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(54) Collapsible framework or skeleton for containers.

(57) There is proposed a crate like container consisting of four grid like side walls which are connectable to a bottom pallet of generally known kind. The four walls are provided each at one vertical edge with male and at the opposite vertical edge with female hinge means. A top wall may be provided if required.

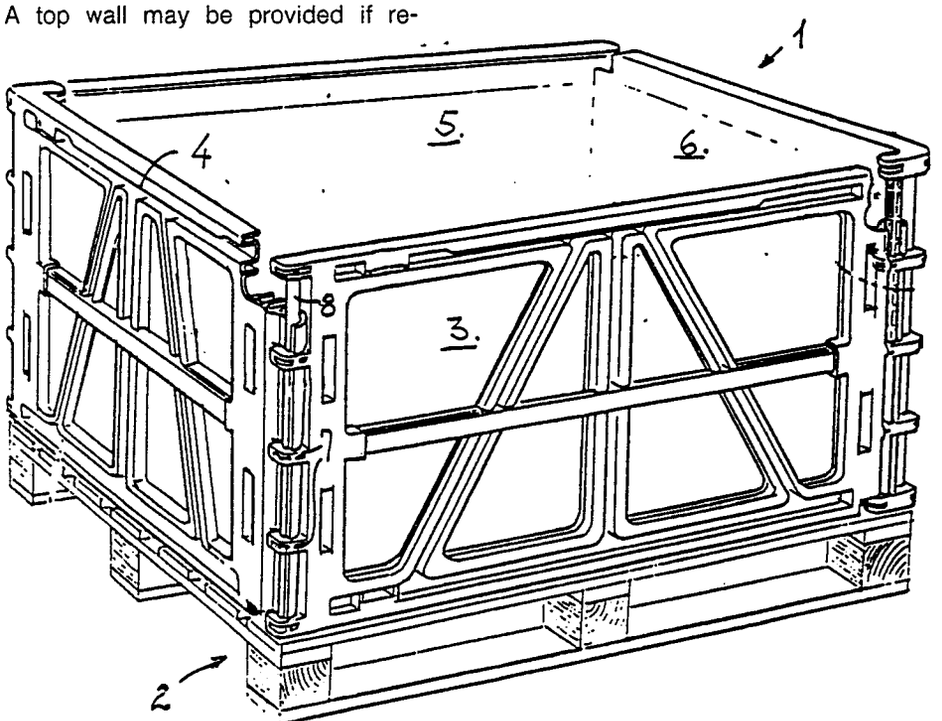

Fig. 1

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COLLAPSIBLE FRAMEWORK OR SKELETON FOR CONTAINERS

FIELD OF INVENTION

The present invention relates to a collapsible framework or skeleton and more particularly to such a framework which is adapted to be combined with pallets so as to form a container to be used for the shipment of goods in bulk or for the storage thereof.

BACKGROUND OF THE INVENTION

The shipment of goods in bulk in such a manner, for short and long distances is probably the most practical and now mostly employed way of transporting goods. As the return shipment of empty containers would be very expensive, it has been suggested many times to provide crates and containers which either could be shipped back nested one within the other or being collapsible and stacked one onto another so as to save space and volume.

Israel Patent No.63475 relates to such collapsible containers. The arrangement there is of four walls and a specially designed pallet like base which however does not solve the problem of shipment back of empty containers.

OBJECTS OF THE PRESENT INVENTION

The present invention relates to an arrangement of four collapsible walls forming a frame like structure to each of which pallets can be attached to a pallet of generally conventional type.

It is thus the object of the present invention to provide a collapsible framework like arrangement which is adapted to fit whatever conventional pallet such as to form a container, the arrangement being especially suited for combination with disposable pallets. Advantageously there could be provided grid like walls, each set of four such walls having smaller or larger openings, thus adapting the structure for goods of smaller or larger size.

SHORT SUMMARY OF THE INVENTION

According to the invention there is provided a set comprising four side walls, characterised thereby that the lateral vertical edge at one side of such a wall is provided with a plurality of hinging male members while the opposite vertical edge thereof is provided with corresponding female members, the said side walls being further provided with means which make possible the connection thereof with a bottom pallet.

