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(72) BOUIC, PHILLIP J., GB
(71) MINNESOTA MINING AND MANUFACTURING COMPANY, US

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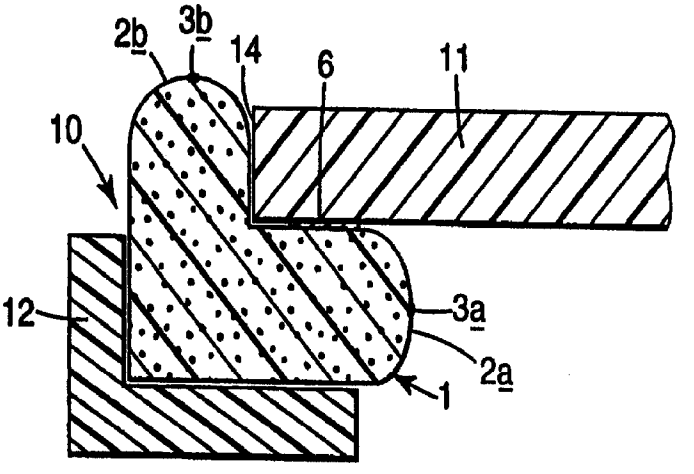
(54) **BANDE MOUSSE DE MASQUAGE ET PROCEDE DE MASQUAGE D'UN INTERVALLE**

(54) **FOAM STRIP FOR MASKING AND METHOD FOR MASKING A GAP**



(57) Une bande de masquage en mousse (1) présente une section transversale de forme générale allongée, aux extrémités arrondies, un joint soudée à froid (3a, 3b) le long de chaque bord longitudinal incurvé, une largeur comprise entre 25 et 35 mm, une épaisseur comprise entre 5 et 15 mm, et une bande (6) d'adhésif sensible à la pression, adjacente à un bord longitudinal, la bande adhésive (6) étant d'une largeur comprise entre 8 et 12 mm et étant disposée au moins à 2 mm dudit bord longitudinal. La bande (1) peut être utilisée pour masquer un intervalle (10) entre un panneau mobile (11) d'un véhicule et une partie adjacente (12) du véhicule en procédant comme suit: on ouvre le panneau mobile (11); on applique la bande mousse (1), au moyen de la bande adhésive (6), sur un bord (14) de la surface intérieure, soit du panneau mobile (11), soit de ladite partie adjacente (12), de telle sorte que la bande mousse (1) soit en saillie au-delà du bord; on ferme ensuite le panneau mobile (11) de telle façon que la partie en saillie de la bande mousse (1) soit logée dans l'intervalle (10), le bord incurvé longitudinal de la bande mousse à distance de l'adhésif (6) étant dirigé vers l'extérieur du véhicule.

(57) A foam masking strip (1) has a generally elongate cross section with rounded ends, a cold-welded seam (3a, 3b) along each curved longitudinal edge, a width in the range of from 25 to 35 mm, a thickness in the range of from 5 to 15 mm, and a strip (6) of pressure-sensitive adhesive adjacent one longitudinal edge; the adhesive strip (6) having a width in the range of from 8 to 12 mm and being located at least 2 mm from the said one longitudinal edge. The strip (1) can be used to mask a gap (10) between a movable panel (11) of a vehicle and an adjacent part (12) of the vehicle by: opening the movable panel (11); applying the foam strip (1), by means of the adhesive strip (6), to an edge (14) of the inner surface of either the movable panel (11) or the said adjacent part (12) so that the foam strip (1) projects beyond the edge; and closing the movable panel (11) so that the projecting portion of the foam strip (1) is located in the gap (10) with the longitudinal curved edge of the foam strip remote from the adhesive (6) directed towards the exterior of the vehicle.

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(71) Applicant *(for all designated States except US)*: MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133–3427 (US).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: BOUIC, Phillip, J. [GB/GB]; 60 Sheffield Road, Sutton Coldfield, West Midlands B73 5HD (GB).

(74) Agents: SKOLNICK, Steven, E. et al.; Minnesota Mining and Manufacturing Company, Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133–3427 (US).

