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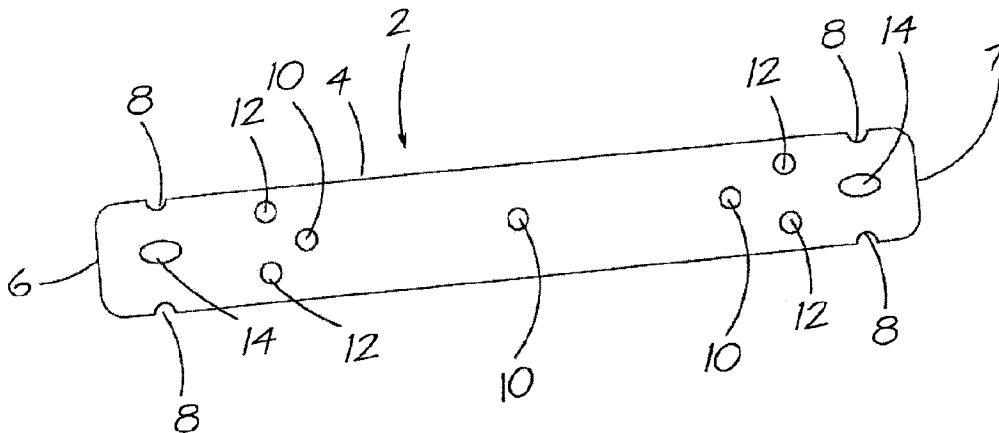
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PRESUSPENDUES, ET DES FENETRES

(54) Title: INSTALLATION BRACKET FOR USE WITH PRE-HUNG INTERIOR AND EXTERIOR DOORS, AND
WINDOWS



(57) Abrégé/Abstract:

There is described an improved installation bracket that can be used with pre-hung interior doors and exterior doors and windows. The installation bracket has a middle section, a first end and a second end advantageously formed from metal plate material. The middle section has a plurality of spaced-apart mounting apertures for receiving bracket mounting screws. Preferably one aperture is located at a mid-point of the installation bracket with two mounting apertures spaced equally apart from the aperture at the mid-point. Between the middle section and each end are a pair of holes in vertical relationship with one another and equal distance from one of the ends. Each end includes a pair of alignment notches and a generally elliptical adjustment slot located mid-way between each pair of alignment notches. Alignment notches are used to align the installation bracket in relation to a plumb line.

ABSTRACT

There is described an improved installation bracket that can be used with pre-hung interior doors and exterior doors and windows. The installation bracket has a middle section, a first end and a second end advantageously formed from metal plate material. The middle section has a plurality of spaced-apart mounting apertures for receiving bracket mounting screws. Preferably one aperture is located at a mid-point of the installation bracket with two mounting apertures spaced equally apart from the aperture at the mid-point. Between the middle section and each end are a pair of holes in vertical relationship with one another and equal distance from one of the ends. Each end includes a pair of alignment notches and a generally elliptical adjustment slot located mid-way between each pair of alignment notches. Alignment notches are used to align the installation bracket in relation to a plumb line.

INSTALLATION BRACKET FOR USE WITH PRE-HUNG INTERIOR AND EXTERIOR DOORS, AND WINDOWS

FIELD OF THE INVENTION

The present invention relates to an improved installation bracket. In particular, this invention relates to an improved installation bracket that can be used with pre-hung interior and exterior doors, and windows.

BACKGROUND OF THE INVENTION

In the construction of doorways, windows, and other structural openings, it is commonplace to provide a jamb about the inner edge thereof for finishing the otherwise rough edge of the opening and for supporting a door or window therewithin.

In order to produce a properly sized, squared opening such as a doorway, it is therefore necessary to dispose each of the members of the jamb in a proper position with respect to one another, regardless of their relationship to the surrounding framing members. The gaps between the framing members and the jamb are then filled with wooden shims. The shims are usually tapered wooden members, such as wooden shingles, to afford a measure of "adjustability." Individual shims, and combinations thereof, are painstakingly fitted between the framing and the jamb until it is found that the jamb is plumb, and at a predetermined distance from the opposing jamb member. Then nails are driven through the jamb and the shims, into the supporting framing. If all goes well, the nailing does not substantially disturb the placement of the jamb. At this point, protruding pieces of wedge, if any, must be cut off flush with the edge of the jamb. Finally, the surrounding molding must be fitted and nailed to the periphery of the opening.

Numerous efforts have been directed toward the simplification of door and window installation. One mounting means which has been proposed is depicted in U.S. Pat. No. 3,614,846 -- Donnelly et al. This mounting bracket comprises a metal strap which is screwed transversely

across the back of a two-piece door jamb. The strap is perforated in order to weaken it at those points which are expected to correspond with wall thickness; during installation, the ends of the strap are bent at right angles to the jamb so as to lie on either side of the wall which defines the jamb opening. The ends of the strap are then nailed in place and the molding applied thereover in conventional fashion.

However this involves a complicated knock down two piece jamb assembly kit and installation. The door casing is attached to the jamb when being shipped and this makes it impossible to nail the bracket when installing because it's under the casing.

It is therefore an object of the present invention to provide an improved jamb mounting assembly.

It is also an object to provide an infinitely adjustable jamb bracket adaptable to walls and jambs of many different sizes.

SUMMARY OF THE INVENTION

Briefly stated, in accordance with one aspect of the invention, the foregoing objects are achieved by providing an installation bracket for securing a jamb in spaced relation to an edge member of a rough opening in a structure, the installation bracket having a middle section, a first end and a second end; the middle section having a plurality of spaced-apart mounting apertures for receiving bracket mounting screw means; a pair of holes located in vertical relationship with one another and equal distance from one of the ends between the middle section and each end; each end including a pair of alignment notches and a generally elliptical adjustment slot located midway between each pair of alignment notches, the alignment notches being used to align the installation bracket in relation to a vertical plumb line drawn with a level.