The construction of said male and female member is such that in the folded position the two parts of the hinge may be separated easily from one another, thereby the space required for the collapsed container may be reduced further, the said arrangement also permits fast assembly and disassembly of the container.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described with reference to the annexed drawings in which:

Fig. 1 is a perspective view of a container assembly.

Fig. 2 is a top view thereof.

Figs. 3a and 3b are side and top views - respectively - of a wall.

Fig. 4 is a view of a folded framework assembly.

Fig. 5 illustrates a connecting member.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning first to Fig. 1, the assembled container 1 consists of a conventional base pallet 2 onto which are mounted four side walls 3, 4, 5 and 6. Said four walls are connected to each other by means of a hinge arrangement 7 (see Figs. 2 and 3) which consists of a male part 8 and a female part 9. The male part 8, as seen in Fig. 3 consists of a round rod extending the whole height of the respective wall. The female parts of the hinge are shells of a profile of an arch of a circle. This arrangement makes it possible to collapse the whole assembly to a condition as shown in Fig. 4.

The said four side walls are attached to the base pallet 2 by means of a member 10 which may be a flat piece of springy metal bent through 90° at 10′ and again by about 90° at 10″ (Fig. 5) thus forming a clip like member.

As can be seen the hinge arrangement 7 which is instrumental in keeping the assembled walls connected together consists of the male part 8 which - as has been stated - is a rod of a length which is equal to the height of the side walls and has a cross sectional area to fit the female parts. This male part is connected to one of the vertical (or lateral) edges of a side wall.

The opposite vertical edge of that wall is pro-

vided with the female part 9 which is of a substantially circular segment cross sectional configuration. The segment extending through more than 180 degrees, so as to safely keep the male members in place is made of plastic material used in the production of said walls being such, that the hinge may be disassembled, by application of a force sufficient to temporarily bend open the female member. Said male and female parts may be divided into sections a, b, c and d.

It is obvious that said four side walls could be attached to any given pallet with an appropriate connecting member 10.

In order to fold the frame to the condition shown in Fig. 4 the horizontal edge of two of the four side walls is set-off at right angles of the plane.

It is easy to see that the above arrangement is especially useful when used with disposable pallets which do not require to be returned to the initial place of shipment.

In those cases where the assembled container serves for storing purposes no top wall would be needed. Whenever such a container is used for shipping goods, an appropriate top wall of whatever conventional design may be used.

Claims

1. Shipping container comprising four side walls, characterised thereby that the lateral vertical edge at one side of such a wall is provided with a hinging male member while the opposite vertical edge thereof is provided with corresponding female members, the said side walls being further provided with means which permit the connection thereof with a bottom pallet.

2. Shipping container as claimed in claim 1, wherein the means connecting side walls with bottom pallet are constituted by a strip of metal which is bent through 90° whereupon the bent off portion - which is normal to a major part of the strip is again bent through 45° towards the angle created by the first bend.

3. Shipping container as claimed in either or both of claims 1 - 2, characterised thereby that the hinge means connecting side wall comprise a female hinge part which is profiled as a segment of a circle.

4. A collapsible shipping container comprising four walls of a grid like structure, each of these walls being provided at one vertical edge thereof with a male hinging means consisting of a round rod extending the whole height of the said wall, while at the opposite edge of the same wall are provided female hinging means consisting of shells of a profile of a segment of a circle of more than 180°, the said shells being of springy material making it possible to bend each shell open in order to sideways introducing a male member into the shell, there being further provided at one horizontal edge of each wall means for connecting the wall to a conventional pallet.

5. The shipping container of claim 4 characterised thereby that the said male hinging means at one edge of the wall is subdivided into a number of sections and there is provided a corresponding number of female hinging means at the opposite edge of that wall.

