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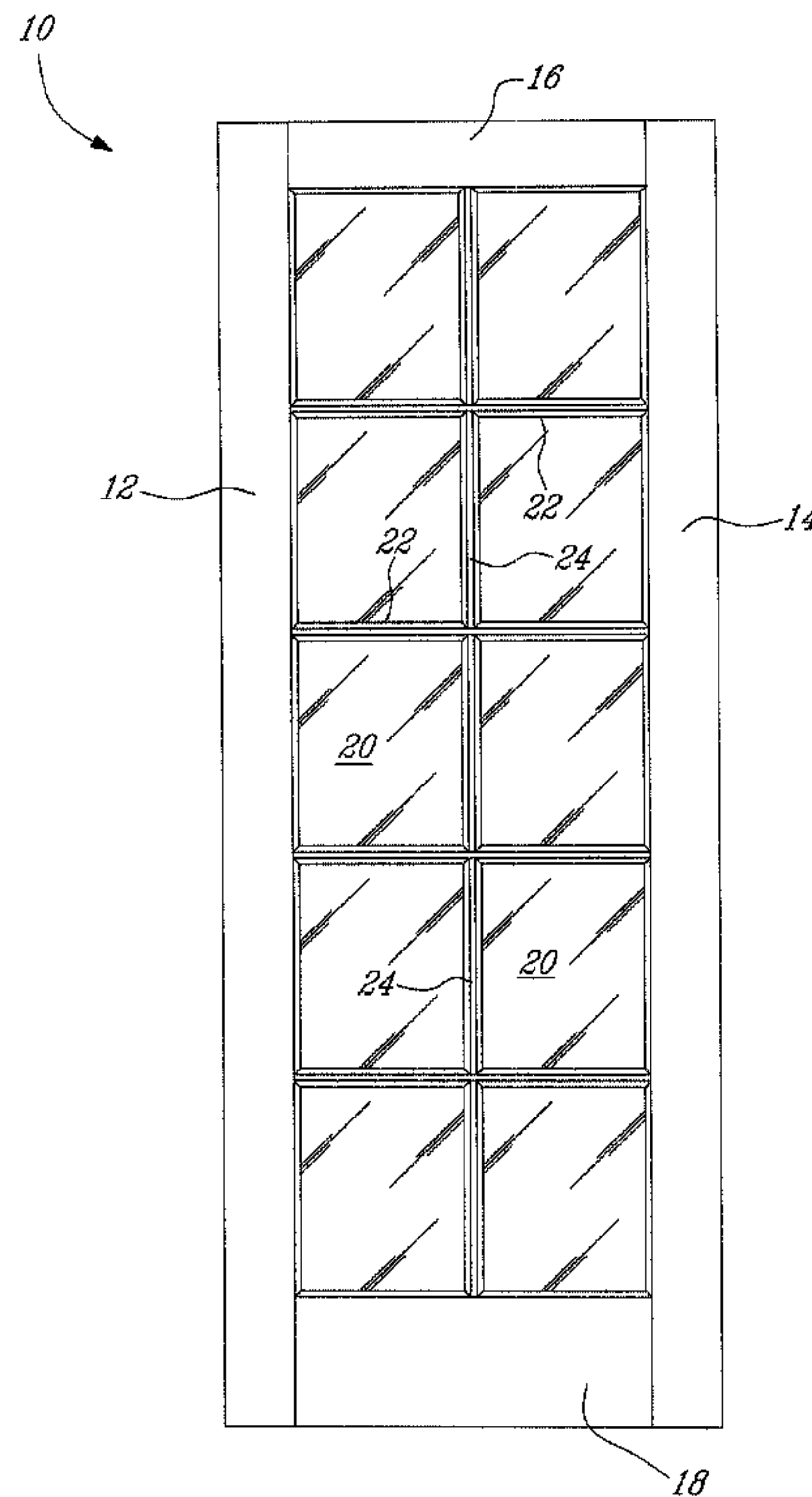
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(54) Titre : PORTE-FENETRE EN MATERIAU COMPOSITE

(54) Title: COMPOSITE FRENCH DOOR



(57) **Abrégé/Abstract:**

A composite French door provided with assembled stiles and top and bottom transverse pieces is described herein. The stiles and transverse pieces include outer faces that are pre-finished and provided with bevelled edges so that, once assembled, a V-shaped notch is provided at the junction of the various elements.



ABSTRACT OF THE DISCLOSURE

A composite French door provided with assembled stiles and top and bottom transverse pieces is described herein. The stiles and transverse pieces include outer faces that are pre-finished and provided
5 with bevelled edges so that, once assembled, a V-shaped notch is provided at the junction of the various elements.

TITLE OF THE INVENTION

Composite French door

FIELD OF THE INVENTION

The present invention relates to French doors. More
5 specifically, the present invention is concerned with a French door made
of engineered materials having pre-finished faces to thereby yield a door
that is less expensive to produce while providing pleasing aesthetics.

BACKGROUND OF THE INVENTION

French doors are well known and are used extensively
10 in high priced houses.

These doors are expensive to manufacture since they
are conventionally made of solid woods that must be carefully sanded and
finished after the French door is assembled to yield a high-end product.
Indeed, should the elements be sanded and finished prior to the assembly
15 of the door, small difference in thickness would be very noticeable to the
naked human eye at the junction of the various elements making the door.

OBJECTS OF THE INVENTION

An object of the present invention is therefore to provide
a composite French door.

It is to be understood that the term "composite" is to be construed as meaning any assembly of materials different from solid wood.

Other objects, advantages and features of the present
5 invention will become more apparent upon reading of the following non-restrictive description of preferred embodiments thereof, given by way of example only with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the appended drawings:

10 Figure 1 is a front view of a French door according to an embodiment of the present invention;

Figures 2A to 2E illustrate the assembly of a door stile used in the door of Figure 1;

Figures 2A to 3C illustrate the assembly of three door
15 bottom transverse piece used in the door of Figure 1;

Figures 4A to 4C illustrate the assembly of three door upper transverse piece used in the door of Figure 1;

Figures 3A and 5B illustrate a first joint between a stile and a transverse piece;

Figures 4A and 6B illustrate a second joint between a stile and a transverse piece; and

Figure 7 is a perspective view, partly in section, of a portion of the door of Figure 1.

5 **DESCRIPTION OF AN EMBODIMENT**

In a nutshell, the present invention proposes to provide a French door made of generally hollow stiles and top and bottom transverse elements having pre-finished faces. This lowers the cost of finishing and the material costs. Pieces of solid wood are used at the
10 junction between the various elements of the door to allow for a conventional assembly of these elements and to yield a conventional looking finished product.

Turning to Figure 1 of the appended drawings, a French door 10 according to an embodiment of the present invention will be
15 described. The door 10 includes first and second door stiles 12 and 14, a top transverse piece 16 mounted between the stiles 12 and 14 and a bottom transverse piece 18 mounted between the stiles 12 and 14. The door 10 also includes ten (10) glass panels 20 mounted between horizontal 22 and vertical 24 cross pieces as will be described
20 hereinbelow.

Turning now to Figure 2A to 2E, the construction of a door stile (12 or 14) will be described.

In Figure 2A a first face element 26 is provided and assembled with a first solid wood edge element 28 via a wood adhesive

Four solid wood spacers 30-36 are then adhered to the inside surface of the first face element 26 (Figure 2B).

