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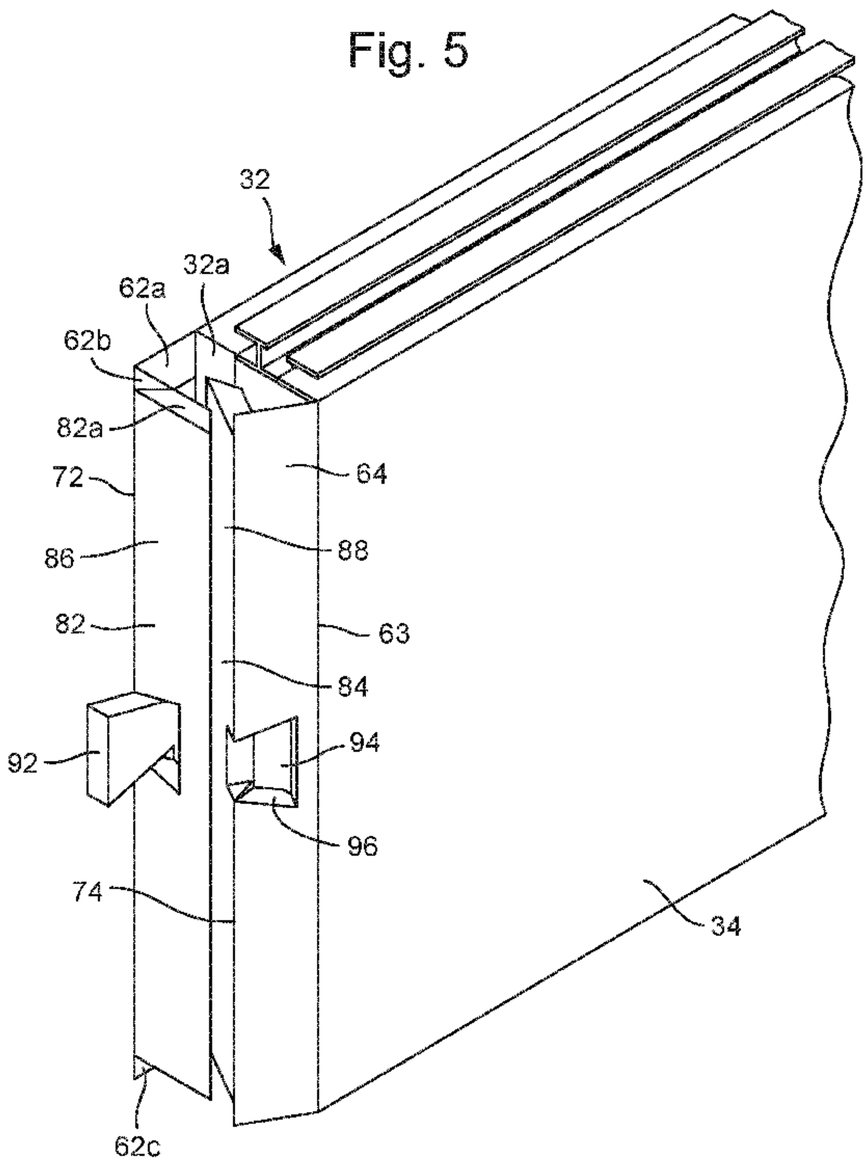

(57) Abstract: A folded ceiling baffle constructed from a sheet of felt. The baffle includes an elongate base having an elongate first edge and an elongate second edge opposite to the elongate first edge, a first elongate side folded from the elongate base and extending from the first edge to a first top edge, a second elongate side folded from the elongate base and extending from the second edge to a second top edge, the second elongate side facing the first elongate side, a first top portion folded from the first elongate side and extending from the first top edge, and a second top portion folded from the second elongate side portion extending from the second top edge towards the first top portion. A planar first end part is folded from the first elongate side at one end of the baffle and extends to a first inner edge. A planar second end part is folded from the second elongate side at the one end of the baffle, extends to a second inner edge, and aligns with the first inner edge so that the first and second end parts together form a planar end portion at the one end of the baffle. The first end part includes a coplanar protrusion extending from the first inner edge. The second end part includes a space extending inwardly from the second inner edge. The protrusion is received in the space and retains the first end part and the second end part together to form the planar end portion.

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FOLDED CEILING BAFFLE

The present application relates to a folded ceiling baffle, in particular constructed from a sheet of felt having respective portions of shape and size that may be folded to form the ceiling baffle.

It is known to suspend from a ceiling structure a plurality of baffles. These are elongate panels which are generally larger in height than in width. It is also known to construct such ceiling baffles from a felt material, for example as described in US 2018/0127975.

It would be desirable to provide an improved ceiling baffle which can be folded from a sheet of felt and which, once folded, effectively holds its structure.

According to the present invention, there is provided a folded ceiling baffle constructed from a sheet of felt. The baffle in its folded state may include an elongate base having an elongate first edge and a elongate second edge opposite to the first elongate first edge. The baffle may also include a first elongate side folded from the elongate base and extending from the first edge to a first top edge, and a second elongate side folded from the elongate base and extending from the second edge to a second top edge, the second elongate side facing the first elongate side. Folded from the first elongate side, a first top portion may extend from the first top edge, and, folded from the second elongate side, a second top portion may extend from the second top edge towards the first top portion. At one end of the baffle, folded from the first elongate side, a planar first end part may extend from a first side edge of the first elongate side to a first inner edge, and, also at the one end of the baffle, folded from the second elongate side, a planar second end part may extend from a second side edge of the second elongate side to a second inner edge. The planar second end part, in particular the second inner edge, aligns with the first inner edge so that the first and second end parts are coplanar and the first and second end parts together form a planar end portion at the one end of the baffle. In this respect, the second inner edge may meet with and/or contact the first inner edge. The first end part includes a protrusion extending from the first inner edge and coplanar with the first end part and the second end part defines therein a space extending inwardly from the second inner edge of the second end part. The protrusion is received in the space and retains the first end part and the second end part together to form the planar end portion.

In this way, when the first and second end parts are folded respectively from first and second side edges of the first and second elongate sides to together form the planar end portion, the protrusion received in the space resists the first and second end parts unfolding about the first and second side edges respectively. In particular, if either or both of the first and second end parts unfold about their respective first and second side edges, then they unfold outwardly from the ceiling baffle and the form of the one end of the baffle is no longer planar. Use of the protrusion and space is effective in resisting the unfolding of the first and second end parts so that the first and second end parts are retained together forming the planar end portion.

It will be appreciated that the opposite end of the baffle may similarly be provided with end parts folded from the elongate sides and meeting together to form a planar opposite end portion. These end parts may similarly be provided with a protrusion and space respectively for retaining the end parts together as the planar opposite end portion.

The folded ceiling baffle may further include a first inner flap extending from the first inner edge inwardly of the ceiling baffle, for instance into the interior space of the baffle, and a second inner flap extending from the second edge inwardly of the ceiling baffle. The first inner flap includes a first planar surface and the second inner flap includes a second planar surface. The first planar surface extends from the first inner edge and extends on the same side of the sheet as the outer surface of the first end part and the second planar surface extends from the second inner edge and extends on the same side of the sheet as the outer surface of the second end part. In the folded state of the folded ceiling baffle, the first and second inner flaps may face each other such that, similarly, the first and second planar surfaces face each other.

By virtue of the nature of the felt from which the ceiling baffle is constructed and its resilience, the first and second inner flaps may flex/fold outwardly towards a coplanar state with the respective first and second inner flaps. Hence, the first and second planar surfaces may be brought into contact with each other. By engaging with each other, the first and second planar surfaces resist movement relative to one another. In conjunction with the protrusion received in the space, the relative states of the first and second end parts are move effectively maintained such that the planar state of the end portion is more effectively maintained.

It is proposed to use felt having a thickness of between about 3 mm and 10 mm, preferably between about 4.5 mm and 7.5 mm, and more preferably between about 5

mm and 6.5 mm. For example, a thickness of 5 mm or 6.5 mm might be chosen with a tolerance of about 10%.

The protrusion of the first end part may be a cut-out from the first inner flap. During construction of the sheet from which the ceiling baffle is folded, cuts may be made through the thickness of the sheet in the area of the first inner flap. In particular, these cuts may extend from the first inner edge. In this way when the first inner flap is folded from the first end part, the protrusion, remaining coplanar with the first end part, lifts out of the first inner flap as a cut-out from the first inner flap. Thus, there is provided an effective construction for the protrusion.