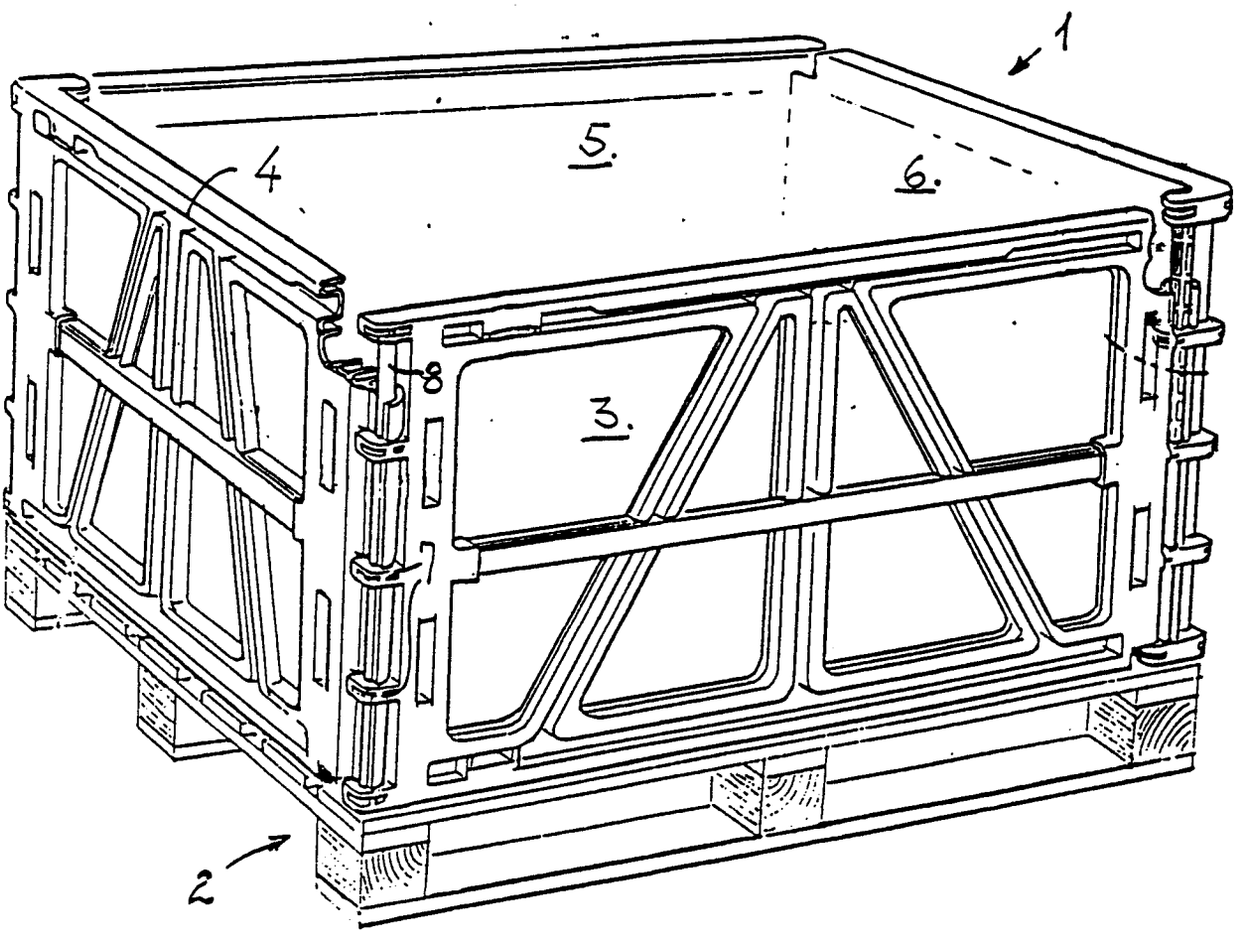

Fig. 1

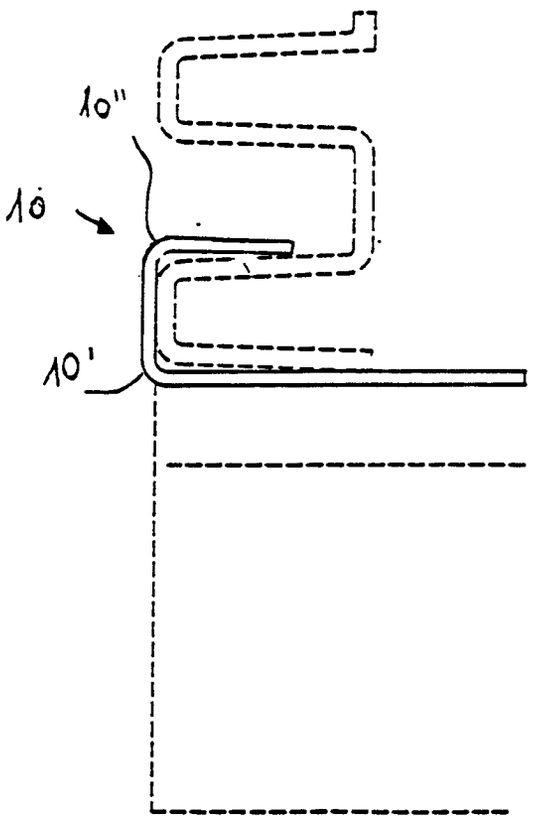