For interior doors, each end of the installation bracket is bent at a generally right angle at the two holes and adjustment mounting screws are used in the adjustment slot to attach through the

gypsum wall board and into the framing stud. For exterior doors, and windows, only one end of the installation bracket is bent.

Some of the advantages of the invention include:

1. The provision of three jamb mounting holes allows for more strength and rigidity.
2. The installation bracket has an adjustment slot at both ends for a more accurate installation.
3. The use of screws with the adjustment slots allows for better adjustment of the bracket.
4. As there is no right or left side to bracket the user can't accidentally install the bracket upside down.
5. The installation bracket has alignment notches which enable the user to align the installation bracket using a level and drawing a vertical line that is referred to as a plumb line.
6. The installation bracket has chamfered corners for safety.
7. The installation bracket can be made of different lengths for different wall thickness without changing the bracket design.
8. The installation bracket can be installed on a one piece door jamb which is the conventional way that pre hung doors are manufactured today.
9. The installation bracket is simplistic, quick and efficient.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention will now be described with reference to the accompanying drawings in which

FIG. 1 is a top view of the installation bracket according to the present invention;

FIG. 2 is a right side view of the installation bracket of FIG. 1;

FIG. 3 is an end view of the installation bracket of FIG. 1;

FIG. 4 is a perspective view of the installation bracket of FIG. 1 wherein the ends of the installation bracket have been bent for use with a pre-hung interior door;

FIG. 5 is a front view showing the use of the installation bracket with a pre-hung interior door;

FIG. 6 is a detailed view showing the placement of the installation bracket with a pre-hung interior door of FIG. 5;

FIG. 7 is a top view showing the use of the installation bracket with a pre-hung interior door along the lines A-A of FIG. 5;

FIG. 8 is a front view showing the use of the installation bracket with a pre-hung exterior door;

FIG. 9 is a top view showing the use of the installation bracket with a pre-hung exterior door along the lines B-B of FIG. 8;

FIG. 10 is a front view showing the use of the installation bracket with an exterior window;

FIG. 11 is a top view showing the use of the installation bracket with an exterior window along the lines C-C of FIG. 10;

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to Figure 1, there is shown an installation bracket 2 which has a middle section 4, a first end 6 and a second end 7. The installation bracket 2 is advantageously formed from metal plate material.

The middle section 4 has a plurality of spaced-apart mounting apertures 10 for receiving bracket mounting screws 24 (not shown). Preferably one mounting aperture 10 is located at a mid-point

of the installation bracket 2 with two mounting apertures 10 spaced equally apart from the mounting aperture 10 at the mid-point.

Between the middle section 4 and first end 6 are a pair of holes 12 in vertical relationship with one another and at an equal distance from the first end 6. Between the middle section 4 and second end 7 are a corresponding pair of holes 12 in vertical relationship with one another and at an equal distance from the second end 7.

First end 6 and second end 7 include a pair of alignment notches 8 and a generally elliptical adjustment slot 14 located mid-way between each pair of alignment notches 8. Alignment notches 8 are used to align the installation bracket 2 in relation to a vertical plumb line which is drawn with the aid of a level.

Figure 2 is a left side view of the installation bracket 2 of Figure 1 while Figure 3 is an end view of the installation bracket 2 as seen from the first end 6.

Referring to Figure 4, there is shown a perspective view of the installation bracket 2 wherein first end 6 and second end 7 have been bent at a generally right angle at the two holes 12.

Referring to Figure 5 there is shown a pre-hung interior door 16 which is positioned inside a jamb 18 and attached to the jamb 18 along one edge by means of a plurality of door hinges 28.

Referring to Figure 6 there is shown a detailed view of the installation bracket 2 in place. The installation bracket 2 is placed against the jamb 18 of the interior door 16. Between the jamb 18 and the wall (not shown) there is a rough frame opening 20.

a) Interior door

Referring to Figure 7 there is shown a typical wall construction for a pre-hung interior door 16 including a framing stud 38 and gypsum wallboard 40 disposed at either side thereof. Framing

stud 38 extends vertically to form one edge of a wall opening, the gypsum wallboard 40 terminating approximately flush with the inner edge of the framing stud 38. A jamb 18, which may, for instance, comprise a wooden door jamb is disposed some distance away from the framing stud 38 in order to allow room for trueing the jamb 18. The jamb 18 is affixed to the adjacent wall structure by means of one or more installation brackets 2. Preferably six installation brackets 2 are used. A plurality of fasteners such as bracket mounting screws 24 attach each installation bracket 2 firmly to the back surface of jamb 18. Adjustment mounting screws 22 are driven through the extremities and adjustment slot 14 of each installation bracket 2 to secure them tightly through the gypsum wallboard 40 and into the framing stud 38. Casing 36 is applied in the usual manner to cover the extending elements of the installation bracket 2 mounting assembly, and to conceal the rough frame opening 20 between the jamb 18 and wall structure.

Each installation bracket 2 is placed against the jamb 18 of the interior door 16 such that the two holes 12 are spaced equally with the edge of the jamb 18. Bracket mounting screws 24 are used with the mounting apertures 10 to secure the installation bracket 2 to the jamb 18.

Using a level, a vertical plumb line is drawn on the gypsum wallboard 40 approximately $\frac{3}{4}$ " from the rough frame opening 20 from top to bottom. This ensures that each installation bracket 2 is installed correctly.

On the hinge side of the jamb 18, three installation brackets 2 are installed to the jamb 18 (one at each hinge), using the three mounting apertures 10 and $\frac{1}{2}$ " x #8 bracket mounting screws 24. Using the holes 12, the installation bracket 2 is aligned and centered to the jamb 18. The other three installation brackets 2 are installed on the opposite side. The installation bracket 2 which is installed in the center is located 2" above the door latch.