The protrusion may be narrower at the first inner edge than at at least one portion distal from the first inner edge.

In this way, the protrusion cannot be withdrawn from the space by relative movement of the first end part away from the second end part in the plane of the planar end portion. The relative positions of the first end part and the second end part in that plane are therefore securely maintained. Similarly, the relative positions of the first end part with the second inner edge of the second end part are securely maintained and cannot be separated. This arrangement is particularly effective in conjunction with first and second planar surfaces which contact and engage with each other. The interaction of the protrusion and the space prevent separation of the first and second planar surfaces from one another so that the state of the first and second end parts together forming the planar end portion is maintained effectively.

The protrusion may have sides which are angled away from each other.

The protrusion may have a dovetail shape.

This is one example which is effective in holding the first and second end parts together effectively.

The protrusion and the space may have complimentary dimensions.

In this way, the protrusion and the space may fit together in a manner to resist relative movement.

The space may be completely filled/occupied by the protrusion.

This arrangement may be used to securely maintain engagement between the protrusion and the space. In addition, the resulting formed planar end portion has no gaps or holes.

The space may be considered as being defined by the edges around it. In particular, these edges may be described as surrounding edges. The protrusion may

resiliently engage with the surrounding edges and be held frictionally within the space. Such an arrangement may resist the protrusion leaving the through-hole in a direction away from the plane of the second end part.

The space may extend through the entire thickness of the second end part and, hence, take the form of a through-hole. Alternatively, the surrounding edges may extend only partly through the thickness of the second part so that the space takes the form of a recess in the outer surface of the second end part. The space may be formed in any appropriate manner such as molding, a pressed indentation or cutting.

According to US 2018/0127975 mentioned above, various elements are proposed for supporting the felt ceiling baffle by connecting directly to the felt ceiling baffle.

It is proposed in the present application that the folded ceiling baffle can be provided in combination with an elongate support element. The first top portion of the folded ceiling baffle is connected to a first elongate support edge of the elongate support element, and the second top portion of the folded ceiling baffle is connected to a second elongate support edge.

In this way, the combination of the folded ceiling baffle and the elongate support element can be used as a single baffle assembly to be supported by means connecting with the elongate support element.

When the sheet of felt is folded to form the folded ceiling baffle, the parts of the ceiling baffle, for example in particular the first and second top portions, may be folded onto or into the elongate support element so as to connect with it. In this way it is relatively simple to construct the folded ceiling baffle together with the elongate support element.

Between the first elongate support edge and the second elongate support edge of the folded ceiling baffle, the elongate support element may include, additionally, an elongate support portion. The elongate support portion may extend in parallel with the first elongate support edge and the second elongate support edge. Furthermore, the elongate support portion may be configured to receive mounting means for supportively suspending the folded ceiling baffle.

In this way, the elongate support element, whilst connected with and supporting the folded ceiling baffle, itself provides the elongate support portion between the first and second top portions of the folded ceiling baffle by which the assembly may be suspended.

The elongate support portion may have a lipped channel cross-section.

In this way, supporting elements may be slidably received within the lipped channel and support the assembly by means of the lips of the channel.

According to the present invention, there is also provided a sheet or blank of felt formed with respective portions having respective shapes and sizes which are suitable to form the various parts of the ceiling baffle. In particular, the sheet of felt may be folded so that those respective portions together form the folded ceiling baffle.

It will be appreciated that the sheet of felt will have a thickness. Elongate recesses may be formed within that thickness. The recesses in the thickness may define fold lines between the respective parts of the ceiling baffle.

The invention will be more clearly understood from the following description, given by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 illustrates a suspended array of baffles which could embody the present invention;

Fig. 2 illustrates an end of a baffle in an open state;

Fig. 3 illustrates the end of the baffle in the open state;

Fig. 4 illustrates the end of the baffle in an initial state of closing;

Fig. 5 illustrates the end of the baffle in a partially closed state;

Fig. 6 illustrates the end of the baffle in an almost closed state;

Fig. 7 illustrates the end of the baffle in the closed state;

Fig. 8 illustrates an example of a recess for a fold; and

Fig. 9 illustrates a flat sheet of felt from which the baffle may be folded.

Suspended from a ceiling, there may be provided a plurality of elongate baffles such as the plurality of baffles 10 shown in Fig. 1.

As illustrated, each of the baffles 10 is elongate in a length direction X, and has a width in a width direction Y less than its height in a height direction Z. However, this is not essential and, for example, the width in the width direction Y may be equal to or more than the height in the height direction Z. Usually, and as illustrated in Fig. 1, an array of baffles 10 are arranged in parallel with adjacent baffles 10 arranged in the length direction Y. To span greater lengths, baffles can also be arranged end to end in the length direction. Although the plurality of baffles 10 would usually be arranged parallel with one another, it is possible for the array to be in a direction other than perpendicular to the elongate extent of the individual baffles 10.

Figs. 2 to 6 illustrate one end of a baffle 10 in a partially constructed/folded state. In particular, the illustrated one end of the baffle 10 has its one end in an unfolded state.

The illustrated baffle 10 includes a base 20 which is elongate in the elongate length direction X of the baffle 10 and extends in the width direction of the baffle 10 between a first edge 22 and a second edge 24. It has an inner base surface that extends between the first and second edges 22, 24 and which faces inwardly of the baffle 10 towards an inner space defined by the baffle 10 on the inside of the baffle 10. The first and second edges 22, 24 as illustrated are elongate in the elongate direction of the base 20 and baffle 10 and the second edge 24 is opposite the first edge 22. As illustrated, for the baffle 10 having a constant cross-section, the first and second edges 22, 24 are parallel. Other arrangements are possible in which the baffle 10 does not have a constant cross-section along its length. For example opposite surfaces and edges taper towards or away from each other.

As illustrated, a second elongate side 34 extends upwardly in the height direction Z from the second edge 24. Similarly, a first elongate side 32 extends upwardly in the height direction Z from the first edge 22.

As illustrated, the second elongate side 32 faces the first elongate side 34.

With the illustrated baffle 10, the upper and lower portions of the baffle 10 have the same width in the direction Y. Hence, with this illustrated baffle 10, the first elongate side 32 is parallel with the second elongate side 34. As noted above, other, non-parallel arrangements are also possible.

The first elongate side 32 extends between the first edge 22 and a first top edge 42. Similarly, the second elongate side 34 extends between the second edge 24 and a second top edge 44.

The first elongate side 32 has an inner first side surface that extends between the first edge 22 and the first top edge 42 and the second elongate side 34 has an inner second side surface that extends between the second edge 24 and the second top edge 44. The inner first and second side surfaces face each other and both respectively face inwardly of the baffle 10 towards the inner space.

As illustrated, the baffle 10 includes a first top portion 52 extending inwardly from the first top edge 42 of the first elongate side 32 to a first top inner edge 53. Similarly, the baffle 10 includes a second top portion 54 extending inwardly from the second top edge 44 of the second elongate side 34 to a second top inner edge 55. The

first top portion 52 is folded from the first top edge 42 of the first elongate side 32 and the second top portion 54 is folded from the second top edge 44 of the second elongate side 34. As illustrated, the first top portion 52 extends towards the second top portion 54. In the illustrated arrangement, the first top portion 52 and the second top portion 54 connect with an elongate support element 100 (to be described below) so as to form a baffle assembly. In this folded state, an inner first top surface that extends between the first top edge 42 and the first top inner edge 53 faces inwardly of the baffle 10 towards the inner space, and, similarly, an inner second top surface that extends between the second top edge 44 and the second top inner edge 55 faces inwardly of the baffle 10 towards the inner space.

As illustrated, the first elongate side of the baffle 10 includes a first side edge 61 at the one end of the baffle 10 and the second elongate side 34 of the baffle 10 includes a second edge 63 at the one end of the baffle 10. At the one end of the baffle 10, from the first elongate side 32 of the baffle 10, a planar first end part 62 extends from the first side edge 61 to a first inner edge 72. Similarly, at the one end of the baffle 10, a planar second end part 64 extends from the second elongate side 34 from the second side edge 63 to a second inner edge 74.

As will be discussed in greater detail below, the planar first end part 62 and the planar second end part 64 may be folded inwardly towards the rest of the baffle 10 and towards each other so that the planar first end part 62 is aligned with the planar second end part 64, in particular along the first inner edge 72 and the second inner edge 74. In this respect, the second inner edge 74 may meet with and/or contact the first inner edge 72. As illustrated in Fig. 6, the planar first end part 62 and the planar second end part 64 are thus folded to be coplanar and, hence, together form a planar end portion 66 at the one end of the baffle 10.

