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[54] EXPANSION JOINT FOR SEALING A GAP
BETWEEN PANELS
4 Claims, 2 Drawing Figs.

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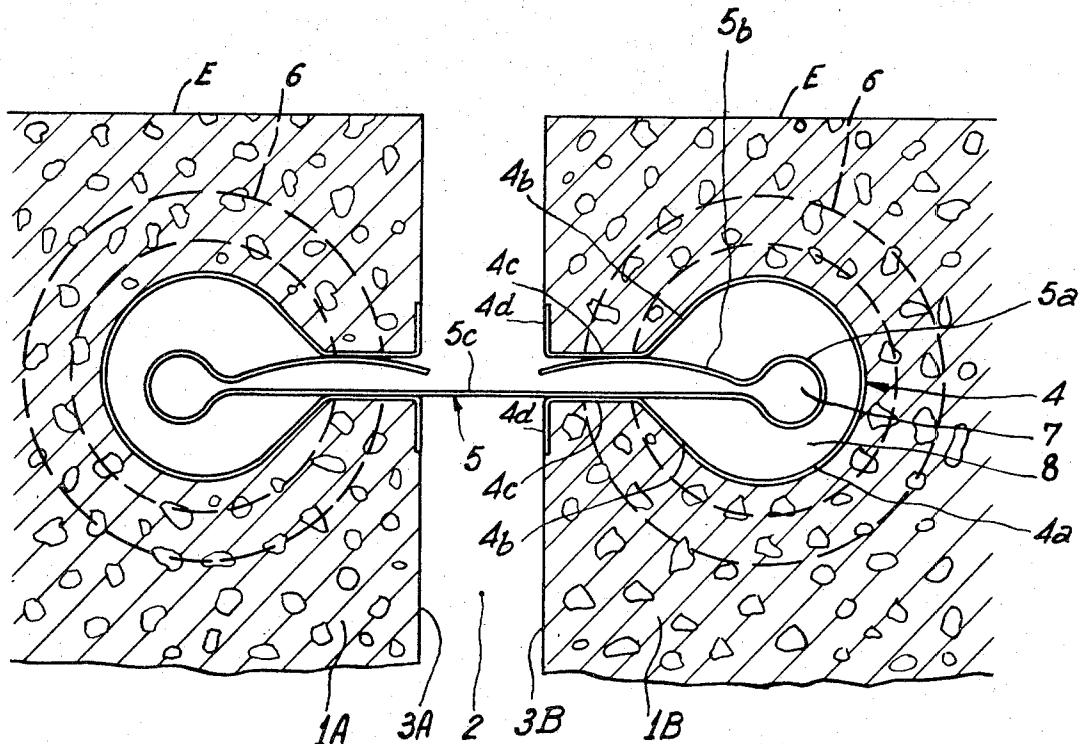
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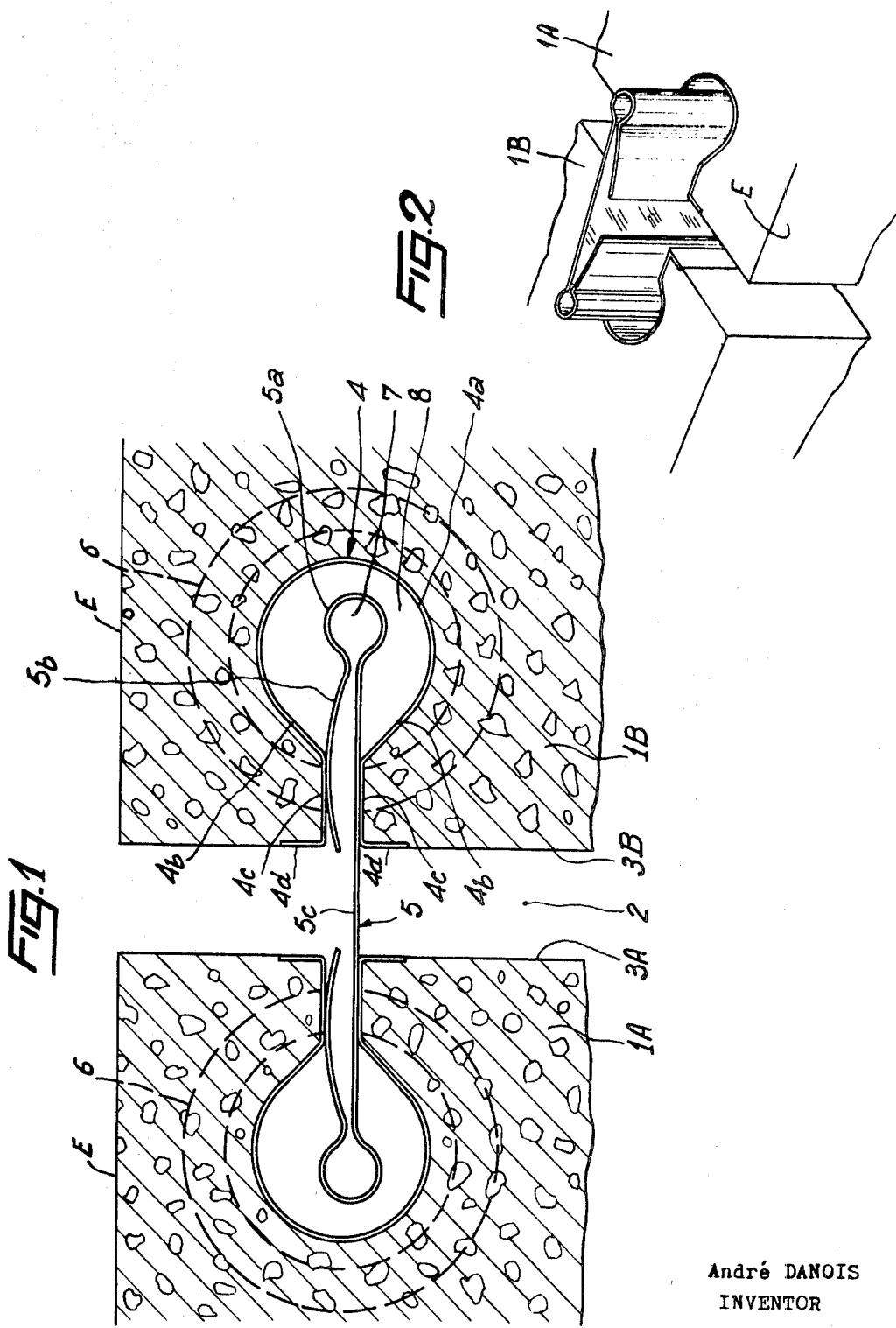
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ABSTRACT: A gap formed between two juxtaposed panels is sealed by an expansion joint in the form of a sheet-metal strip with a central portion spanning the gap and two edge portions bent back onto the central portion to form a tubular bight along each major edge of the strip, this bight being received with clearance in an occluded longitudinal recess of the corresponding panel. The connecting central portion traverses a narrow passage giving access to the recess, this passage also receiving the free edge portion of the strip which is resiliently biased away from the central portion whereby the two portions are maintained in sealing engagement with opposite walls of the passage.