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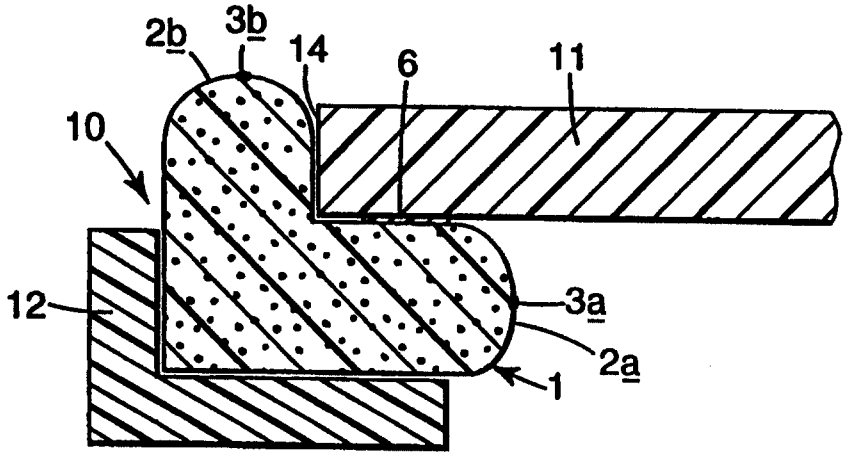
(54) Title: FOAM STRIP FOR MASKING AND METHOD FOR MASKING A GAP

(57) Abstract

A foam masking strip (1) has a generally elongate cross section with rounded ends, a cold–welded seam (3a, 3b) along each curved longitudinal edge, a width in the range of from 25 to 35 mm, a thickness in the range of from 5 to 15 mm, and a strip (6) of pressure–sensitive adhesive adjacent one longitudinal edge; the adhesive strip (6) having a width in the range of from 8 to 12 mm and being located at least 2 mm from the said one longitudinal edge. The strip (1) can be used to mask a gap (10) between a movable panel (11) of a vehicle and an adjacent part (12) of the vehicle by: opening the movable panel (11); applying the foam strip (1), by means of the adhesive strip (6), to an edge (14) of the inner surface of either the movable panel (11) or the said adjacent part (12) so that the foam strip (1) projects beyond the edge; and closing the movable panel (11) so that the projecting portion of the foam strip (1) is located in the gap (10) with the longitudinal curved edge of the foam strip remote from the adhesive (6) directed towards the exterior of the vehicle.



FOAM STRIP FOR MASKING AND METHOD FOR MASKING A GAP

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a material for masking a vehicle during spray painting and to a method of using that material. The invention relates, more especially, to a material and method for masking a gap between a movable panel of a vehicle and another part of the vehicle.

Description of the Related Art

When a vehicle is being spray painted, it is often necessary to fill temporarily the gap between a movable panel of the vehicle (for example, a door, bonnet (hood) or boot (trunk) lid) and another part of the vehicle (typically a part of the vehicle frame or body work), to prevent paint from entering the gap. It is known to use adhesive foam strips for this purpose but available foam strips are designed for use primarily on one part of a vehicle and function less well for masking purposes on other parts of the vehicle. Consequently, a vehicle repair shop has to decide between stocking a range of different foam strips or putting-up with the difficulty of using a foam strip in a location for which it is not intended.

Examples of foam strips for use in masking vehicles are described in EP-A-0 384 626; WO 95/21700; and WO 95/24273.

One problem with which the present invention is concerned is that of providing a masking material in the form of a foam strip which is suitable for use in a wider range of locations on a vehicle.

SUMMARY OF THE INVENTION

The present invention provides a masking material for use in masking a gap between a movable panel of a vehicle and an adjacent part of the vehicle, the masking material comprising an elongate foam strip having a generally elongate cross-section with rounded ends, a cold-welded seam along each curved longitudinal edge, a width in the range of from 25 to 35 mm, a thickness in the range of from 5 (preferably 10) to 15 mm, and a strip of pressure-sensitive adhesive adjacent one longitudinal edge; the adhesive strip having a width in the range of from 8 to 12 mm and being located at least 2 mm from the one longitudinal edge.