First end 6 is bent at a generally right angle at the two holes 12 on the hinge side on the interior door 16. The interior door 16 is placed in the opening. The second end 7 on the other side of the

interior door 16 is bent to hold the interior door 16 in place. A spacer 26 is placed under the jamb 18 to represent the thickness of the finished floor.

Starting at the top door hinge 28, the installation bracket 2 is fastened using the adjustment slot 14 and 2" x #8 adjustment mounting screws 22, lining up the alignment notches 8 on the 3/4" plumb line on the gypsum wallboard 40. Working from top to bottom, each installation bracket 2 is installed by lining up the alignment notch 8 and the plumb line, driving the adjustment mounting screws 22 flush to the gypsum wallboard 40. The interior door 16 is now level.

Continuing on the opposite side, (the door latch side) the desired gap (proper or equal space) is left between the top and side of interior door 16 and jamb 18. Continuing on the other side of the interior door 16, the jamb is kept square with the wall. Casing 36 is now ready to be installed.

b) Exterior door

Referring to Figure 8 there is shown an exterior door 17 which is positioned inside a jamb 18 and attached to the jamb 18 along one edge by means of a plurality of door hinges 28.

Referring to Figure 9 there is shown a typical wall construction for an exterior door 17 including a framing stud 38, gypsum wallboard 40 and exterior wall sheathing 42 thereof. Framing stud 38 extends vertically to form one edge of a wall opening, the gypsum wallboard 40 terminating approximately flush with the inner edge of the framing stud 38. A jamb 18, which may, for instance, comprise a wooden door jamb is disposed some distance away from the framing stud 38 in order to allow room for trueing the jamb 18. The jamb 18 is affixed to the adjacent wall structure by means of one or more installation brackets 2. Preferably six installation brackets 2 are used. A plurality of fasteners such as bracket mounting screws 24 attach each installation bracket 2 firmly to the back surface of jamb 18. Adjustment mounting screws 22 are driven through one end 6 and adjustment slot 14 of each installation bracket 2 to secure them tightly to the framing stud 38. Gypsum wall board 40 is installed in the usual manner to cover the

extending elements of the installation bracket 2. Casing 36 is applied in the usual manner to conceal the rough frame opening 20 between the jamb 18 and wall structure.

Each installation bracket 2 is placed against the jamb 18 of the exterior door 17 such that the holes 12 are recessed the thickness of gypsum wallboard 40. Bracket mounting screws 24 are used with the mounting apertures 10 to secure the installation bracket 2 to the jamb 18.

Using a level, a vertical plumb line is drawn on the framing stud 38 approximately $\frac{3}{4}$ " from the rough opening from top to bottom. This ensures that each installation bracket 2 is installed correctly.

On the hinge side of the jamb 18, three installation brackets 2 are installed to the jamb 18 (one at each hinge), using the three mounting apertures 10 and $\frac{1}{2}$ " x #8 bracket mounting screws 24 provided. The other three installation brackets 2 are installed on the opposite side. The installation bracket 2 which is installed in the center is located 2" above the door latch (not shown).

First end 6 is bent at a generally right angle at the two holes 12 on the hinge side on the door. The exterior door 17 is placed in the opening. The second end 7 remains flat and un-bent.

Starting at the top door hinge 28, the installation bracket 2 is fastened using the adjustment slot 14 and 2" x #8 adjustment mounting screws 22 provided, lining up the alignment notches 8 on the $\frac{3}{4}$ " plumb line on the framing stud 38. Working from top to bottom, each installation bracket 2 is installed by lining up the alignment notch 8 and the plumb line, driving the adjustment mounting screws 22, through adjustment slot 14 flush to the framing stud 38. The exterior door 17 is now level.

Continuing on the opposite side, (the door latch side) the desired gap (proper or equal space) is left between the top and side of exterior door 17 and jamb 18. The gypsum wall board 40 is now ready to be installed. The casing 36 is applied to cover the rough frame opening 20 and jamb 18.

Figure 9 also shows the relative positioning of the exterior wall sheathing 42, brick 44, exterior brick mold 46 and insulation 48.

c) Exterior window

Referring to Figure 10 there is shown an exterior window 34 which is positioned inside a jamb 18.

Referring to Figure 11 there is shown a typical wall construction for an exterior window 34 including a framing stud 38, gypsum wallboard 40 and exterior wall sheathing 42 thereof. Framing stud 38 extends vertically to form one edge of a wall opening, the gypsum wallboard 40 terminating approximately flush with the inner edge of the framing stud 38. A jamb 18 is disposed some distance away from the framing stud 38 in order to allow room for trueing the jamb 18. The jamb 18 is affixed to the adjacent wall structure by means of one or more installation brackets 2. Preferably six installation brackets 2 are used. A plurality of fasteners such as bracket mounting screws 24 attach each installation bracket 2 firmly to the back surface of jamb 18. Adjustment mounting screws 22 are driven through one end 6 and adjustment slot 14 of each installation bracket 2 to secure them tightly to framing stud 38. Gypsum wall board 40 is install in the usual manner to cover the extending elements of the installation bracket 2. Casing 36 is applied in the usual manner to conceal the rough frame opening 20 between the jamb 18 and wall structure.

Each installation bracket 2 is placed against the jamb 18 of the exterior window 34 such that the holes 12 are recessed the thickness of gypsum wallboard 40. Bracket mounting screws 24 are used with the mounting apertures 10 to secure the installation bracket 2 to the jamb 18.

Using a level, a vertical plumb line is drawn on the framing stud 38 approximately $\frac{3}{4}$ " from the rough opening from top to bottom. This ensures that each installation bracket 2 is installed correctly.

On each side of the jamb 18, installation brackets 2 are installed to the jamb 18 of the exterior window 34. Using the three mounting apertures 10 and 1/2" x #8 bracket mounting screws 24 provided. An installation bracket 2 is installed in the top-center of the exterior window 34 and another installation bracket is installed in the bottom-center of the exterior window 34.