5 A second solid wood edge element 38 may then be adhered to the first face element 26 (Figure 2C).

In Figure 2D, a second face element 40 is adhered to the edge elements 28 and 38 and to the spacers 30-36 to yield the finished stile (Figure 2E).

10 The resulting stile is slightly lighter and provided with finished outer surfaces and solid wood edges.

It is to be noted that the face elements 26 and 40 could be made of solid wood but could also be a laminate material provided with a wooden outer layer. Similarly, the spacers could be made of other
15 materials. It is also to be noted that the number and position of the spacers depend, amongst others, on the type of door made. Optionally, foam material could be provided between the spacers.

Figure 3A to 3C illustrate the assembly and the cutting of three bottom transverse pieces 18.

20 First, in Figure 3A, two solid wood spacers 42 and 44 and an edge element 46 are adhered to and between two face elements

48 and 50. A full length board 52 (see Figure 3B) may then be cut into three (3) bottom transverse pieces 18 (see Figure 3C).

Figure 4A to 4C illustrate the assembly and the cutting of three top transverse pieces 16.

5 First, in Figure 4A, a solid wood spacer 54 and an edge element 56 are adhered to and between two face elements 58 and 60. A full length board 62 (see Figure 4B) may then be cut into three (3) top transverse pieces 16 (see Figure 4C).

10 Figure 5A and 5B illustrate a first junction between a stile 12 and a bottom transversal piece 18. Conventionally, the edge element 28 and the spacer 42 have been so shaped as to mate.

15 As can be seen from these Figures, the faces 26, 40, 48 and 50 are bevelled (see angles 64) to create a sixty (60) degree angle 66 (see Figure 5B). This angle 66 allows for small misalignment of the outer surfaces of the faces 26, 40, 48 and 50, thereby allowing the faces to be pre-finished. Indeed, it has been found that the eye is fooled by this V-shape notch between adjacent surfaces.

20 Figures 6A and 6B are very similar to Figures 5A and 5B. The main difference between these figures is that the faces of Figure 6A and 6B are so bevelled (angles 68) so that a ninety (90) degree angle (see angle 70 in Figure 6B) is formed when these elements are assembled via an adhesive.

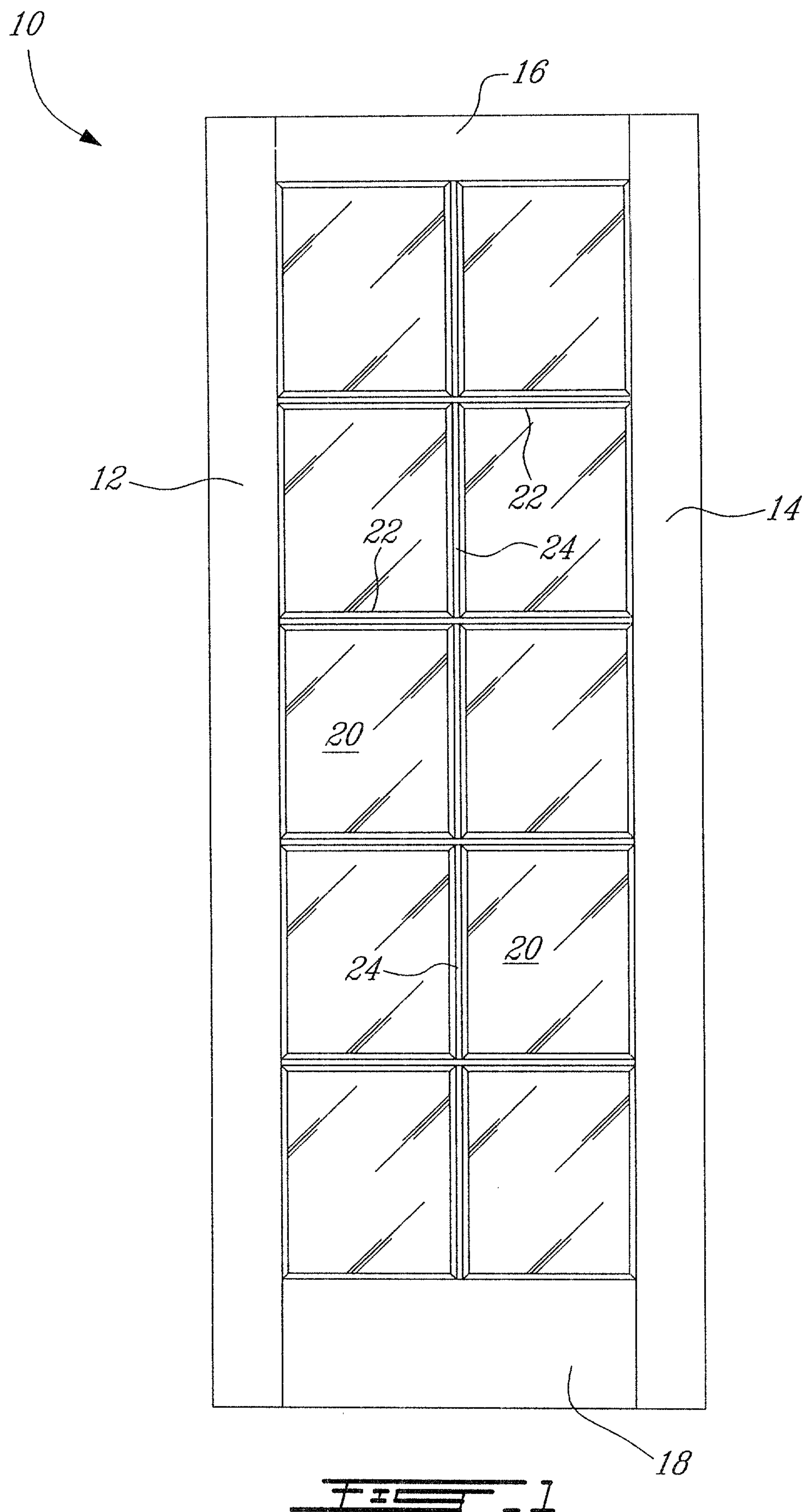
Figure 7 illustrates, in a partly sectional view, the assembly of the various elements assembled to yield the French door 10 of Figure 1.