Fig. 5

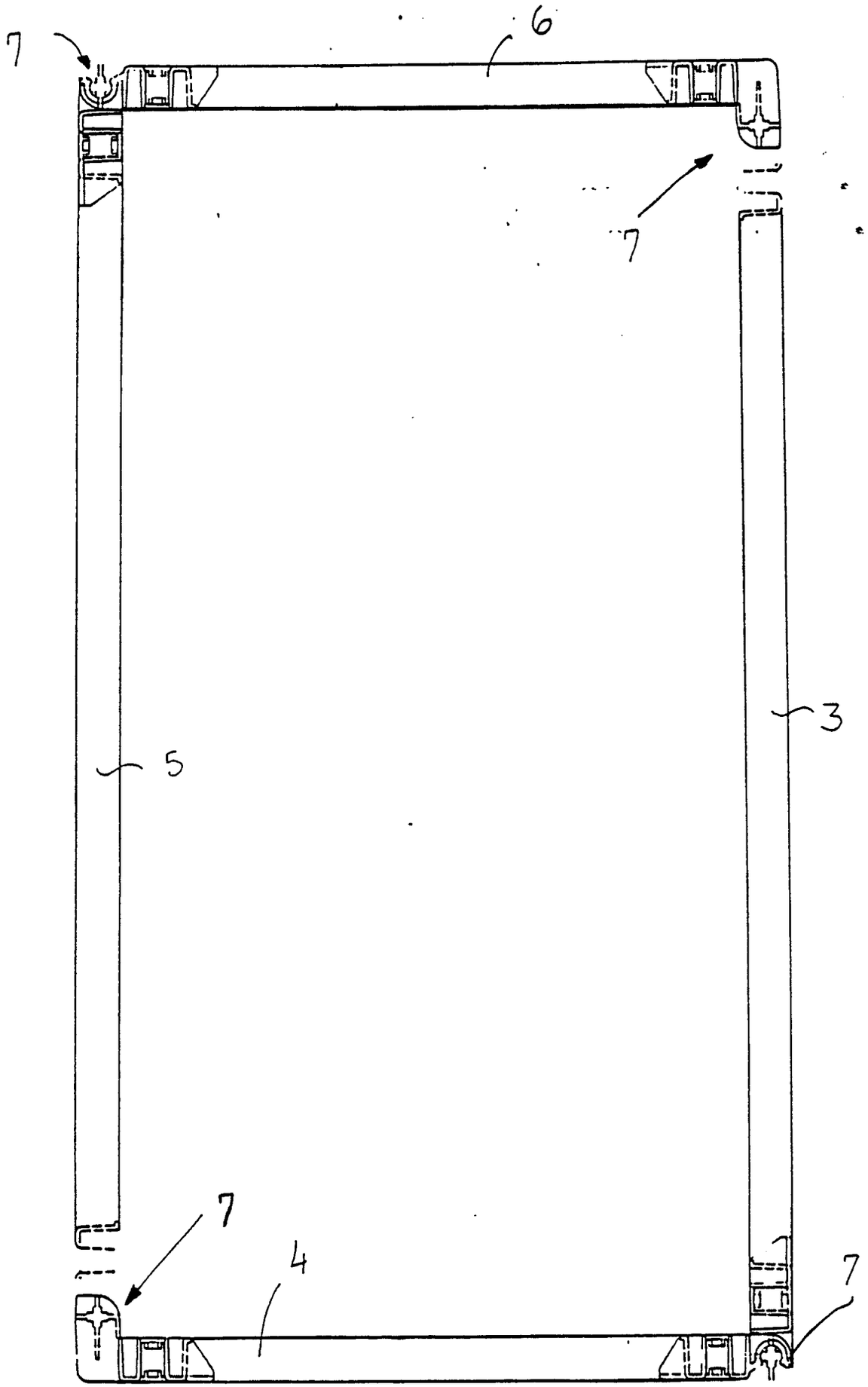

Fig.2