First end 6 is bent at a generally right angle at the two holes 12 on the exterior window 34. The exterior window 34 is placed in the opening. Spacers 26 are used to leave an even space at the top and bottom of the exterior window 34.

Starting at the top, the installation bracket 2 is fastened using the adjustment slot 14 and 2" x #8 adjustment mounting screws 22 provided, lining up the alignment notches 8 on the 3/4" plumb line on the framing stud 38. Working from top to bottom down, each installation bracket 2 is installed by lining up the alignment notch 8 and the plumb line, driving the adjustment mounting screws 22, through adjustment slot 14 flush to the framing stud 38. The exterior window 34 is now level.

Second end 7 of the installation bracket 2 remains flat and un-bent.

The scope of the claims should not be limited by the preferred embodiments set forth in the examples, but should be given the broadest interpretation consistent with the description as a whole.

List of Reference Numerals

2	installation bracket
4	middle section
6	first end
7	second end
8	alignment notch
10	mounting apertures
12	holes
14	adjustment slot
16	interior door
17	exterior door
18	jamb
20	rough frame opening
22	adjustment mounting screw
24	bracket mounting screw
26	spacer
28	door hinge
30	door stop
32	
34	exterior window
36	casing (doors & windows)
38	framing stud
40	gypsum wall board
42	exterior wall sheathing
44	brick
46	exterior brick mold
48	insulation

CLAIMS

1. An installation bracket for securing a jamb in spaced relation to an edge member of a rough opening in a structure, comprising:
 - a middle section, a first end and a second end;
 - said middle section having a plurality of spaced-apart apertures for receiving bracket mounting screw means;
 - a plurality of holes located in vertical relationship with each another and equal distance from one of the ends between the middle section and each end;
 - each end including at least two alignment notches and at least one generally elliptical adjustment slot located mid-way between said alignment notches, said at least two alignment notches being used to align the installation bracket in relation to a plumb line.
2. The installation bracket according to claim 1 wherein at least one end is bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.
3. The installation bracket according to claim 1 wherein both ends are bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.
4. The installation bracket according to any one of claims 1 to 3 having two holes.
5. An installation bracket for securing a jamb for an interior door in spaced relation to an edge member of a rough opening in a structure, comprising:
 - a middle section, a first end and a second end;
 - said middle section having a plurality of spaced-apart apertures for receiving bracket mounting screw means;
 - a plurality of holes located in vertical relationship with each another and equal distance from one of the ends between the middle section and each end;

each end including at least two alignment notches and at least one generally elliptical adjustment slot located mid-way between said alignment notches, said at least two alignment notches being used to align the installation bracket in relation to a plumb line.

6. The installation bracket according to claim 5 wherein at least one end is bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

7. The installation bracket according to claim 6 wherein both ends are bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

8. The installation bracket according to any one of claims 5 to 7 having two holes.

9. An installation bracket for securing a jamb for an exterior door in spaced relation to an edge member of a rough opening in a structure, comprising:

a middle section, a first end and a second end;

said middle section having a plurality of spaced-apart apertures for receiving bracket mounting screw means;

a plurality of holes located in vertical relationship with each another and equal distance from one of the ends between the middle section and each end;

each end including at least two alignment notches and at least one generally elliptical adjustment slot located mid-way between said alignment notches, said at least two alignment notches being used to align the installation bracket in relation to a plumb line.

10. The installation bracket according to claim 9 wherein at least one end is bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

11. The installation bracket according to claim 10 wherein both ends are bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

12. The installation bracket according to any one of claims 9 to 11 having two holes.

13. An installation bracket for securing a jamb for a window in spaced relation to an edge member of a rough opening in a structure, comprising:

- a middle section, a first end and a second end;

- said middle section having a plurality of spaced-apart apertures for receiving bracket mounting screw means;

- a plurality of holes located in vertical relationship with each another and equal distance from one of the ends between the middle section and each end;

- each end including at least two alignment notches and at least one generally elliptical adjustment slot located mid-way between said alignment notches, said at least two

- alignment notches being used to align the installation bracket in relation to a plumb line.

14. The installation bracket according to claim 13 wherein at least one end is bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

15. The installation bracket according to claim 14 wherein both ends are bent at a generally right angle at the plurality of holes and adjustment mounting means are used in the at least one adjustment slot to attach through the wall board and into the stud.