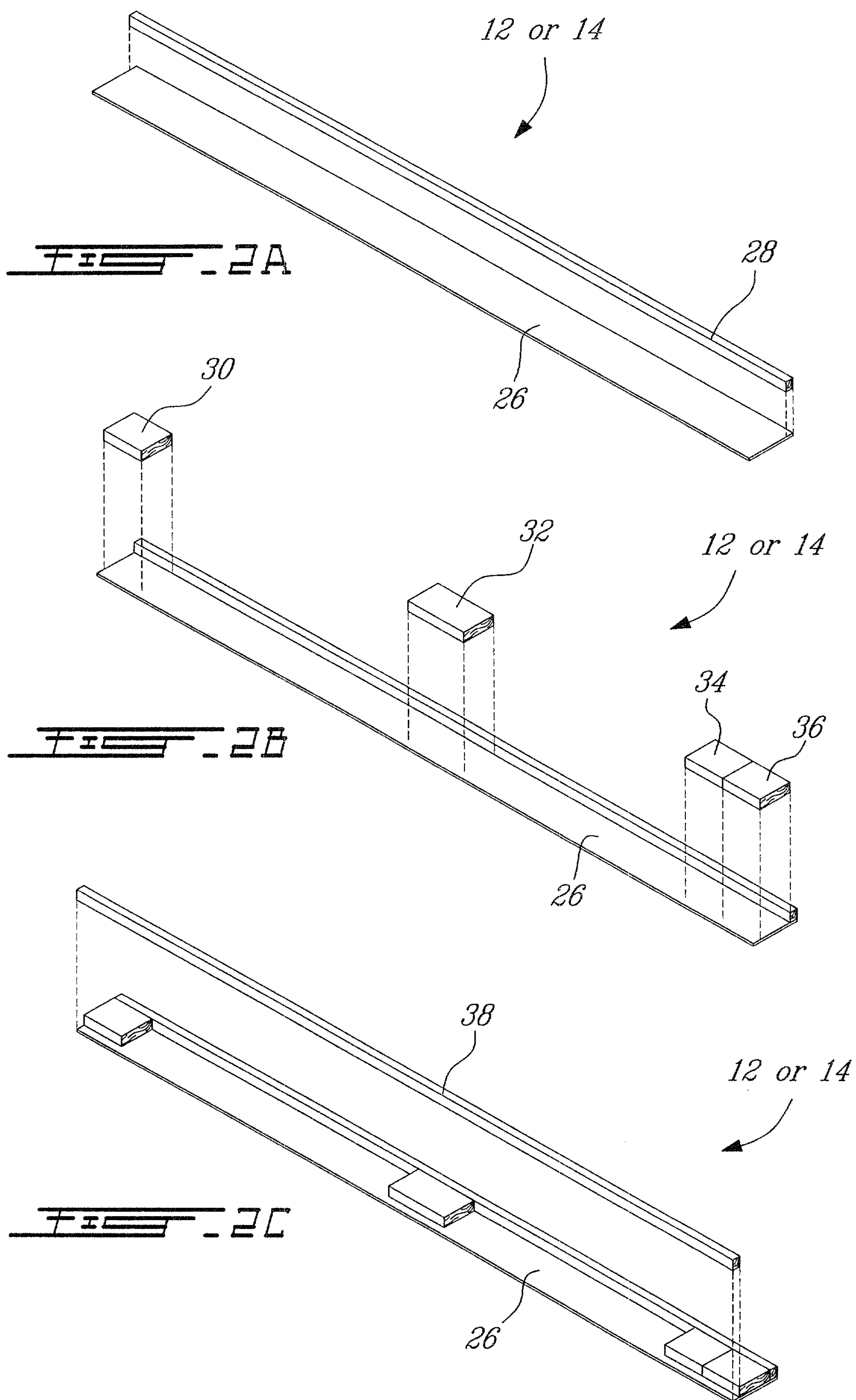
As will be understood by one skilled in the art, even
5 though the French door 10 illustrated in the appended drawings is provided with 10 glass panels 20, other style of French doors, with or without glass panels, could be designed according to the present invention.

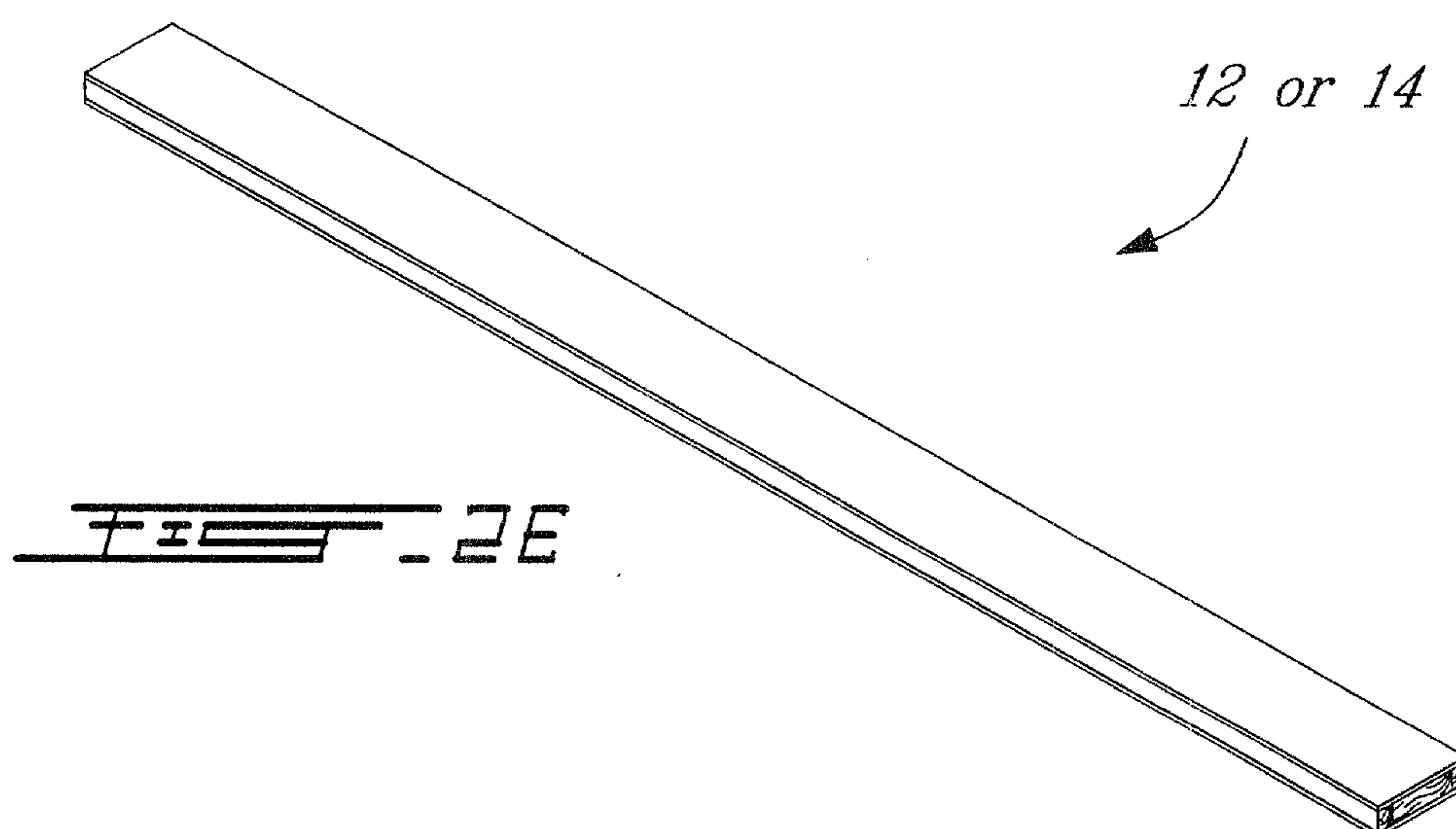
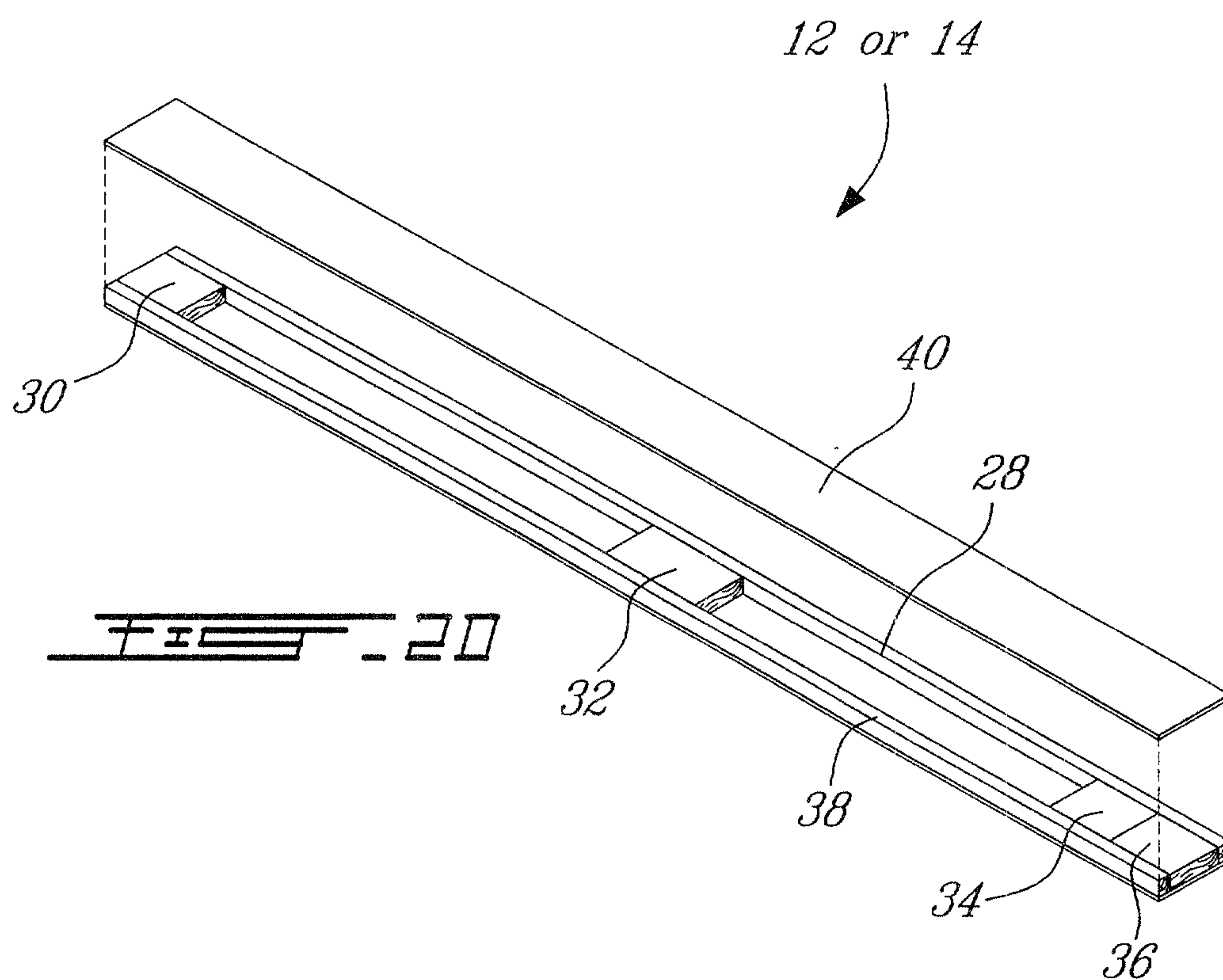
Although the present invention has been described
10 hereinabove by way of preferred embodiments thereof, it can be modified, without departing from the spirit and nature of the subject invention as defined in the appended claims.