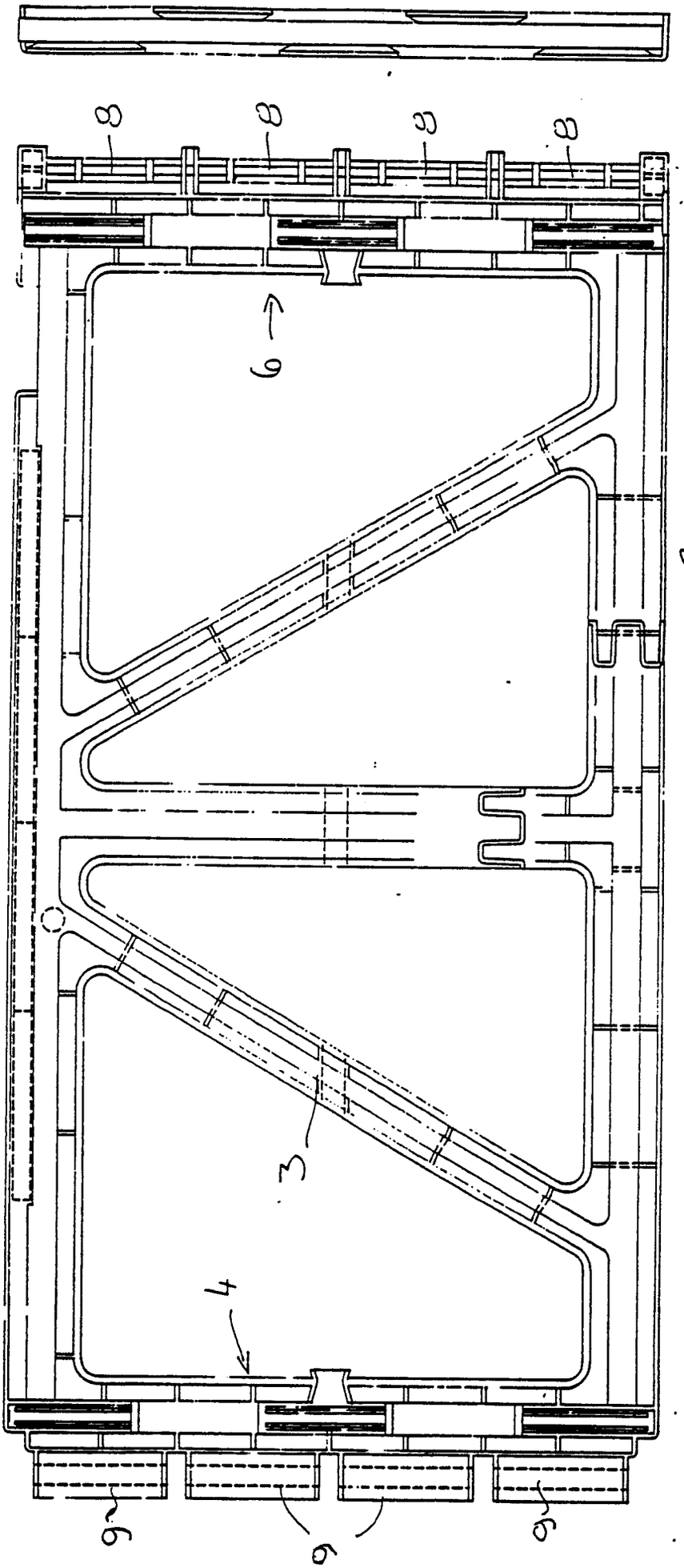

Fig. 3a

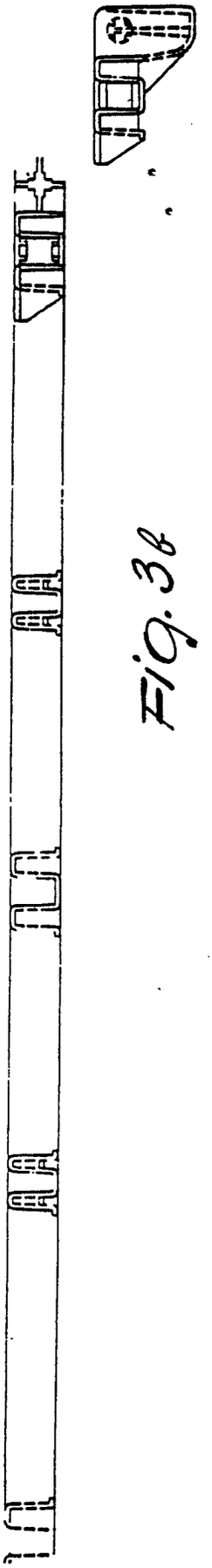