Figs. 2 to 6 also illustrate a first inner flap 82 and a second inner flap 84 as used on this particular example. These features will be discussed in greater detail below.

As illustrated most clearly in Fig. 5, the first end part 62 includes a protrusion 92 extending from the first inner edge 72. The protrusion 92 is coplanar with the first end part 62. In other words, it extends in the same plane as the first end part 62, but extends beyond the first inner edge 72.

As illustrated most clearly in Fig. 5, the second end part 64 includes, as an example of a space, a through-hole 94. The second end part 64 can be considered to define the through-hole 94 by way of surrounding edges 96. As illustrated, the through-

hole 94 is through the thickness of the second end part 64 and extends inwardly from the second inner edge 74. It is also possible to provide a similar space which extends only partly through the thickness of the second end part 64.

As illustrated most clearly in Figs. 5 and 7, the protrusion 92 and the through-hole 94 are arranged/configured with respect to one another such that when the first end part 62 and second end part 64 are folded to the closed position (in which the first end part 62 and the second end part 64 are coplanar) illustrated in Fig. 7 forming the planar end portion 66, the protrusion 92 of the first end part 62 is received within the through-hole 94 of the second end part 64. In this way, the protrusion 92 and through-hole 94 contribute to resisting unfolding of the first end part 62 and second end part 64 away from the closed state illustrated in Fig. 7 and assist in maintaining the planar form of the planar end portion 66 illustrated in Fig. 7.

It will be appreciated that the protrusion 92 and corresponding through-hole 94 may take many different shapes and sizes appropriate for assisting in holding the first end part 62 and second end part 64 together in the closed state. Furthermore, two or more such protrusions and corresponding through-holes may be provided.

As illustrated, where the protrusion 92 meets the first inner edge 72, the protrusion 92 has a width along the first inner edge 72. As illustrated, this is in the height direction Z of the baffle 10. This width is narrower than other portions of the protrusion 92. The protrusion 92 may have a stepped or curved shape and may be of simple or complex geometric form. As illustrated, the sides of the protrusion 92 are sloped/angled in a direction away from the first inner edge 72 and away from each other in a wedge shape. The shape may commonly be known as “dovetail” shape.

Other shaped protrusions are possible including those where one portion along the extended length of the protrusion is narrower than at least one other portion more distal from the first inner edge 72.

With these arrangements, it is only possible for the protrusion 92 to be removed from the through-hole 94 by relative movement substantially perpendicular to the planes of the first end part 62 and second end part 64. In other words, the interacting shape of the protrusion 92 and through-hole 94 prevents the protrusion 92 being withdrawn from the through-hole 94 by relative movement within the common plane of the first end part 62 and second end part 64.

The protrusion 92 and through-hole 94 may have complimentary dimensions so that the protrusion 92 fits into the through-hole 94 so as to secure the protrusion 92 appropriately.

In the illustrated embodiment, the protrusion 92 fills completely the through-hole 94. In this way, no gaps are left between the protrusion 92 and the through-hole 94 such that, as illustrated in Fig. 7, with the first end part 62 and the second end part 64 coplanar, a continuous planar end portion 66 is formed.

As noted above, the through-hole 94 is defined by surrounding edges 96 in the second end part 64. In the illustrated arrangement, the protrusion 92, for example its outer edges, resiliently engages with the surrounding edges 96 forming the through-hole 94. In this way, the engagement between engaging surfaces may frictionally assist in holding the protrusion 92 within the through-hole 94. In particular, this engagement resists the protrusion 92 leaving the through-hole 94 even in a relative direction perpendicular to the first end part 62 and second end part 64.

In order to help a user fold and form the baffle 10, elongate recesses may be formed in the thickness of the sheet along the lines intended for folding. These recesses may have a V-shape, for instance formed from two planes angled substantially perpendicular to one another and such that they form a valley/inner fold line, thereby, appropriate for folding the adjacent portions of the sheet by ninety degrees. Fig. 8 illustrates an example of an appropriate recess.

As mentioned above, in the illustrated arrangement, the baffle 10 also includes a first inner flap 82 folded from the first end part 62 and extending from the first inner edge 72. Similarly, the baffle 10 includes a second inner flap 84 folded from the second end part 64 and extending from the second inner edge 74. As best illustrated in Figs. 5 and 6, the first inner flap 82 and the second inner flap 84 are folded inwardly of the baffle 10. In particular, when the first end part 62 and the second end part 64 are folded together to form the planar end portion 66 of the baffle 10, the first inner flap 82 and second inner flap 84 are tucked inside the baffle 10 extending inwardly from the first inner edge 72 and second inner edge 74 respectively. The first inner flap 82 includes a first planar surface 86 continuous with the outer surface of the first end part 62. Similarly, the second inner flap 84 has a second planar surface 88 continuous with the outer surface of the second end part 64. Thus, as will be clear from Figs. 5, 6 and 7, when the first end part 62 and second end part 64 are folded together to form the

planar end portion 66, the first planar surface 86 faces the second planar surface 88 inside the baffle 10.

In the illustrated arrangement, the end surface 20a of the base 20, the end surfaces 32a, 34a of the first and second elongate sides 32, 34, and the end surfaces 52a, 54a of the first and second top portions 52, 54 are all angled to mate with corresponding angled edges 62a, 62b, 62c; 64a, 64b, 64c of the first and second end parts 62, 64. Similarly, a V-shaped recess 82c is formed between the first end part 62 and the first inner flap 82 and a V-shaped recess 84c is formed between the second end part 64 and the second inner flap 84 so that the opposite inner surfaces of the V-shaped recesses 82c, 84c mate with each other when the first inner flap 82 is folded perpendicular to the first end part 62 and when the second inner flap 84 is folded perpendicular to the second end part 64. The two respective ends 82a, 82b; 84a, 84b of each of the first and second inner flaps 82, 84 extend substantially perpendicular to the inner and outer surfaces of the first and second inner flaps 82, 84. The overall length of the first and second inner flaps 82, 84 in the height direction Z of the baffle 10 corresponds to the height of the inner space defined within the baffle 10, in particular between the base 20 and the first and second top portions 52, 54. In this way, the first and second inner flaps 82, 84 fit within the inner space of the baffle 10 between the base 20 and the first and second top portions 52, 54. Of course, in this respect, the length of the first and second inner flaps 82, 84 may be slightly less than the height of the inner space.

It will be appreciated that the angled edges 62a, 62c of the first end part 62 and the angled edges 64a, 64c of the second end part 64 extend from the first and second planar surfaces 86, 88 having lengths corresponding to the overall height of the baffle 10 in the Z direction and extend to inner surfaces matching the height of the inner space of the baffle 10 between the base 20 and the first and second top portions 52, 54. Thus, the overall length of the first inner flap 82 matches the length of the inner surface of the first end part 62, but is less than the length of the first planar surface 86. Similarly, the length of the second inner flap 84 matches the length of the inner surface of the second end part 64, but is less than the length of the second planar surface 88.

In the folded state of the baffle 10, in the illustrated arrangement, the first planar surface 86 may contact and engage with the second planar surface 88.

Use of the protrusion 92 in the through-hole 94 in conjunction with the first inner flap 82 interacting with the second inner flap 84 by means of contact between the

first planar surface 86 and the second planar surface 88 is particularly effective in retaining the first end part 62 together with the second end part 64 as the planar end portion 66 as illustrated in Fig. 7.

The illustrated arrangement includes a convenient and advantageous arrangement for providing the protrusion 92. In particular, the protrusion 92 is formed as a cut-out from the first inner flap 82. In particular, in the original sheet before folding, a division through the thickness of the first inner flap 82 (for example by cutting) is formed with the shape of the protrusion 92 extending from the first inner edge 72. When the first inner flap 82 is folded inwardly away from the plane of the first end part 62, the first inner flap 82 pivots about the first inner edge 72 away from the protrusion 92 which remains coplanar with the first end part 62 with the effect that the protrusion 92 pivots out of the cut-out formed in the first inner flap 82 whilst remaining coplanar with the first end part 62.

The baffle 10 may be provided in an unfolded state, for example as a flat sheet or blank of appropriately shaped felt. One end of such a sheet is illustrated schematically in Fig. 9.