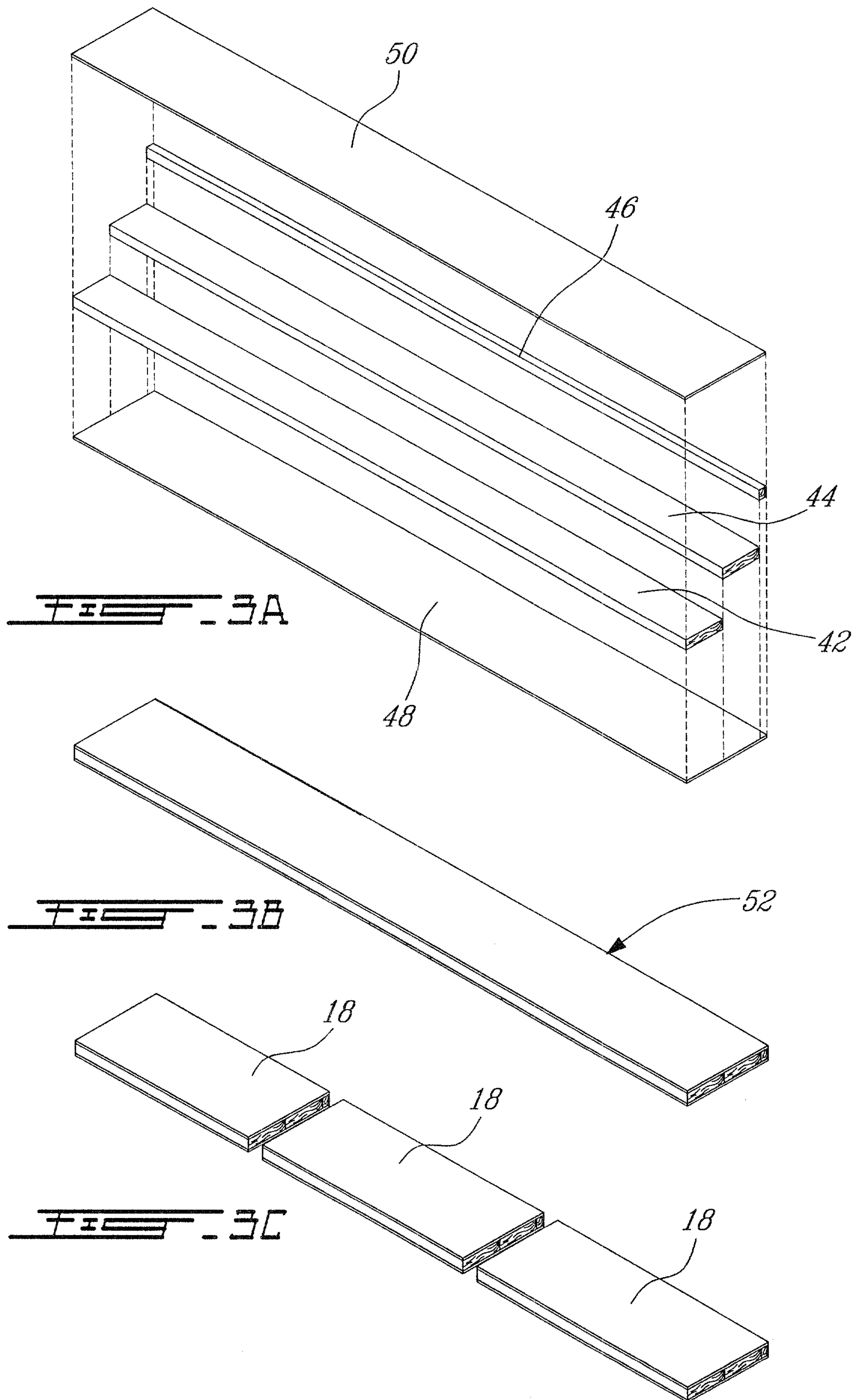
WHAT IS CLAIMED IS:

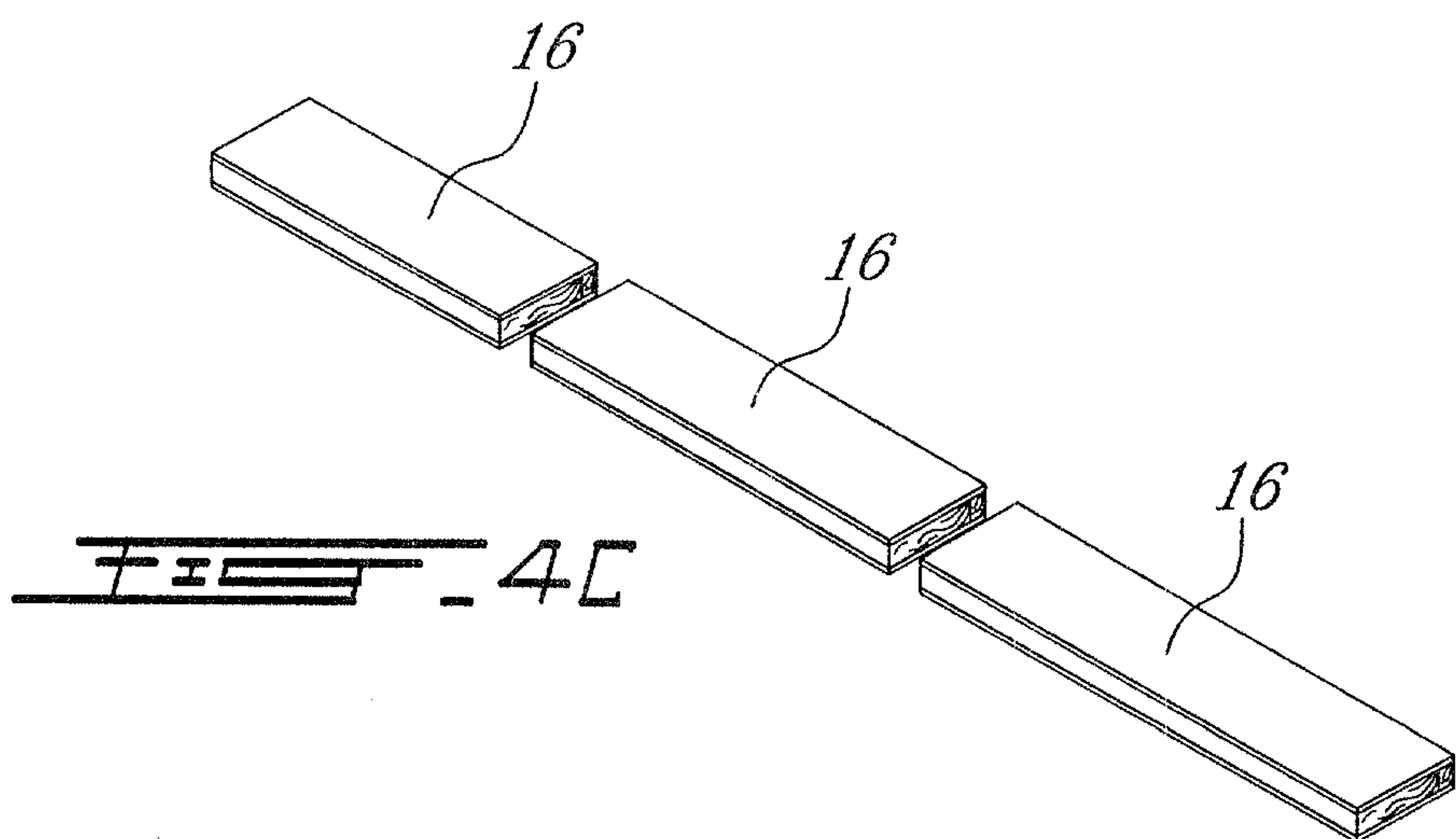
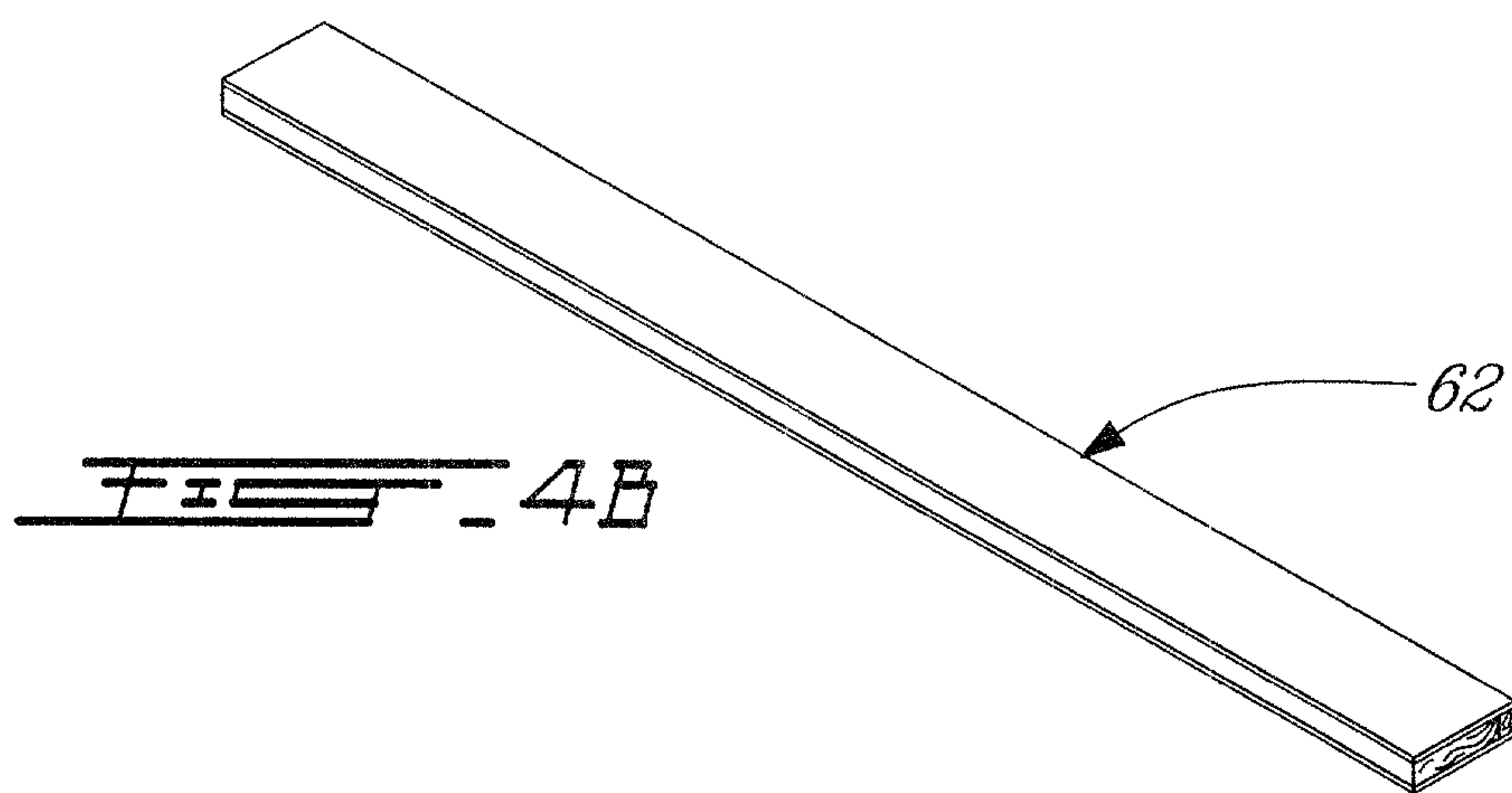
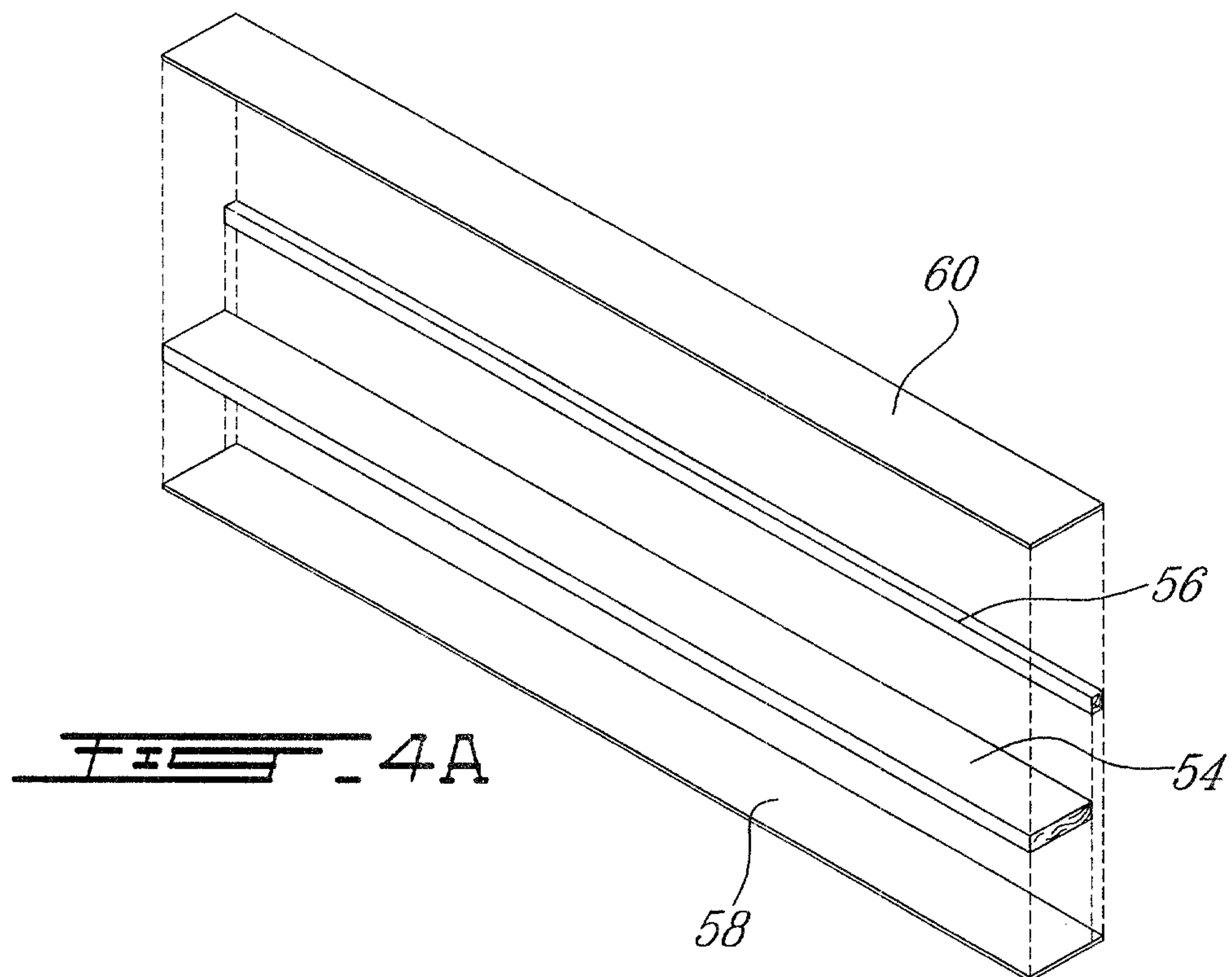
1. A composite French door comprising:
first and second stile;
top and bottom transversal piece mounted between said first
5 and second stiles
wherein said first and second stile and said top and bottom
transversal pieces include pre-finished faces and bevelled edges.