The invention also provides a method of masking a gap between a movable panel of a vehicle and an adjacent part of the vehicle, the method comprising the steps of: providing an elongate foam strip having a generally elongate cross-section with rounded ends, a cold-welded seam along each curved longitudinal edge, and a strip of pressure-sensitive adhesive adjacent one longitudinal curved edge; opening the movable panel; applying the foam strip, by means of the adhesive strip, to an edge of the inner surface of either the movable panel or the adjacent part so that the foam strip projects beyond the edge; and closing the movable panel so that the projecting portion of the foam strip is located in the gap with the longitudinal curved edge of the foam strip remote from the adhesive directed towards the exterior of the vehicle.

BRIEF DESCRIPTION OF THE DRAWINGS

By way of example only, embodiments of the invention will be described with reference to the accompanying drawings, in which:

Fig. 1 shows a transverse cross-section of a masking material in the form of a foam strip in accordance with the invention;

Fig. 2 is a partial view of an array of foam strips of the type shown in Fig. 1;

Fig. 3 is a cross-sectional view of the foam strip of Fig. 1 being used to mask a gap between a movable panel of a vehicle and adjacent bodywork;

Figs. 4 and 5 are, respectively, a cross-sectional view and a partial side view of the foam strip of Fig. 1 being used to mask the "B" post gap of a vehicle; and

Fig. 6 is a cross-sectional view of the foam strip of Fig. 1 being used to mask the "A" post gap of a vehicle.

In the drawings, the various Figures are not drawn to the same scale.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Fig. 1 shows a transverse cross-section of a masking material in the form of an elongate foam strip 1. The foam strip 1 has a generally elongate cross-section with rounded ends (i.e., the elongate strip has curved longitudinal edges 2a, 2b) and, as a consequence of the method by which it is produced, has a cold-welded seam 3a, 3b along each longitudinal edge. The cold-welded seams 3a, 3b maintain the curved configuration of the longitudinal edges 2a, 2b of the strip, and hence the configuration of the cross-section.

The foam strip 1 has a width, between the cold-welded seams 3a, 3b of about 28 mm and a thickness in the central portion (i.e., between the two flat major surfaces 4, 5) of about 13.5 mm. A strip 6 of pressure-sensitive adhesive is located on one major surface 4 of the foam strip 1 adjacent one (2a) of the longitudinal edges. The adhesive strip 6 has a width of about 10 mm and is located about 3.5 mm from the adjacent outermost edge of the foam strip (the distance being measured parallel to the surface 4).

In an alternative form, the foam strip 1 has a width, between the cold-welded seams 3a, 3b, of about 29 mm and a thickness between the major surfaces 4, 5 of about 10.5 mm. The adhesive strip 6 has a width of about 10 mm and is located about 3.5 mm from the adjacent outermost edge of the foam strip (the distance again being measured parallel to the surface 4). Other dimensions can be used but, generally, the foam strip has a width, between the cold-welded seams 3a, 3b, in the range of from 25 to 35 mm, and a thickness between the major surfaces 4, 5 in the range of from 5 to 15 mm (typically 10 to 15 mm); and the adhesive strip 6 has a width in the range of from 8 to 12 mm and is located at least 2 mm from the adjacent outermost edge.

Any suitable compressible foam which can be cold-welded can be used for the foam strip. Typically, the foam is an open cell polymeric foam, for example an open-cell polyester foam, having a density in the range of from 20 to 30 kg/m^3. One suitable polyester foam having a density of about 26 kg/m^3 is available, under the trade designation "X4200AM" from Caligen Foam Limited of Accrington, Lancashire, England.

Any suitable pressure sensitive adhesive may be used for the adhesive strip 6, preferably one (for example, a hot melt rubber adhesive) that can be applied to the foam material by die coating. The coating weight of the adhesive is selected to ensure adequate adhesion to those parts of a vehicle on which the foam strip 1 is intended to be applied.

A foam strip 1 having a cross-section as illustrated in Fig. 1 can be manufactured from a foam web using the process described in EP-A-0 384 626, in which the cold-welded seams 3a, 3b are formed by compressing the web longitudinally with blunt rotary cutters spaced from each other by an appropriate distance. The foam strip can conveniently be provided in the form of a roll wound upon itself, optionally about a core. As further described in EP-A-0 384 626, an array of the foam strips can be produced in which the strips 1 are joined to each other by the cold-welded seams 3a, 3b and are manually separable from one another. A part of such an array is shown in Fig. 2. The array can also be provided in the form of a roll.