As noted above, the baffle 10 may be provided together with an elongate support element 100.

In the illustrated arrangement, the elongate support element 100 includes a first elongate support edge 102 and a second elongate support edge 104. The elongate support element 100 and its first elongate support edge 102 and second elongate support edge 104 are arranged to extend in the elongate direction X of the baffle 10. The elongate support element 100 may be used to facilitate attachment of support members to a baffle 10 so that the baffles may be supported, for example, as illustrated in Fig. 1.

The first top portion 52 may be coupled to the first elongate support edge 102 and the second top portion 54 may be coupled to the second elongate support edge 104.

In the illustrated arrangement, the elongate support element 100 has, along its elongate extent, a cross section in which the first elongate support edge 102 includes an outwardly facing elongate channel for receiving the first top portion 52 of the baffle and, similarly, the second elongate support edge 104 includes an outwardly opposite facing channel for receiving the second top portion 54.

In the illustrated arrangement, the two outwardly facing channels face outwardly away from each other so as to receive respectively the first and second top

portions 52, 54 extending inwardly towards each other away from the respective first and second top edges 42, 44. The channels have depths which are at least a substantial part of the length of the respective first and second top portions 52, 54. In particular, the depths of the channels are sufficient to securely support the first and second top portions 52, 54 and, in particular, resist pivoting of the first and second top portions 52, 54 about their respective top edges 42, 44 with respect to the elongate support element 100. As a consequence, the baffle is securely held in place relative to the elongate support element 100 and may be securely mounted/supported by means of the elongate support element 100.

With the arrangement as described, a sheet such as that illustrated in Fig. 9 may be folded around/onto the elongate support element 100. Once the first end part 62 and the second end part 64 are folded together to form the planar end portion 66 as illustrated in Fig. 7 with the protrusion 92 engaged in the corresponding through-hole 94, the first and second elongate sides 32, 34 are prevented from pivoting about the first and second edges 22, 24 such that the first and second top portions 52, 54 are retained within the respective channels of the first and second elongate support edges 102, 104 of the elongate support element 100, and, accordingly, the baffle 10 is held securely to the elongate support element 100.

The elongate support element 100 may be formed in any appropriate manner and from any appropriate material. For example, the elongate support element could be formed as an extrusion and could be formed from a plastics material or aluminium.

As illustrated, between the first elongate support edge 102 and the second elongate support edge 104, the elongate support element 100 has an elongate support portion 106 extending in parallel with the first elongate support edge 102 and the second elongate support edge 104. This elongate support portion 106 may have any appropriate form, for example using known arrangements, for supporting the assembly suspended from a ceiling, for example as illustrated in Fig. 1.

In the illustrated arrangement, the elongate support portion 106 is formed as a channel extending in the elongate direction X parallel with first and second elongate support edges 102, 104. The channel is arranged to face upwardly in the Z direction and is formed with a pair of inwardly facing lips 108. The lips 108 extend in the elongate direction X along the length of the elongate support portion 106 and also extend towards each other in the direction Y across the width of the baffle assembly. In particular, the lips 108 extend towards each other so as to define a gap

therebetween smaller than the width of the channel of the elongate support portion 106.

With the resulting lipped channel, it is possible to insert mounting means within the lipped channel which are supported by the inwardly extending lips, but extend upwardly away from the baffle assembly allowing it to be supported therefrom. This arrangement allows such mounting means to be moved slidably along the lipped channel to positions appropriate for mounting.

CLAIMS

1 A folded ceiling baffle constructed from a sheet of felt, the baffle, in its folded state, including:

an elongate base having an elongate first edge and an elongate second edge opposite to the elongate first edge;

a first elongate side folded from the elongate base and extending from the first edge to a first top edge;

a second elongate side folded from the elongate base and extending from the second edge to a second top edge, the second elongate side facing the first elongate side;

a first top portion folded from the first elongate side and extending from the first top edge;

a second top portion folded from the second elongate side portion extending from the second top edge towards the first top portion;

a planar first end part folded from the first elongate side at one end of the baffle and extending from a first side edge of the first elongate side to a first inner edge;

a planar second end part folded from the second elongate side at the one end of the baffle, extending from a second side edge of the second elongate side to a second inner edge, and aligning with the first inner edge so that the first and second end parts are coplanar in order to together form a planar end portion at the one end of the baffle; wherein:

the first end part includes a protrusion extending from the first inner edge and coplanar with the first end part;

the second end part includes a space extending inwardly from the second inner edge; and

the protrusion is received in the space and retains the first end part and the second end part together to form the planar end portion.

2. A folded ceiling baffle according to claim 1 further including:

a first inner flap folded from the first end part and extending from the first inner edge inwardly of the ceiling baffle; and

a second inner flap folded from the second end part and extending from the second inner edge inwardly of the ceiling baffle; wherein

the first and second inner flaps have, respectively, first and second planar surfaces that face each other.

3. A folded ceiling baffle according to claim 2 wherein the first and second planar surfaces contact and engage with each other.

4. A folded ceiling baffle according to claim 2 or 3 wherein the protrusion of the first end part is a cut-out from the first inner flap.

5. A folded ceiling panel according to any preceding claim wherein the protrusion is narrower at the first inner edge than at at least one portion distal from the first inner edge.

6. A folded ceiling panel according to any preceding claim wherein sides of the protrusion are angled away from one another.

7. A folded ceiling baffle according to any preceding claim wherein the protrusion has a dovetail shape.

8. A folded ceiling baffle according to any preceding claim wherein the protrusion and the space have complimentary dimensions.

9. A folded ceiling baffle according to any preceding claim wherein the space is completely filled by the protrusion.

10. A folded ceiling baffle according to any preceding claim wherein the space is defined by surrounding edges of the second end part and the protrusion resiliently engages with the surrounding edges and is held frictionally within the space.

11. A folded ceiling baffle according to any preceding claim in combination with an elongate support element having a first elongate support edge to which the first top

portion is connected and a second elongate support edge to which the second top portion is connected.

12. A folded ceiling baffle according to claim 11 wherein, between the first elongate support edge and the second elongate support edge, the elongate support element has an elongate support portion extending parallel with the first elongate support edge and the second elongate support edge and configured to receive mounting means for supportively suspending the folded ceiling baffle.

13. A folded ceiling baffle according to claim 12 wherein the elongate support portion has a lipped channel cross-section.

14. A sheet of felt formed with respective portions of shape and size to form the parts of the ceiling baffle of any one of claims 1 to 13.

15. A sheet according to claim 14 including recesses in the thickness of the sheet defining fold lines between respective parts of the ceiling baffle.

