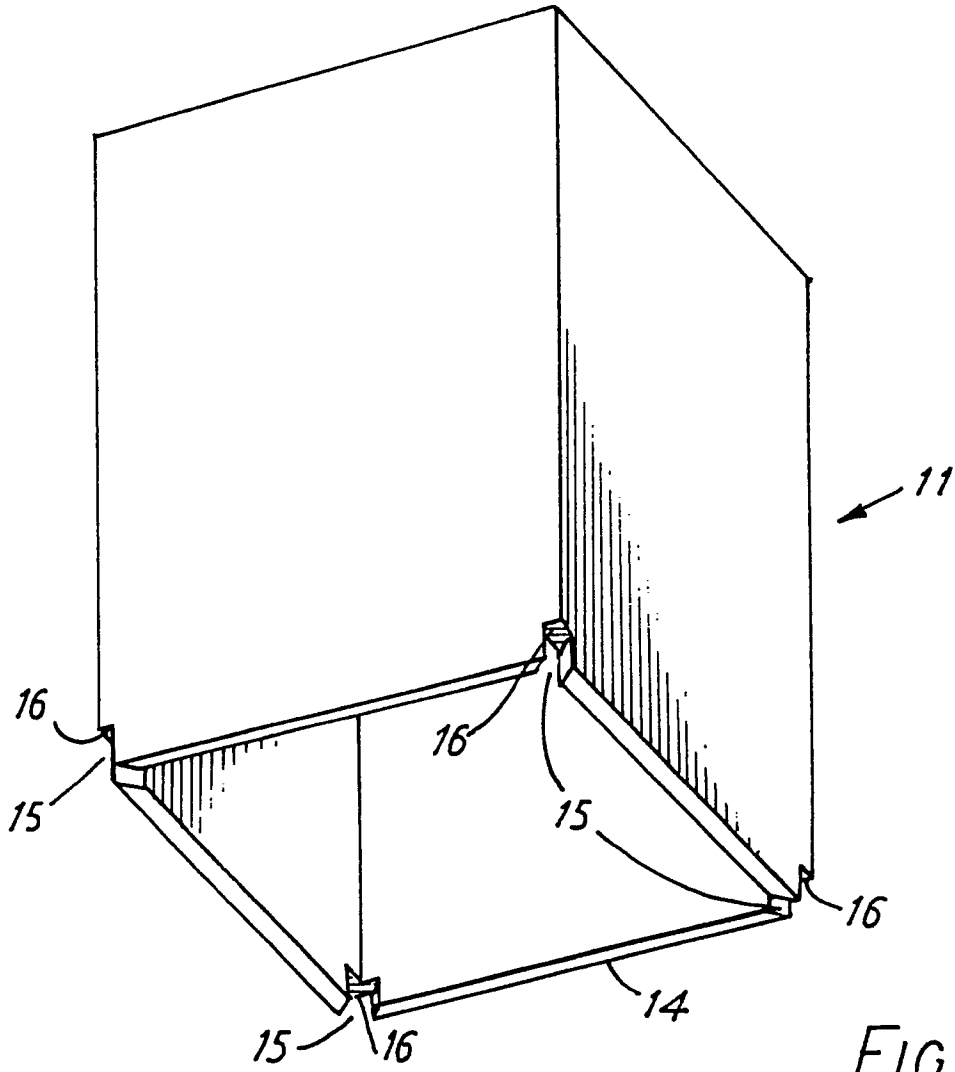
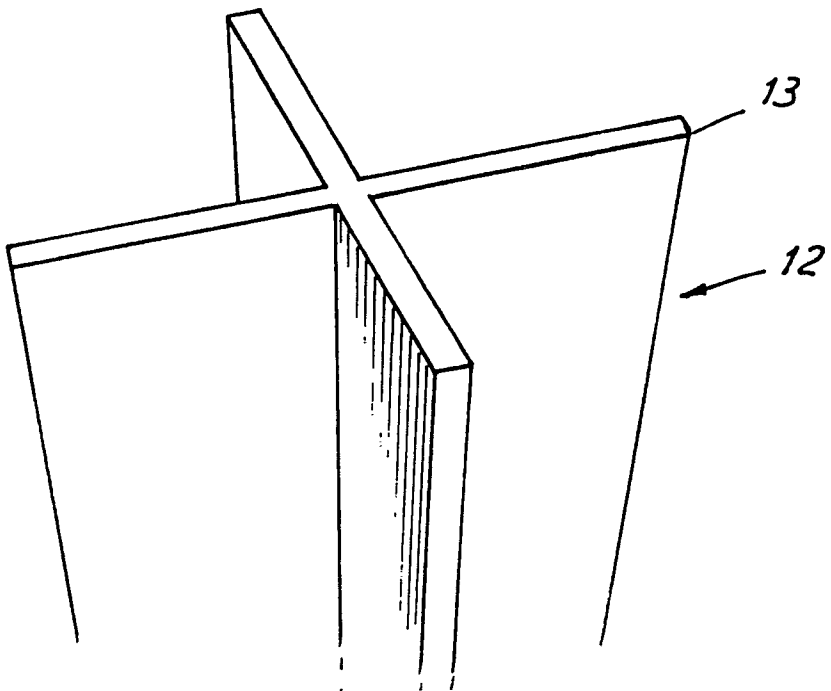