Fig. 3b

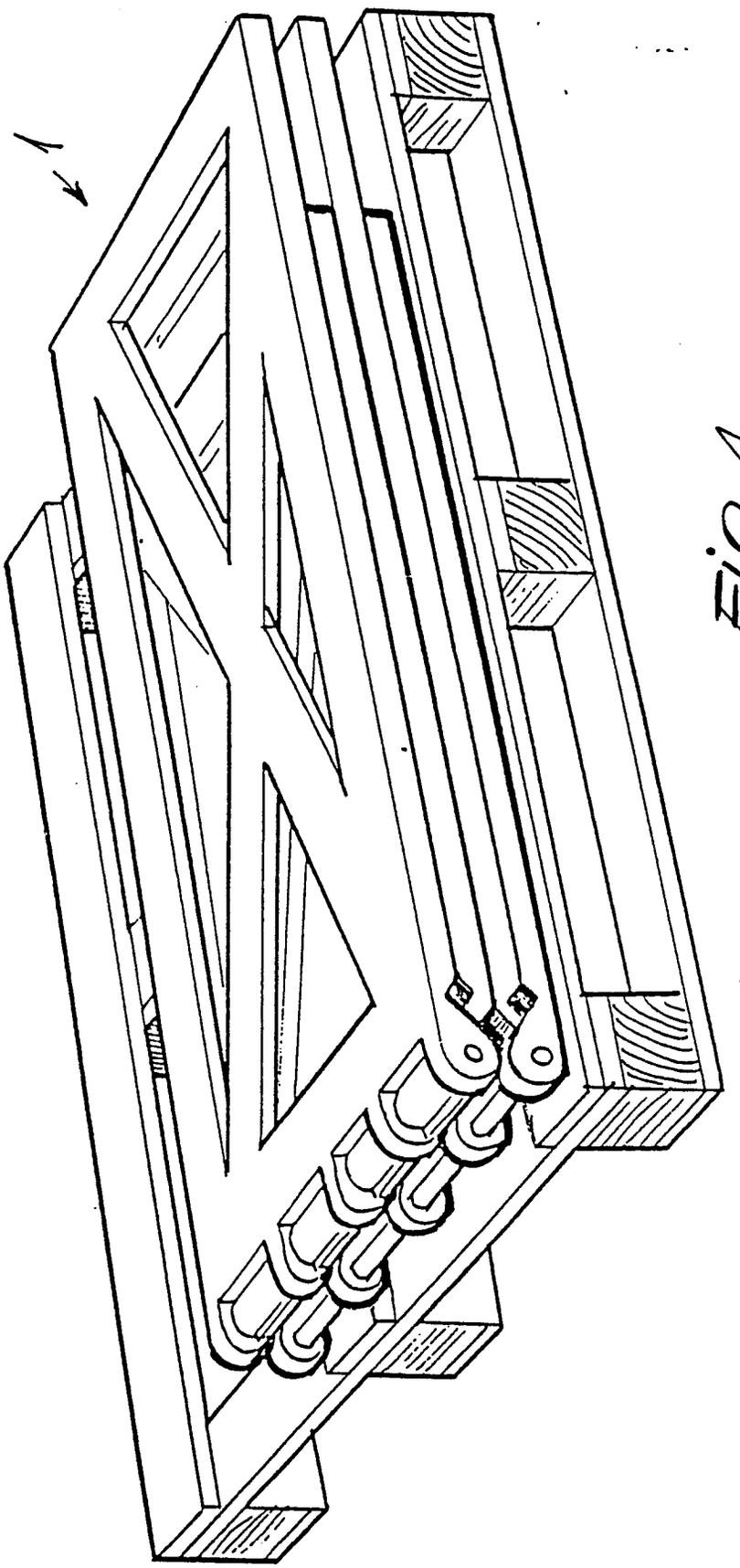

Fig. 4