16. The installation bracket according to any one of claims 13 to 15 having two holes.

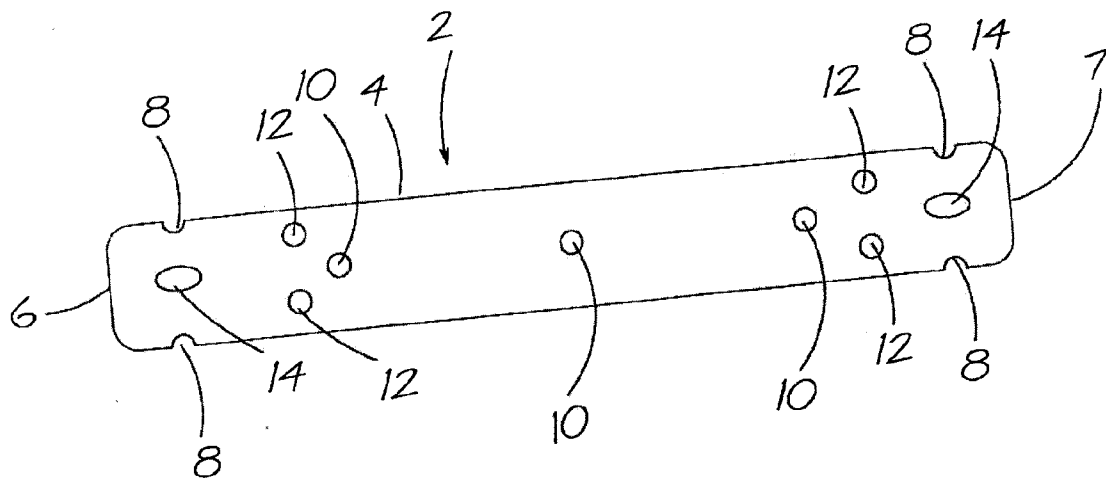


Fig. 1

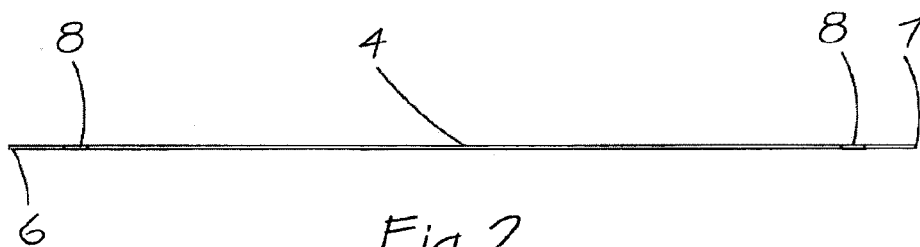
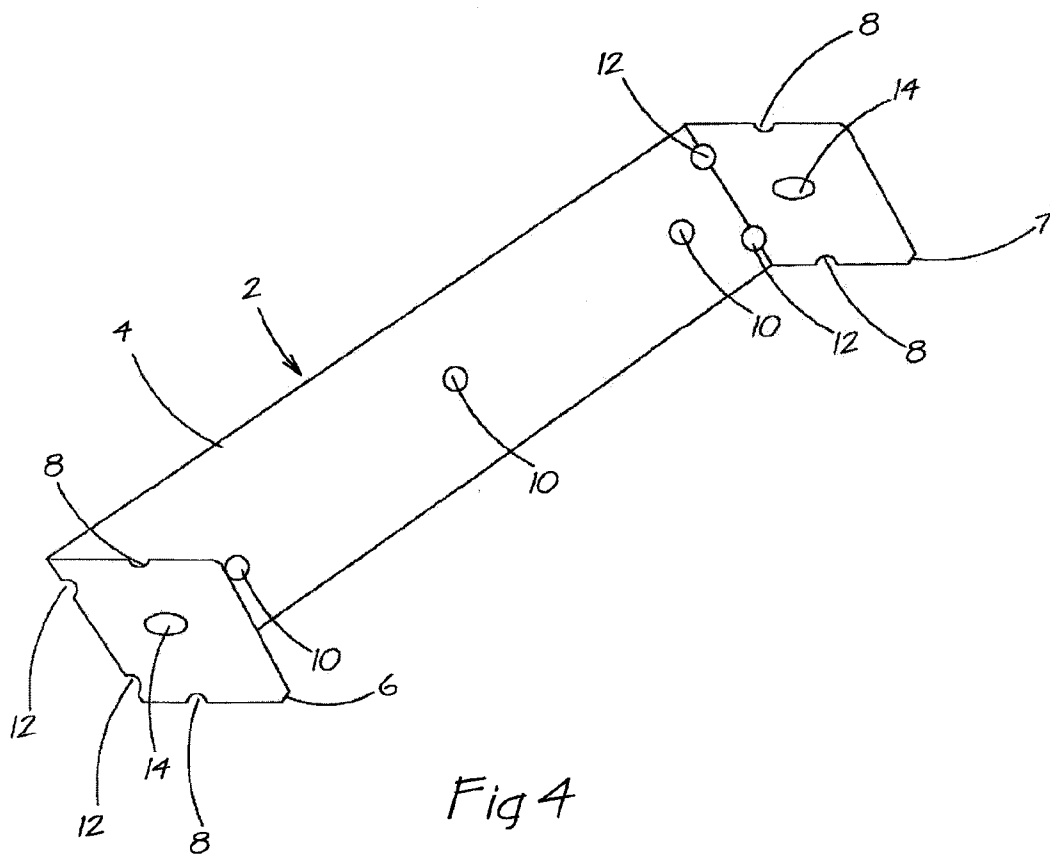