FIG. 3



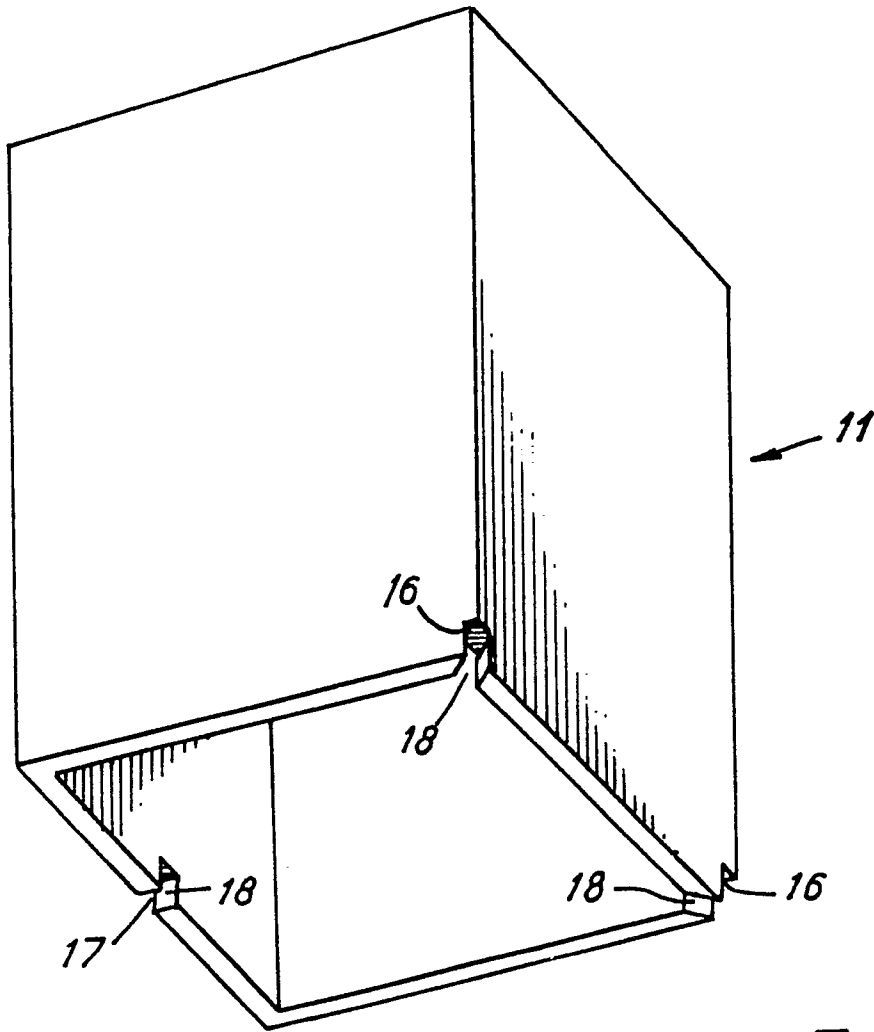


FIG. 4