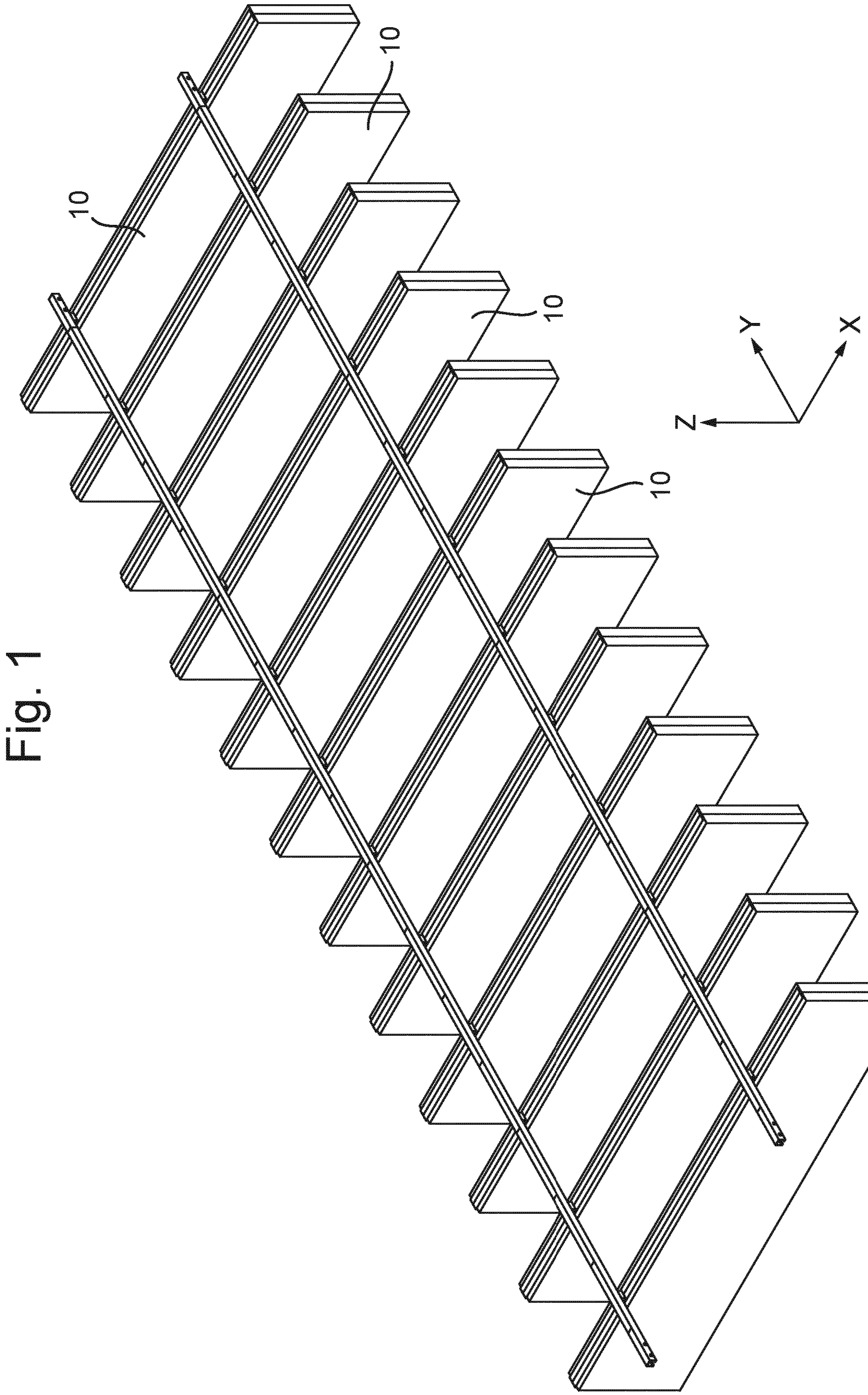

Fig. 1

Fig. 2

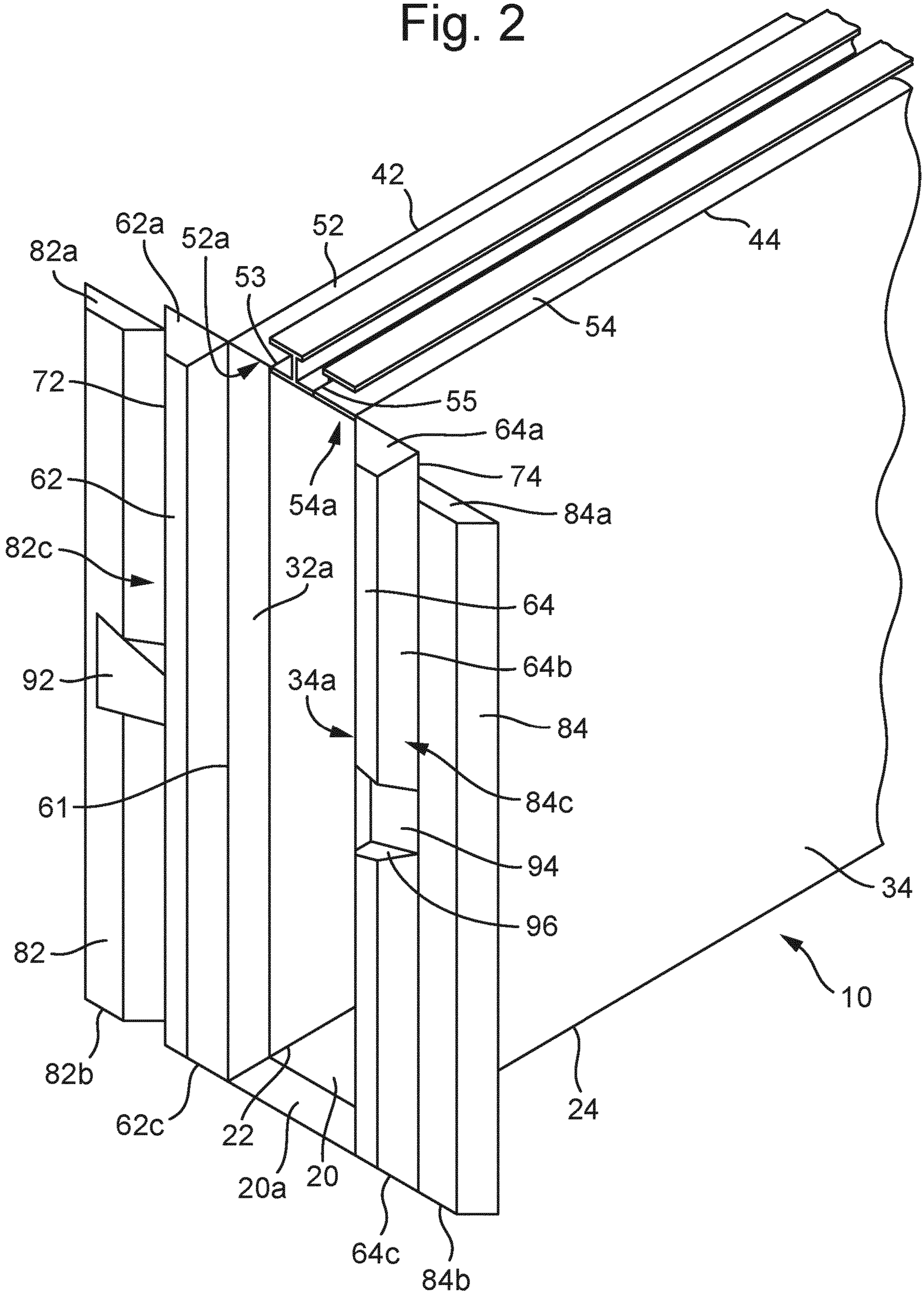
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Fig. 3

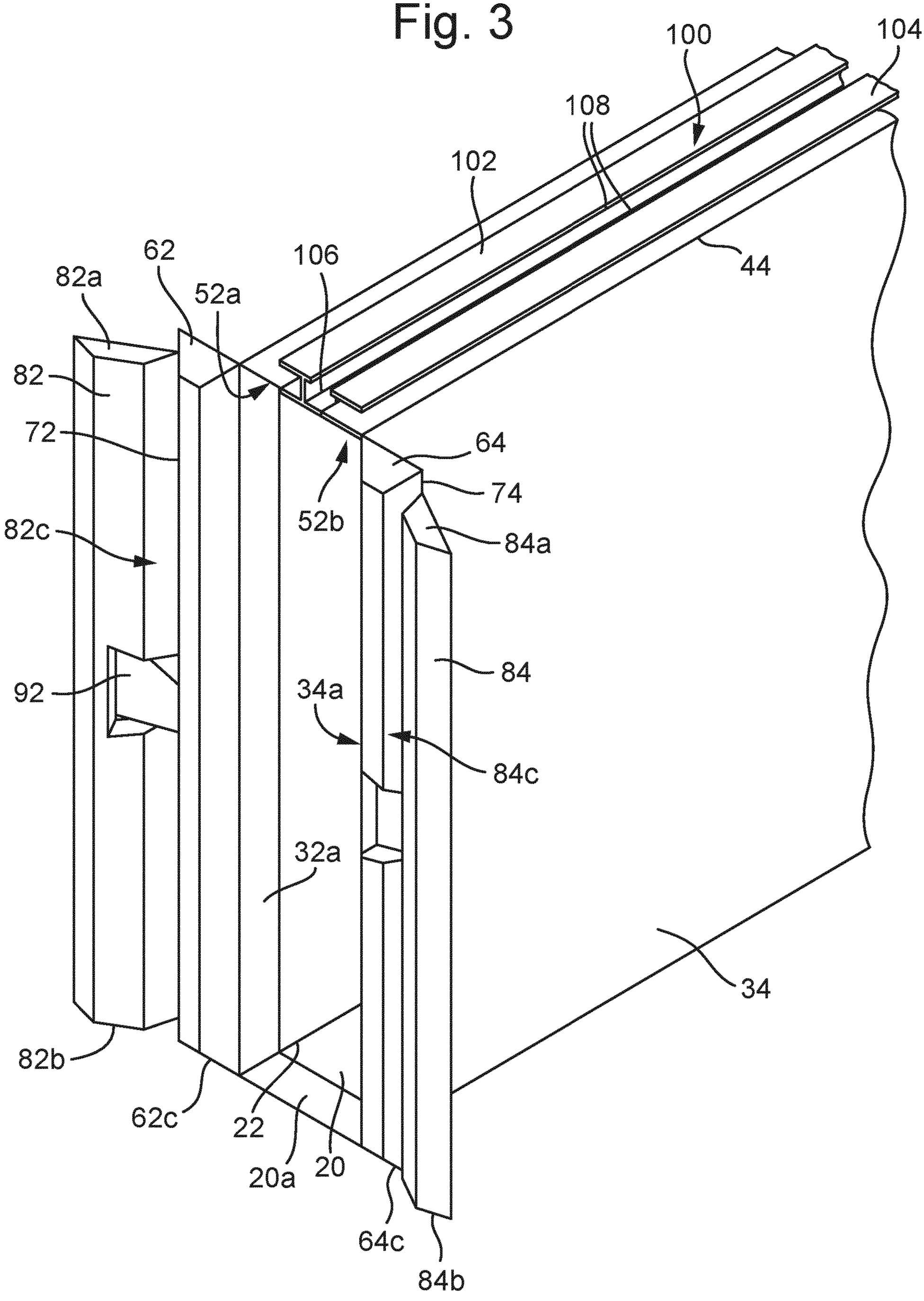
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Fig. 4