Fig. 3 illustrates the use of the foam strip 1 to mask a gap 10 between a movable panel 11 of a vehicle and another part 12 of the vehicle. The movable panel 11 may, for example, be a bonnet or a boot panel and the part 12 may be the adjacent bodywork. The panel 11 is moved to its open position (not shown in Fig. 3) and the foam strip 1 is adhered, by means of the adhesive strip 6, to the inside of the panel at the edge 14 so that the longitudinal edge 2b (i.e., the edge remote from the adhesive strip) projects from the panel. The movable panel 11 is then moved to its closed position, causing the projecting portion of the foam strip to be bent around edge 14 of the panel and, when the panel 11 is closed, to be located in the gap 10. In some cases, the edge 2b of the foam strip 1 may project out of the gap 10, above the outer surface of the panel 11, when the latter is closed. The projecting

portion will have the effect of shadow masking the edges of the gap 10 during spray painting, which is not a problem when, for example, a primer coat is to be applied to the panel 11 and a smooth coating over the edge of the panel is not required. When necessary, however, any part of the strip 1 that projects out of the gap 10 can be pushed back into the gap before spray painting is carried out, until the strip is flush with the adjacent surface of the panel 11.

Figs. 4 and 5 illustrate the use of the foam strip 1 to mask the "B" post gap 20 of a vehicle (the "B" post being the pillar 21 situated between the rear edge of the front door 22 of the vehicle and the front edge of the rear door 23). To mask the gap 20 in front of the "B" post 21, the front door 22 of the vehicle is moved to its open position (not shown in Figs. 4 and 5) and the strip 1 is adhered, by means of the adhesive strip 6, to the inside of the door at the rear edge so that the longitudinal edge 2b of the foam strip (i.e., the edge remote from the adhesive strip) projects from the door. The door 22 is then closed, causing the foam strip to be bent around the edge of the door and resulting in the projecting portion of the strip being located in the "B" post gap 20 as shown in Fig. 4. As already explained above in connection with Fig. 3, the edge 2b of the foam strip 1 may be left to project out of the gap 20 or it may, before spray painting is carried out, be pushed back into the gap until the strip is flush with the adjacent surfaces.

The foam strip 1 may also be used as illustrated in Fig. 6 to mask the "A" post gap 30 of a vehicle (the "A" post being the pillar 31 situated between the front edge of the front door 32 of the vehicle and the front wing (panel) 33). In that case, the movable panel (i.e., the front door 32) is moved to its open position and the foam strip 1 is adhered to the inside edge of the non-moving part (i.e., the wing 33) so that the longitudinal edge 2b of the foam strip projects forwards towards the exterior of the vehicle. Then, when movable panel 32 is closed, that portion of the foam strip is located in the gap 30 to be masked. As before, the edge 2b of the foam strip may be left to project out of the gap 30 or it may, before spray painting is carried out, be pushed back into the gap until it is flush with the adjacent surfaces.

The method illustrated in Fig. 6 may also be used to mask the gap between the top of the tailgate of a vehicle and the adjacent bodywork (effectively, the back edge of the roof). In that case, with the tailgate open, the foam strip 1 is adhered to the inside of the bodywork so that the longitudinal edge 2b of the strip projects forwards towards the exterior of the vehicle. Then, when the tailgate is closed, the foam strip is located in the gap to be masked.

CLAIMS

What is Claimed is:

1. A masking material for use in masking a gap between a movable panel of a vehicle and an adjacent part of the vehicle, the masking material comprising an elongate foam strip having a generally elongate cross-section with rounded ends, a cold-welded seam along each curved longitudinal edge, a width in the range of from 25 to 35 mm, a thickness in the range of from 5 to 15 mm, and a strip of pressure-sensitive adhesive adjacent one longitudinal edge; the adhesive strip having a width in the range of from 8 to 12 mm and being located at least 2 mm from the said one longitudinal edge.