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EXPANSION JOINT FOR SEALING A GAP BETWEEN PANELS

It is known in building construction using prefabricated panels to fit a jointing strip so as to bridge the gap between the panels, the strip being engaged in grooves provided in the side edges of the panels.

For this purpose, strips made of plastic material are usually employed. The fitting of these strips is difficult as their thickness has to correspond substantially to the width of the grooves.

It is an object of the invention to provide an expansion joint which is easy to fit and which, furthermore, ensures an excellent seal.

The present invention provides an assembly comprising two panellike members arranged in juxtaposed position with side faces confronting each other in spaced relationship so as to leave a gap therebetween; the panel members are longitudinally undercut behind these faces to form a pair of elongate occluded recesses accommodating a sealing element extending from their recesses transversely of the gap to seal it. The sealing element is a strip of resilient sheet metal bent back upon itself along its major edges to form a pair of resilient arms overlying parts of a central connecting portion and defining therewith two nearby tubular bight portions received in the respective recesses. Thus, the central strip portion spans the gap while the resilient arms and the underlying parts of the connecting portion elastically bear upon opposite walls of a narrow passage giving access to the respective recesses.

Preferably, the occluded recesses are created in the edges of the cast panels by the use of formers made from a thin metallic strip having the same cross section as the recess, the formers having lateral lips overlying the outer face of the panel member at the entrance to the recess.

Advantages of the invention are that the sealing element has great rigidity, is relatively easy to fit and is resiliently retained in position.

The invention will now be described, by way of example, with reference to the accompanying drawing in which:

FIG. 1 is a cross section of an assembly according to one embodiment of the invention; and

FIG. 2 is a fragmentary perspective view showing the steps of assembly the sealing element with its panel members.

As illustrated in FIG. 1, a joint assembly comprises two juxtaposed panellike building members 1A, 1B, separated by a gap 2 between confronting edge faces 3A, 3B. The panels 1A and 1B are prefabricated and made, for example, of concrete, the coplanar faces E of the panels lying on the outside in use. The members 1A, 1B may be two vertical fronting panels of a building and are adapted to be attached to a structure by means not illustrated, the gap 2 being vertical, for example.

Formers 4 of thin strip metal, e.g. of stainless steel, are embedded in the panel members and, as shown, have a cross section of pearl-like shape comprising a rounded portion 4a, two converging flank portions 4b, two parallel portions 4c and two lips 4d, the latter being turned over and overlying the side face 3A, 3B of the panel. Each former defines a longitudinal channel within the panel having a narrow passage opening onto the side face 3A, 3B.

For fitting the former 4 in a mold for manufacturing the panel members, the lips 4d can simply be hooked onto a rib standing out from the inner wall of the mold so that the former

is positively held in position in the mold. This positive mounting can be reinforced by annular retaining members 6 which are embedded in the concrete during casting.

The gap 2 is bridged by a sealing element 5 which comprises a sheet-metal strip having a central flat main body portion 5c and resilient arms 5b formed by reversely bent edge zones defining with the connecting portion 5c to a pair of substantially tubular bight portions 5a.

The bight portions 5a increase the resiliency of the arms 5b and, as shown in FIG. 1, urge arms and underlying portions of the connecting portion 5c into resilient contact with the opposite walls of the narrow access passage of the recess in the panels.

The arms 5b are curved so as to present a concave face to the underlying parts of the strip 5c.

The sealing element is introduced into the recesses of the panels by a longitudinal sliding movement.

As illustrated, the sealing element is assembled in such a way that any sudden increases in external pressure due to gusts of wind, possibly accompanied by rain, are attenuated in two decompression chambers 7 and 8 constituted, respectively, by the inner spaces of the bights 5a and the surrounding clearances, bounded by the formers 4, which communicate with these inner spaces only at the ends. In this way, the risk of any vibration or throbbing of the sealing elements is avoided.

To drain off rain or condensation, channels can be made at the base of the formers 4 in the foundation for the panels.

The sealing elements can be used to seal gaps of differing width, but since the bight portions 5a have a diameter greater than the width of the narrow passages opening onto the side face 3A, 3B, the elements will always remain anchored to the panel members 1A, 1B. The sealing element is preferably made from a sheet or strip of stainless steel.

I claim:

1. An expansion-joint assembly comprising a pair of juxtaposed panel members having confronting edge faces separated by a gap, each of said members being provided with an occluded recess parallel to its edge face and with a restricted longitudinal passage giving access to said recess from said edge face, and a resilient strip bridging said gap, said strip having a central portion projecting into the recesses of both members through their respective access passages and a pair of edge portions bent back upon said central portion with formations of a generally tubular bight portion wider than said access passages in each recess, said recess surrounding said bight portion with peripheral clearance, said central portion and each edge portion bearing upon opposite walls of a respective access passage under resilient stress from the associated bight portion.

2. An assembly as defined in claim 1 wherein each of said recesses has a generally pear-shaped cross section converging toward the corresponding access passage.

3. An assembly as defined in claim 1 wherein each of said recesses is provided with a metallic liner extending outwardly along said opposite walls and terminating in a pair of lips overlying the corresponding edge face on opposite sides of the access passage.

4. An assembly as defined in claim 1 wherein each of said edge portions is curved away from said central portion within its access passage and bears with a convex side upon a wall of said passage.