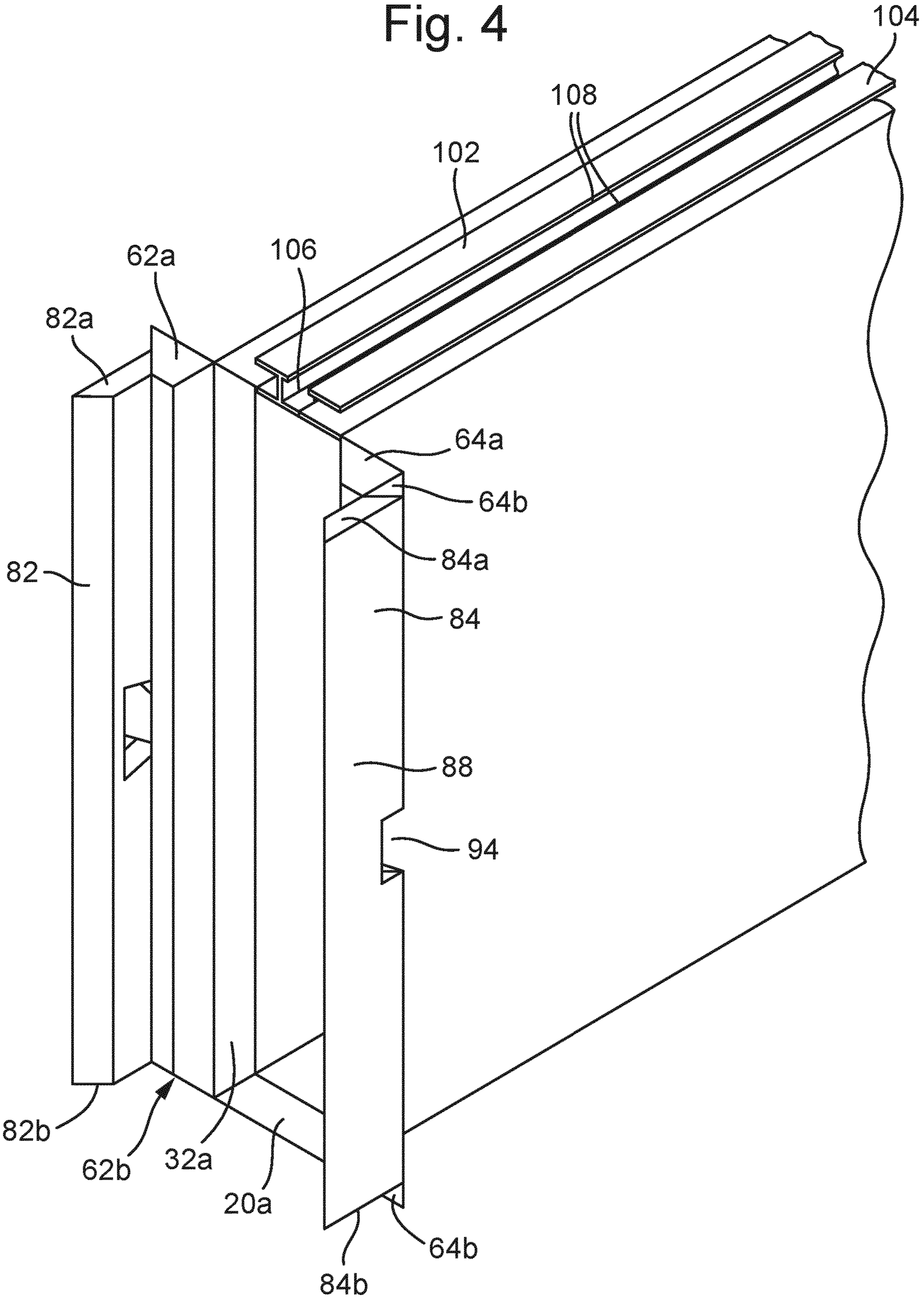
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Fig. 5