2. A masking material as claimed in claim 1, provided as a roll which is formed by winding the foam strip upon itself.

3. A roll of masking material comprising a parallel array of conjoined and manually separable elongate foam strips, each strip having a generally elongate cross-section with rounded ends, adjacent strips being joined by cold-welded seams along the curved longitudinal edges of the strips; each strip having a width in the range of from 25 to 35 mm, a thickness in the range of from 5 to 15 mm, and a strip of pressure-sensitive adhesive adjacent one longitudinal edge; the adhesive strip having a width in the range of from 8 to 12 mm and being located at least 2 mm from the said one longitudinal edge.

4. A method of masking a gap between a movable panel of a vehicle and an adjacent part of the vehicle, the method comprising the steps of: providing an elongate foam strip having a generally elongate cross-section with rounded ends, a cold-welded seam along each curved longitudinal edge, and a strip of pressure-sensitive adhesive adjacent one longitudinal curved edge; opening the movable panel; applying the foam strip, by means of the adhesive strip, to an edge of the inner surface of either the movable panel or the adjacent part so that the foam strip projects beyond the edge; and closing the movable panel so that the projecting portion of the foam strip is located in the gap with the

longitudinal curved edge of the foam strip remote from the adhesive directed towards the exterior of the vehicle.

5. A method as claimed in claim 4, further including the step of pushing the end of the projecting portion of the foam strip back into the gap after the movable panel has been closed.

6. A method as claimed in claim 4 or claim 5, in which the foam strip has a width in the range of from 25 to 35 mm, and a thickness in the range of from 5 to 15 mm.

7. A method as claimed in any one of claims 4 to 6, in which the adhesive strip has a width in the range of from 8 to 12 mm and is located at least 2 mm from the said one longitudinal edge.

8. A method as claimed in any one of claims 4 to 7, in which the foam strip is formed from a polymeric open-cell foam.

9. A method as claimed in claim 8, in which the foam is a polyester foam.

10. A method as claimed in any one of claims 4 to 9, in which the movable panel is a door, bonnet, boot or tailgate panel of the vehicle.

11. A method as claimed in any one of claims 4 to 10, in which the movable panel is a front door panel, the gap is the "A" post gap of the vehicle, and the foam strip is adhered to the rear edge of the front wing of the vehicle.

12. A method as claimed in any one of claims 4 to 10, in which the movable panel is a front door panel, the gap is the "B" post gap of the vehicle, and the foam strip is adhered to the rear edge of the door panel.