Fig. 2



Fig. 3



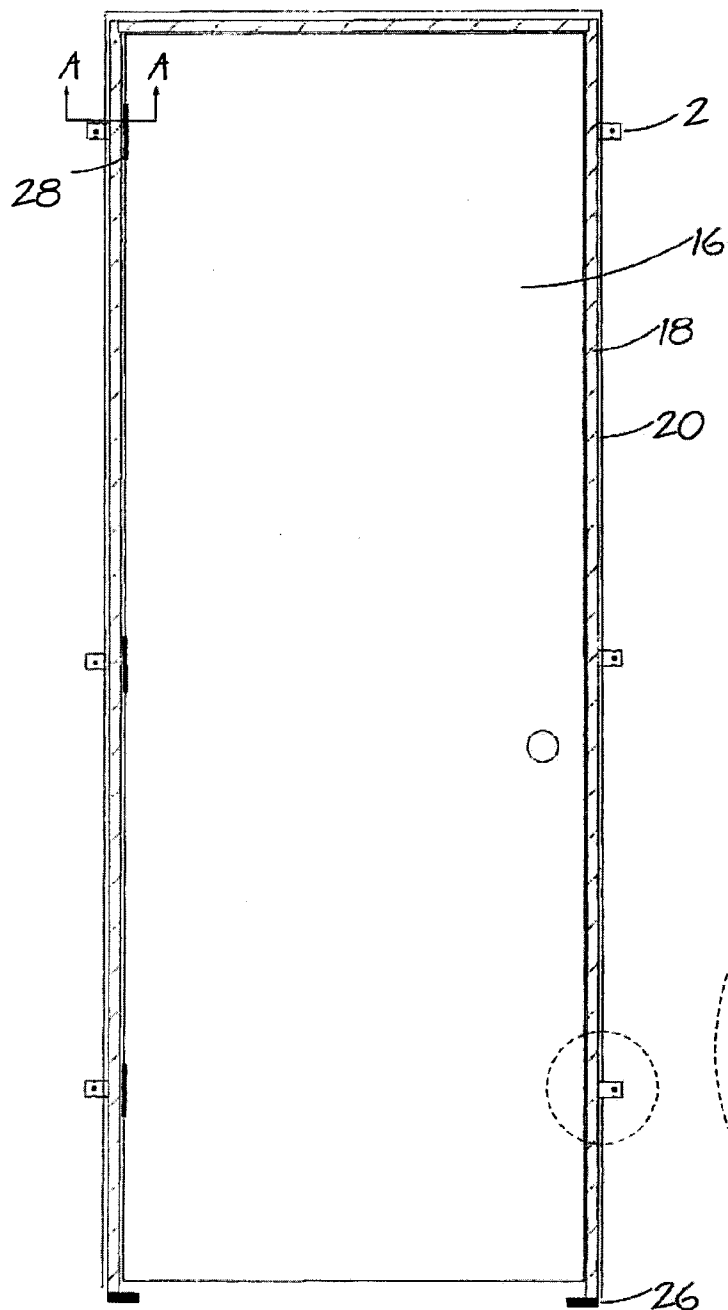


Fig 5

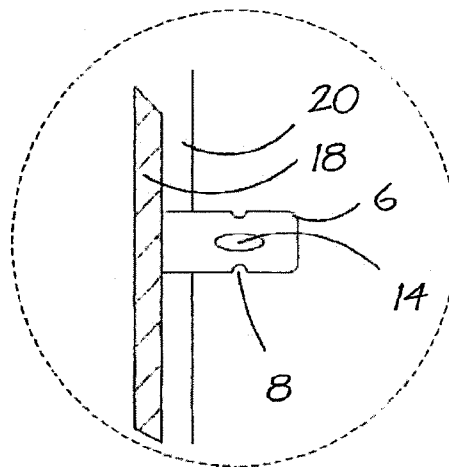