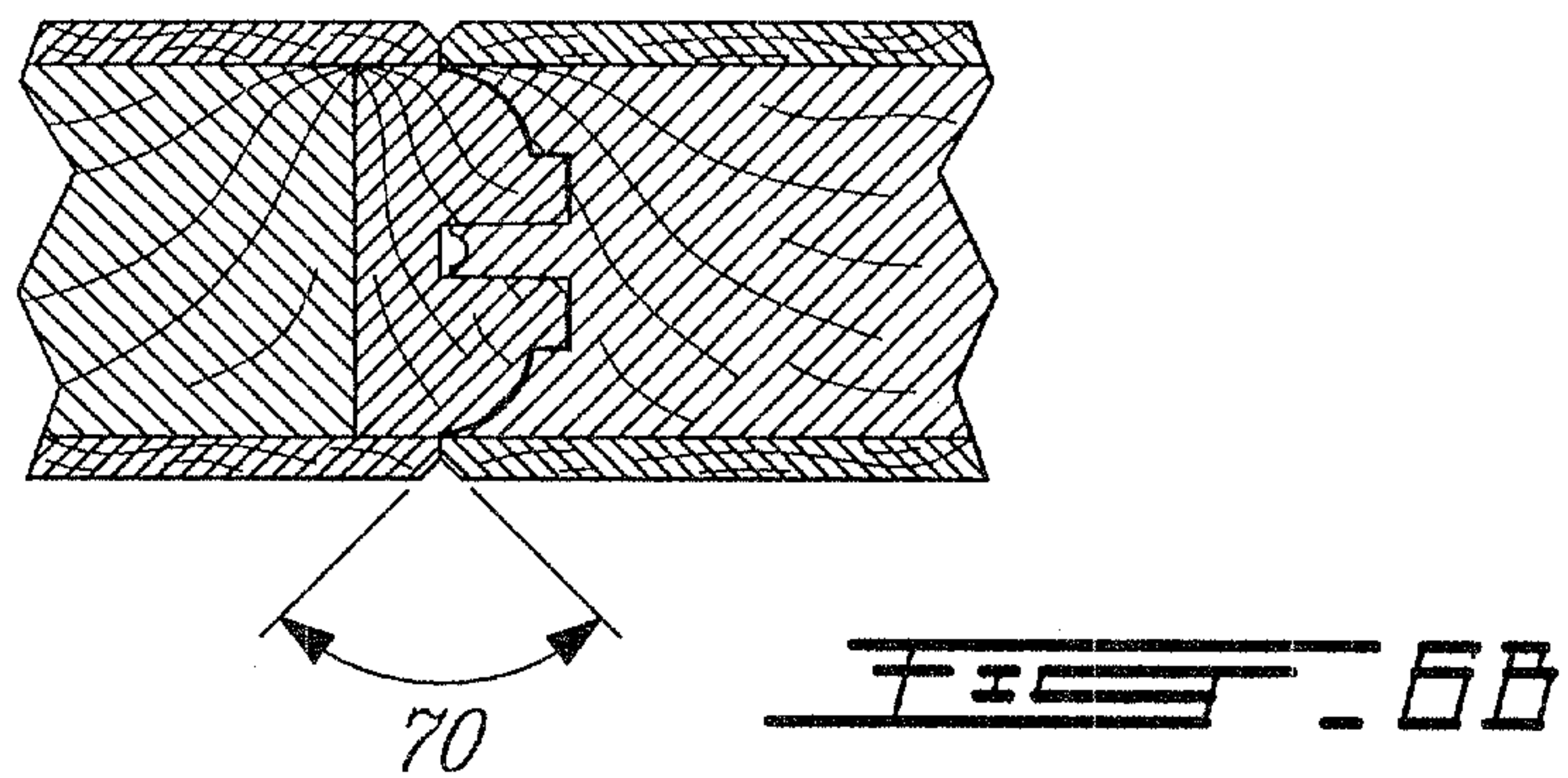
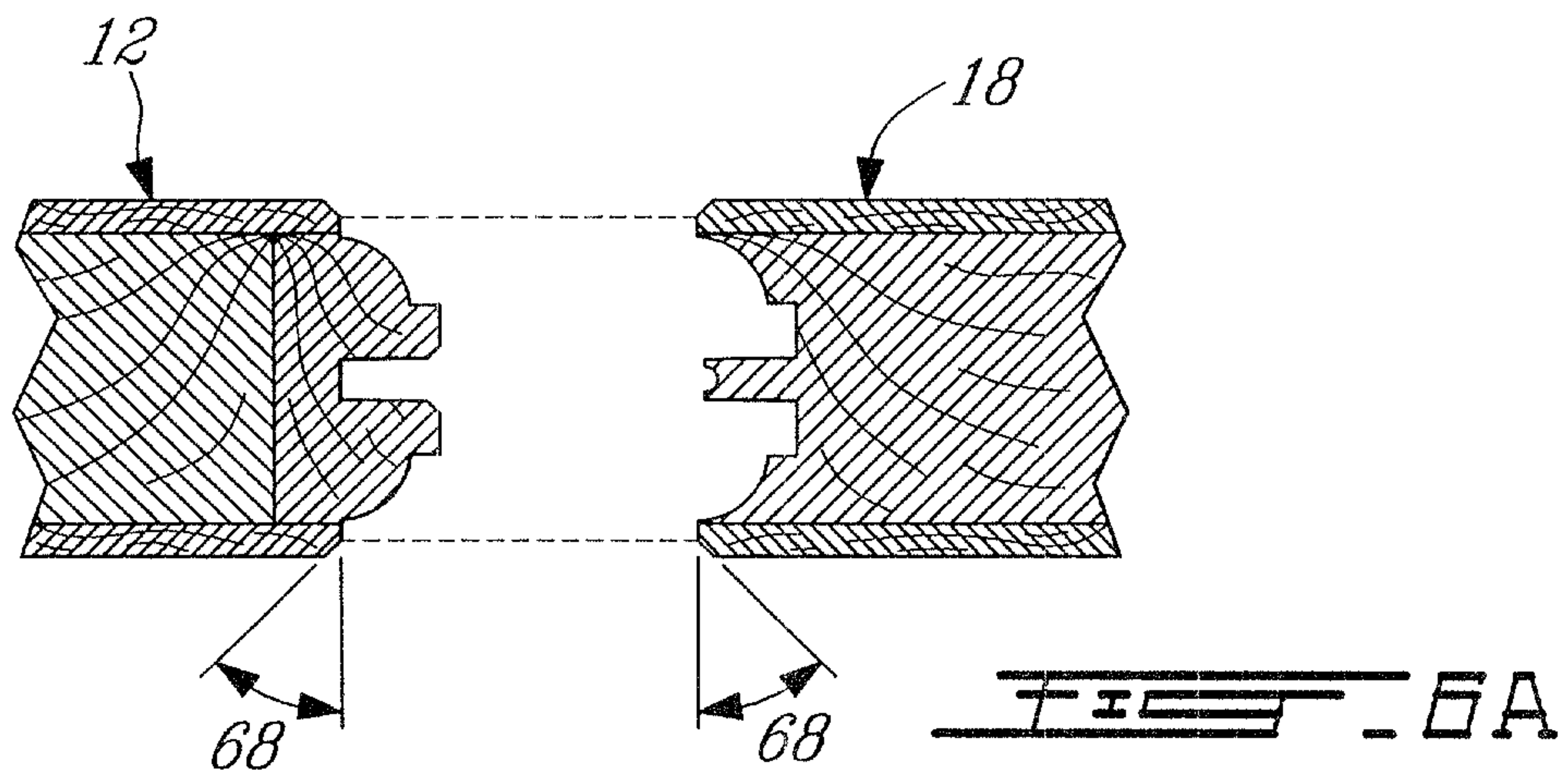