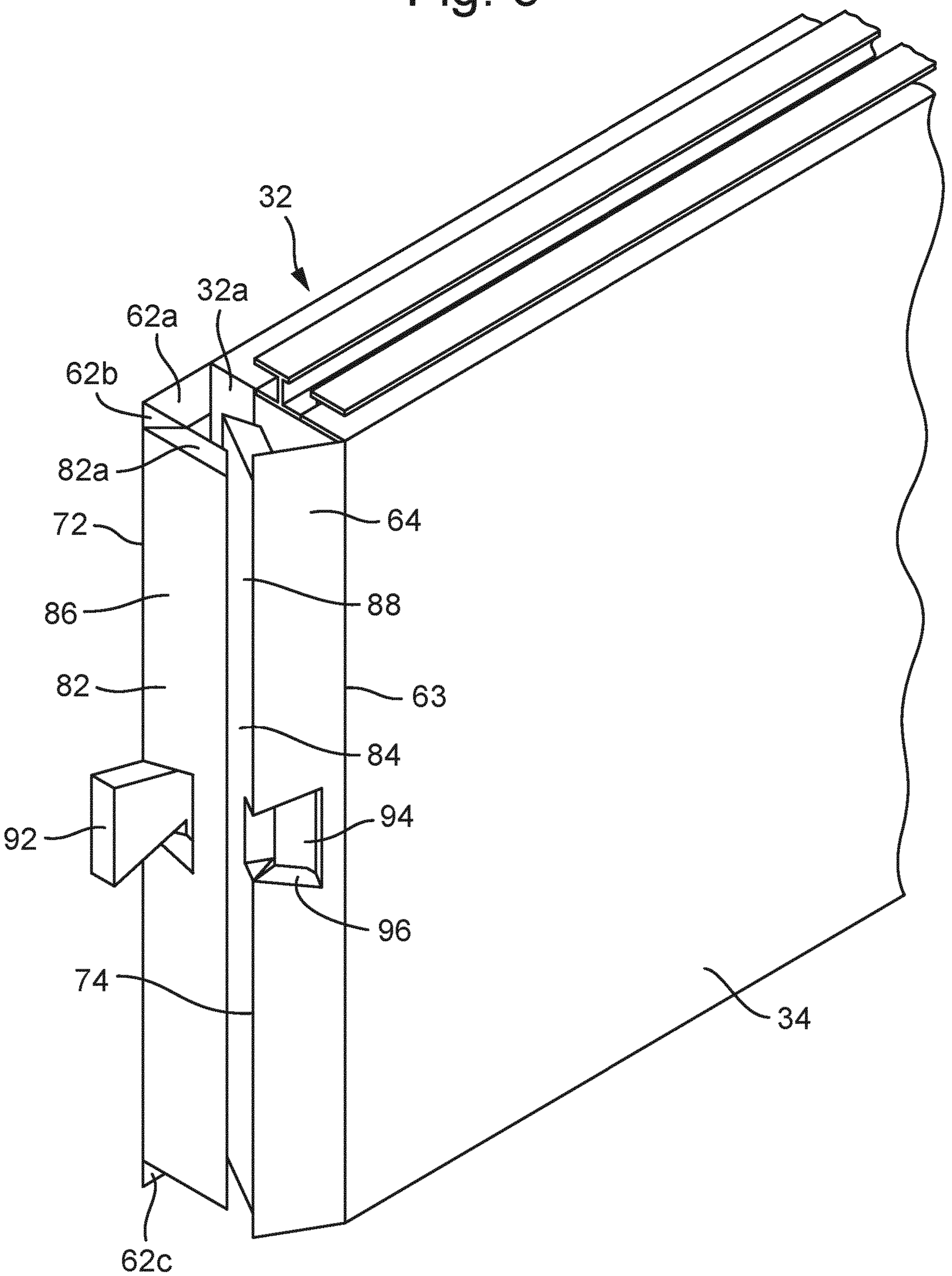


Fig. 6

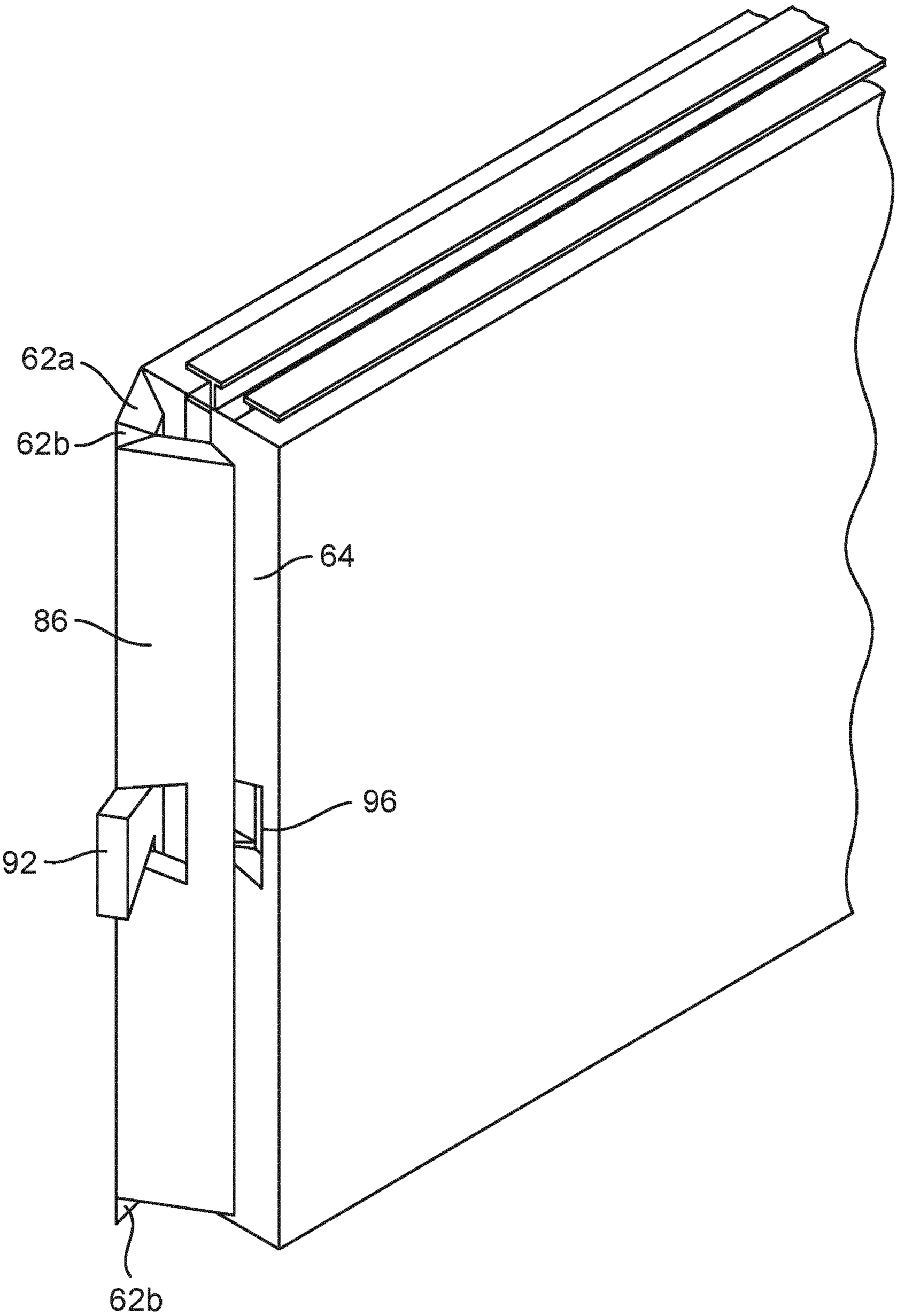


Fig. 7

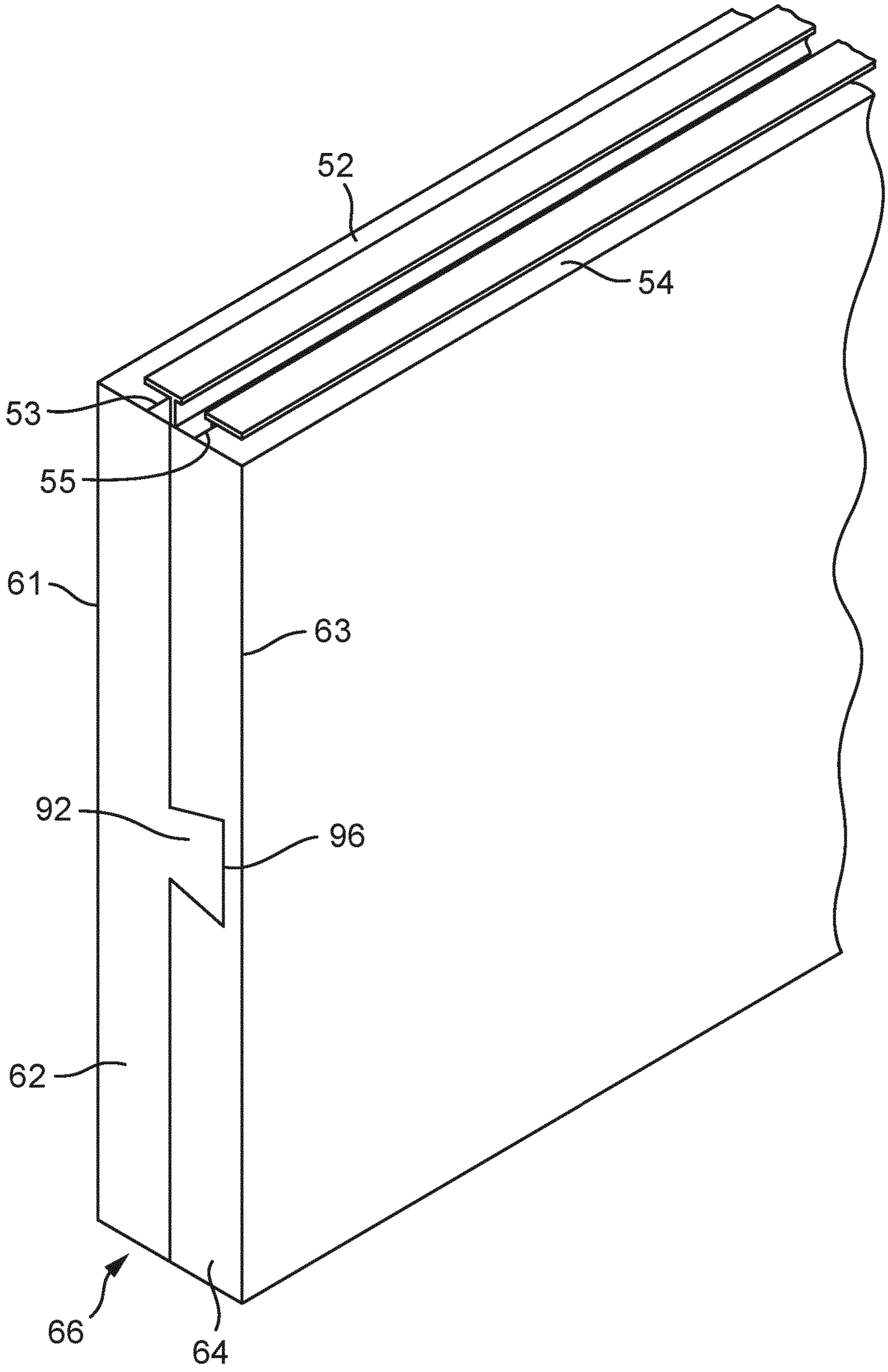


Fig. 8

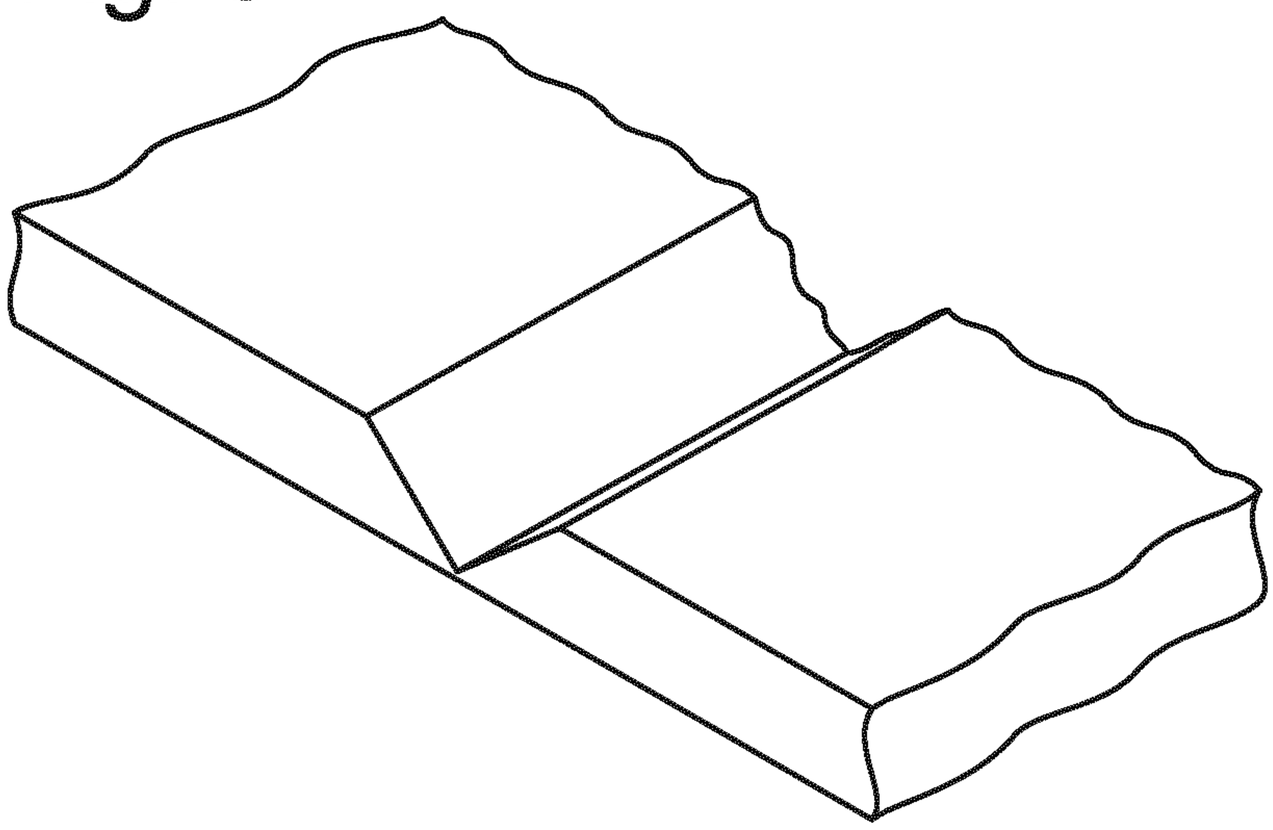
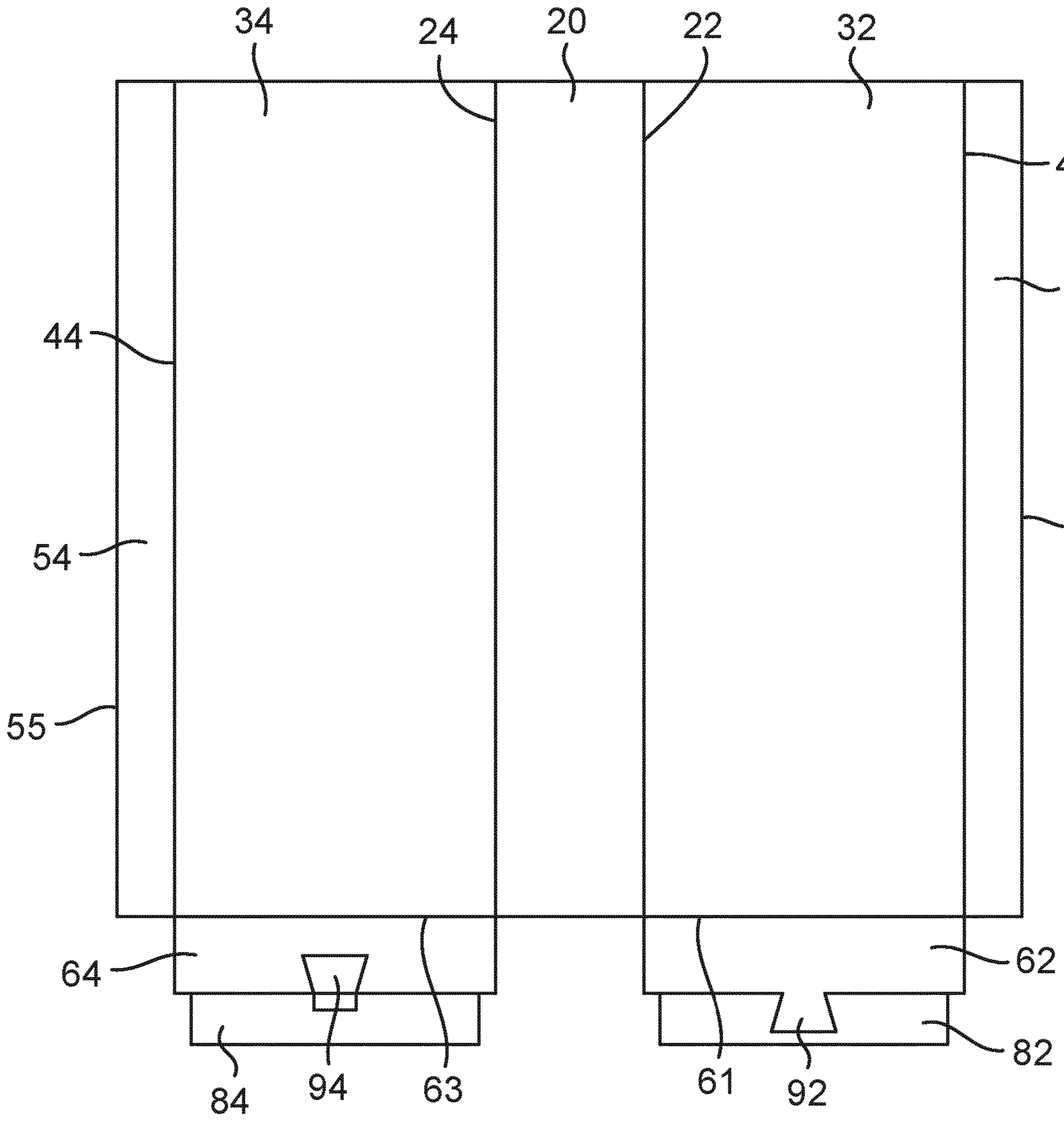


Fig. 9



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/080132

A. CLASSIFICATION OF SUBJECT MATTER
INV. E04B1/84 E04B9/00 E04B9/28 E04B9/36
ADD. E04B1/82

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E04B B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2018/127975 A1 (GILLETTE JASON [US] ET AL) 10 May 2018 (2018-05-10) cited in the application paragraph [0042] - paragraph [0064]; figures	1-15
Y	US 4 679 725 A (WILSON JERRY F [US]) 14 July 1987 (1987-07-14) column 2, line 4 - column 4, line 2; figures	1-15
A	US 9 920 525 B1 (UNDERKOFLER ABRAHAM M [US] ET AL) 20 March 2018 (2018-03-20) column 2, line 14 - column 4, line 3; figures	11-13
A	JP S48 68021 U (KAZUO ISEKI) 29 August 1973 (1973-08-29) figures	1

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 January 2021	01/02/2021
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer López-García, G

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2020/080132

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		US 2018127976 A1	10-05-2018
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