Fig 6

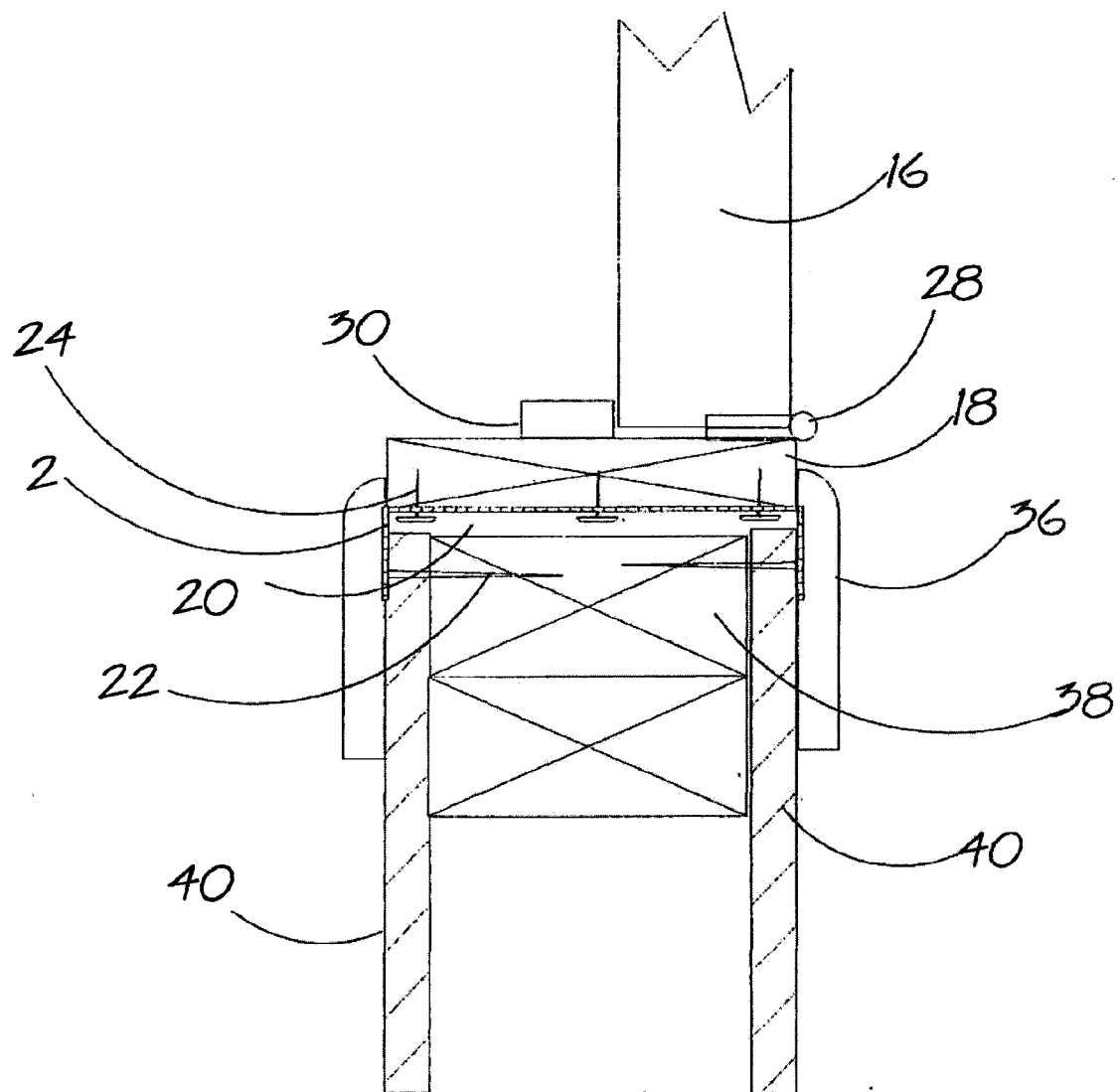


Fig 7

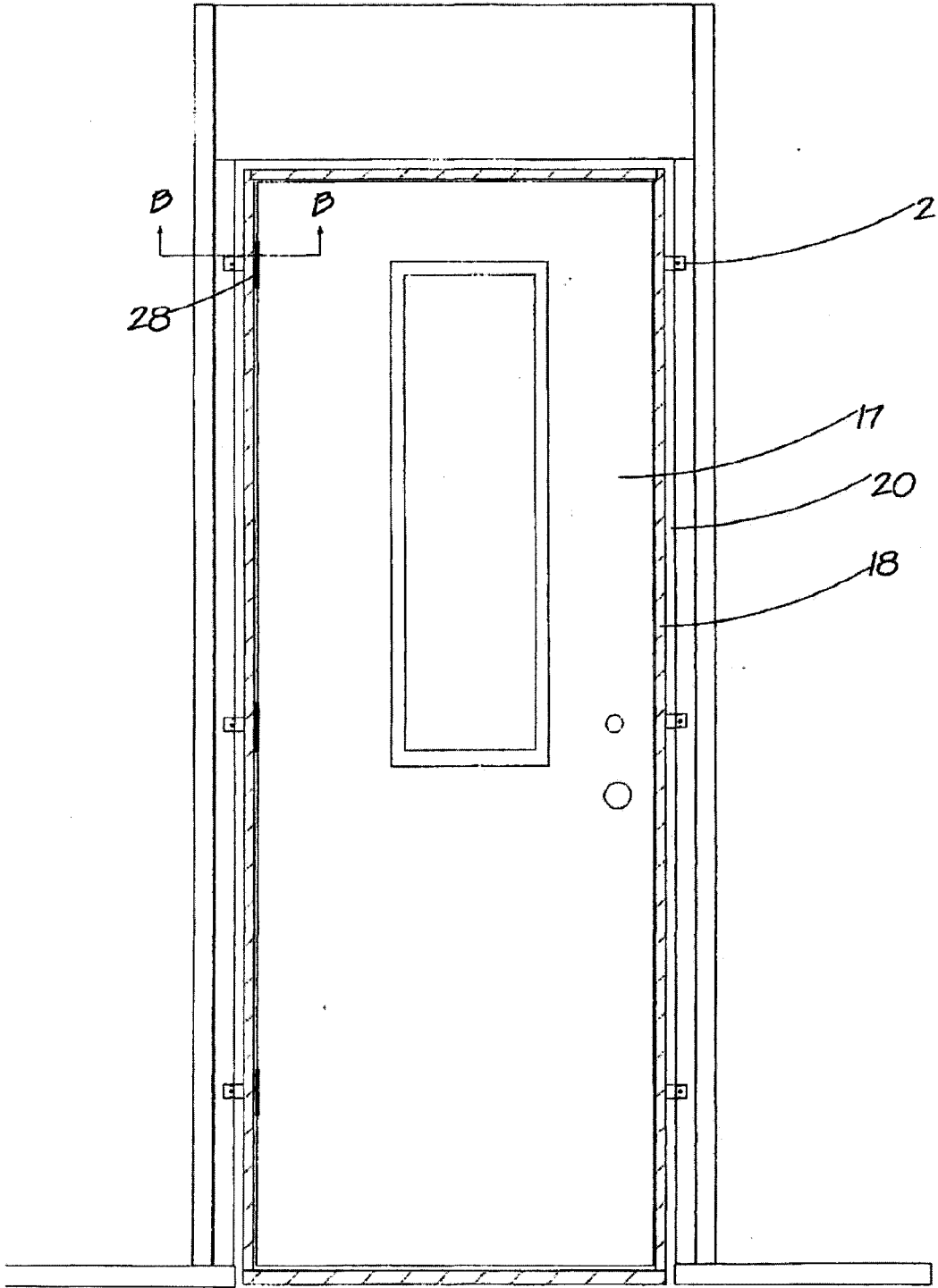