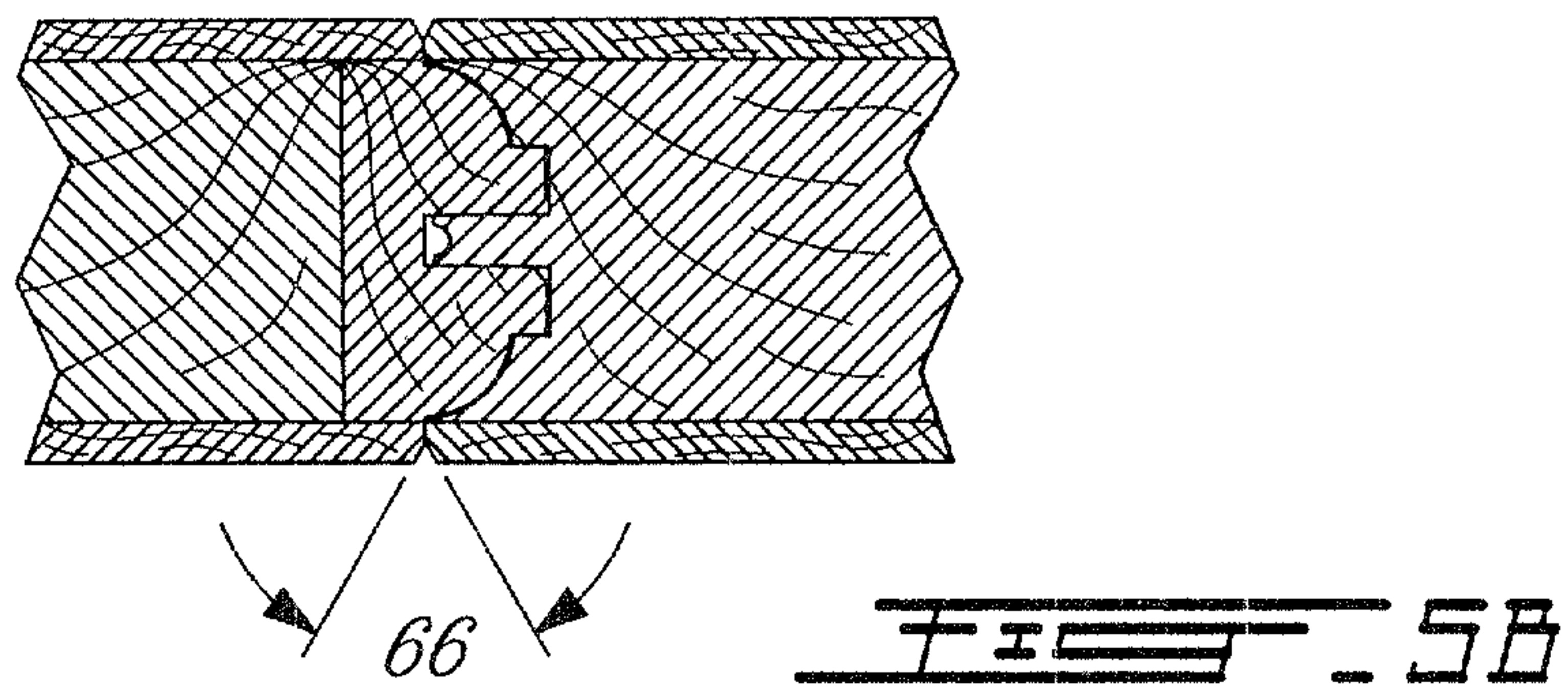
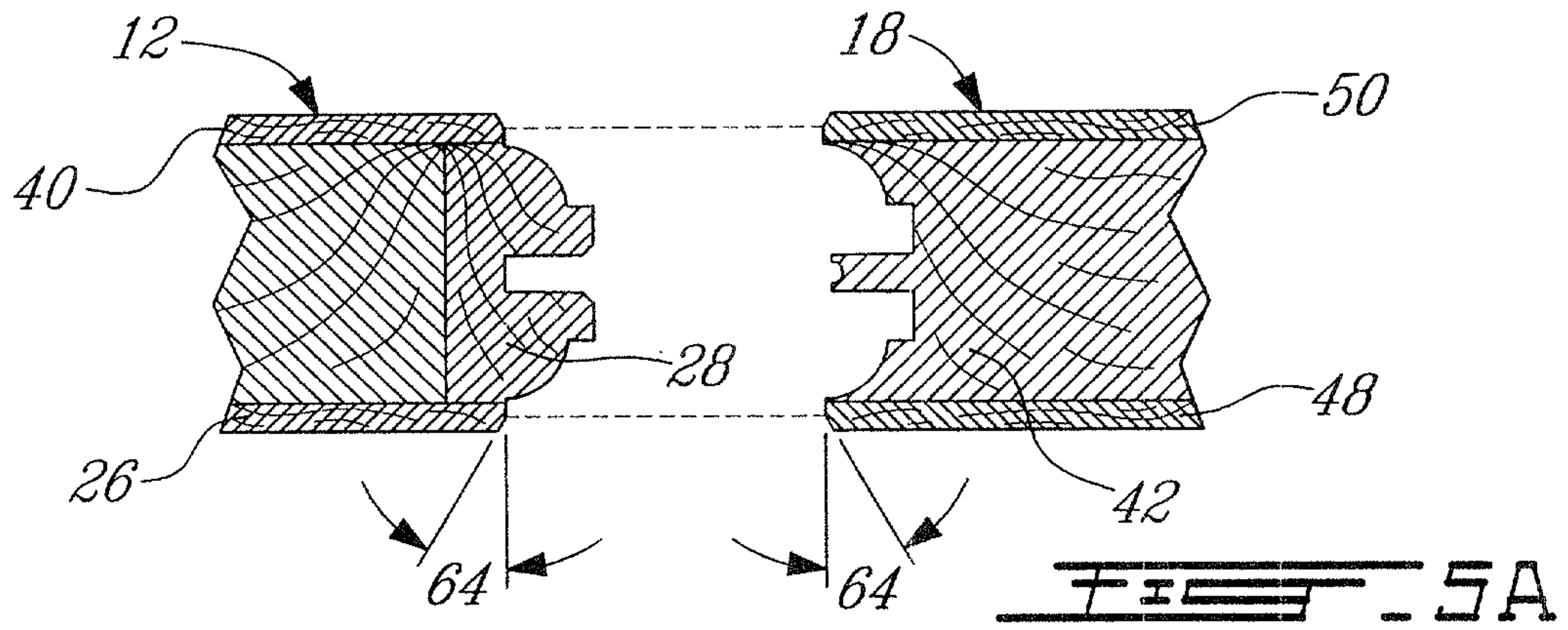