Fig 8

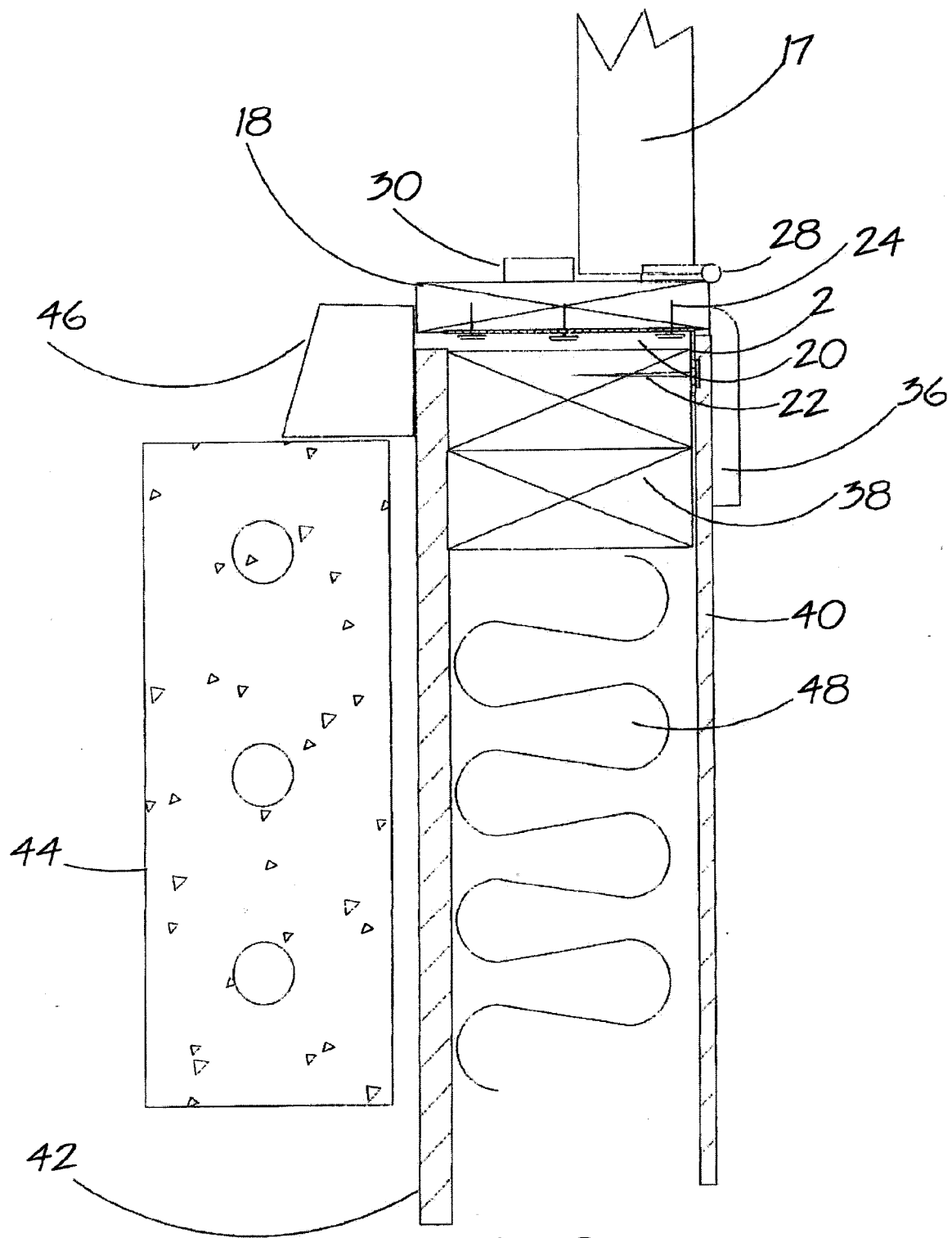


Fig 9

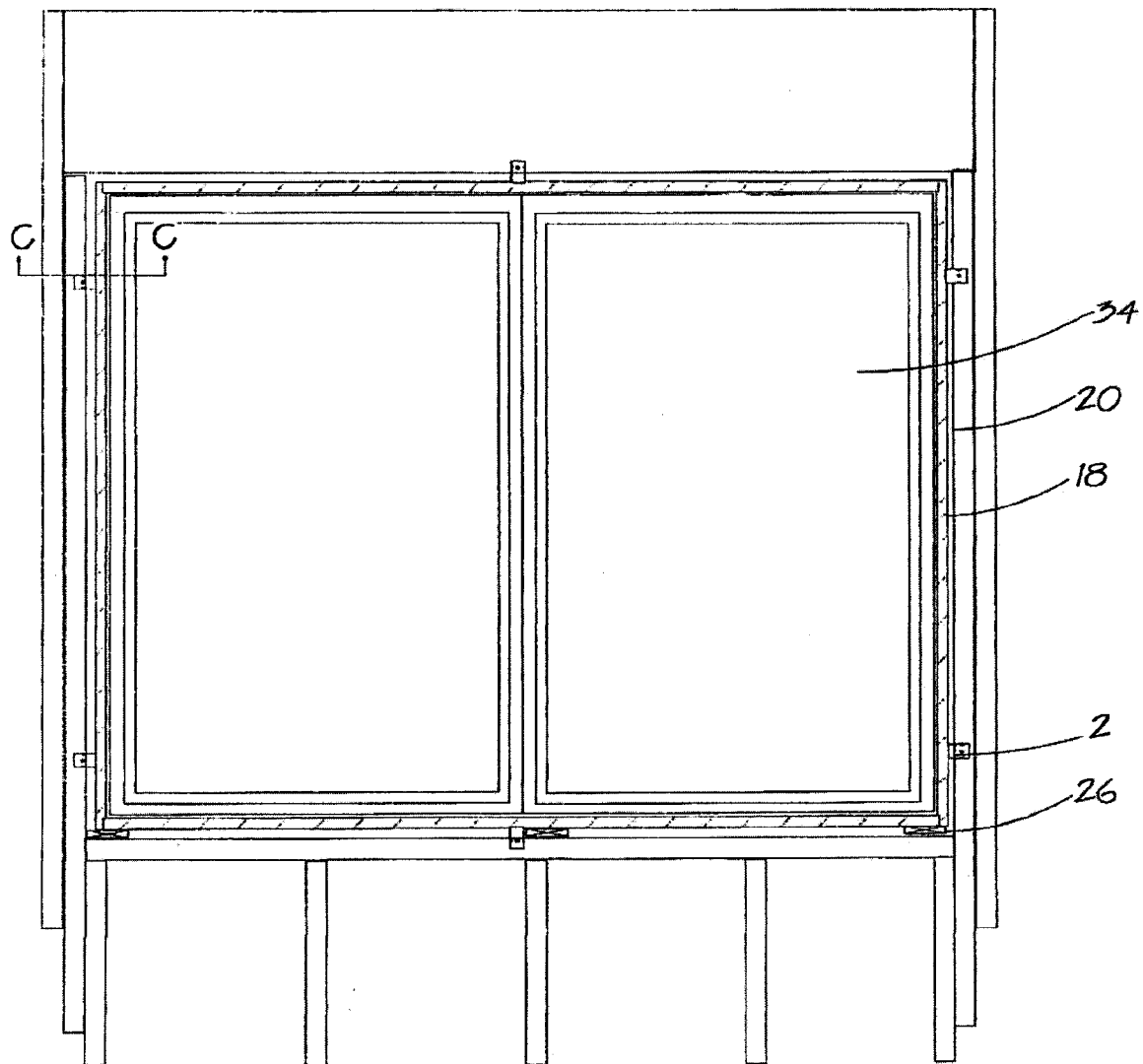


Fig 10