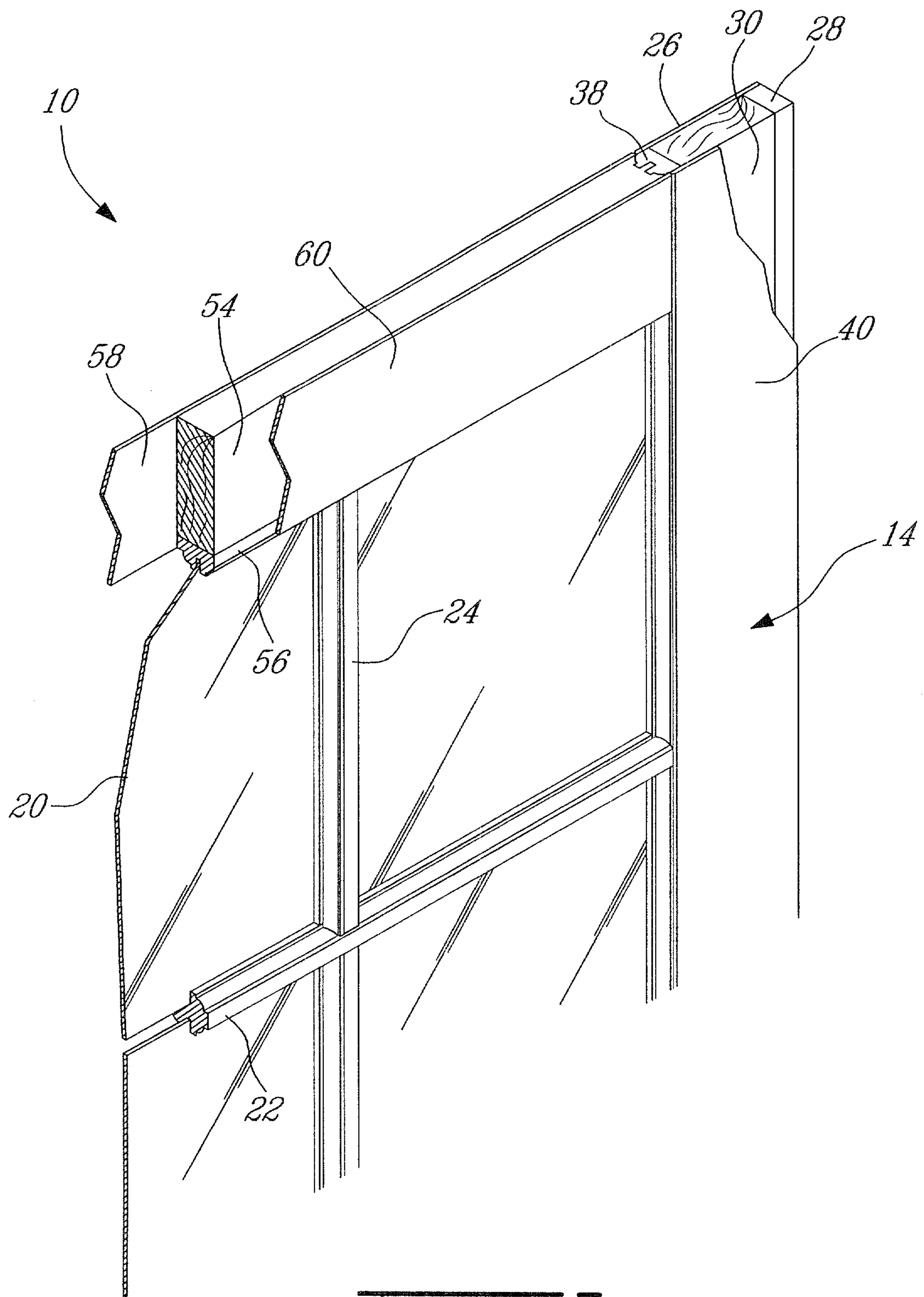


FIG. 7

10

16

12

14

22

22

24

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24

20

18