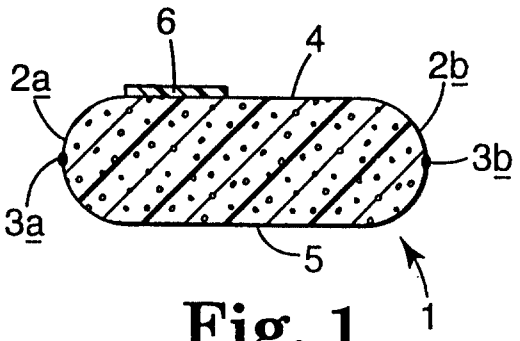


Fig. 1

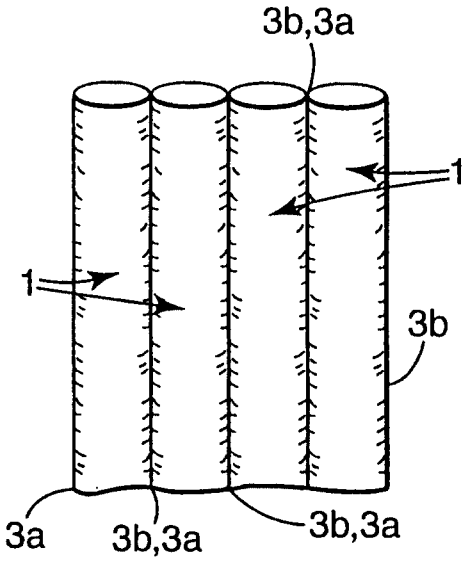


Fig. 2

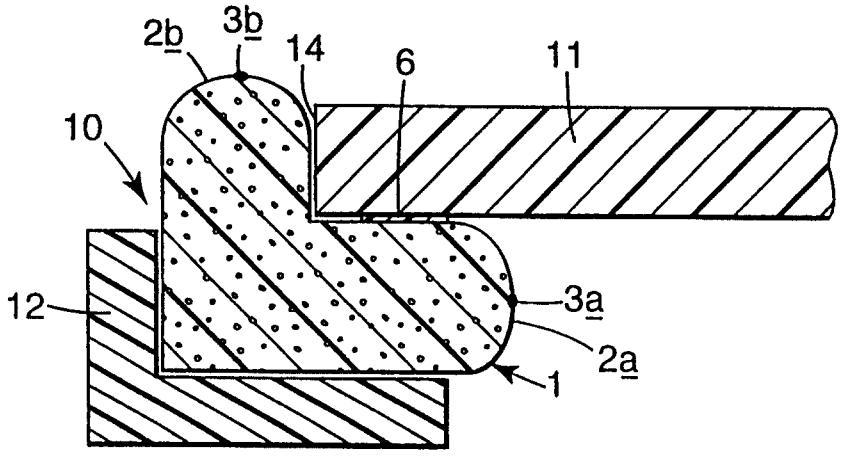


Fig. 3

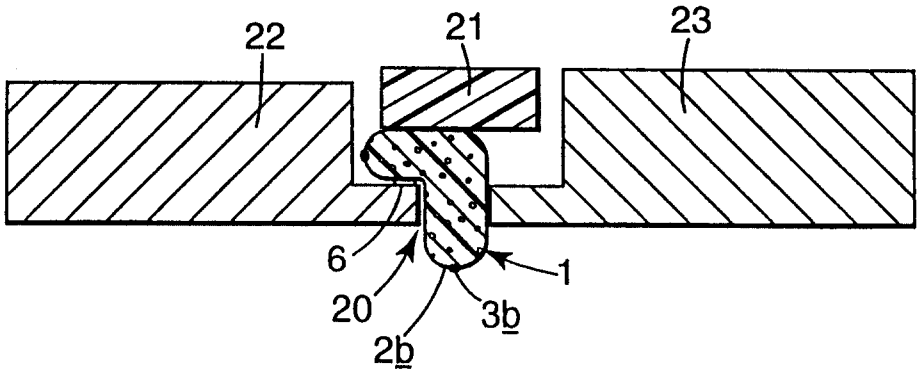


Fig. 4

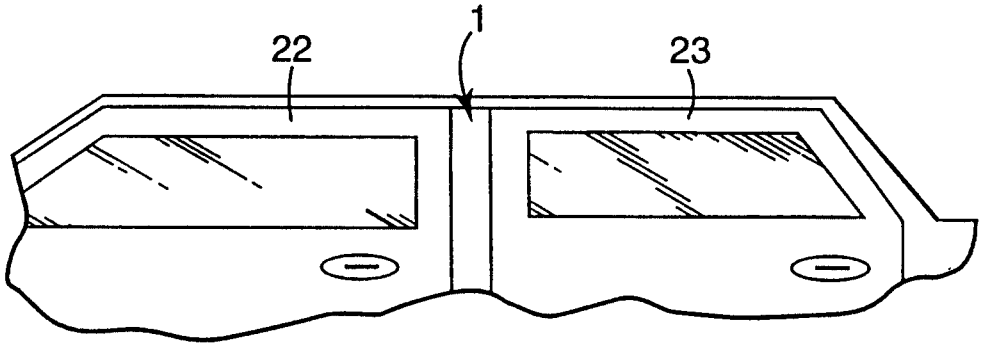


Fig. 5

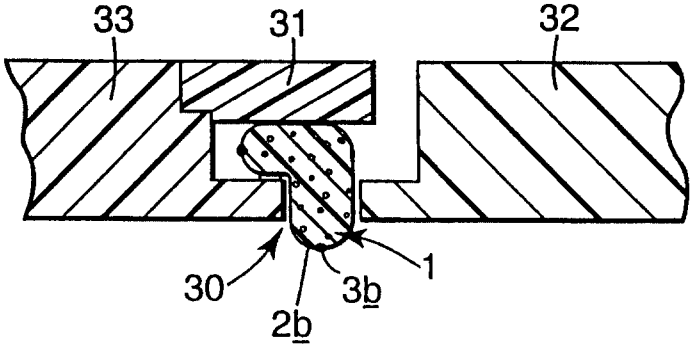
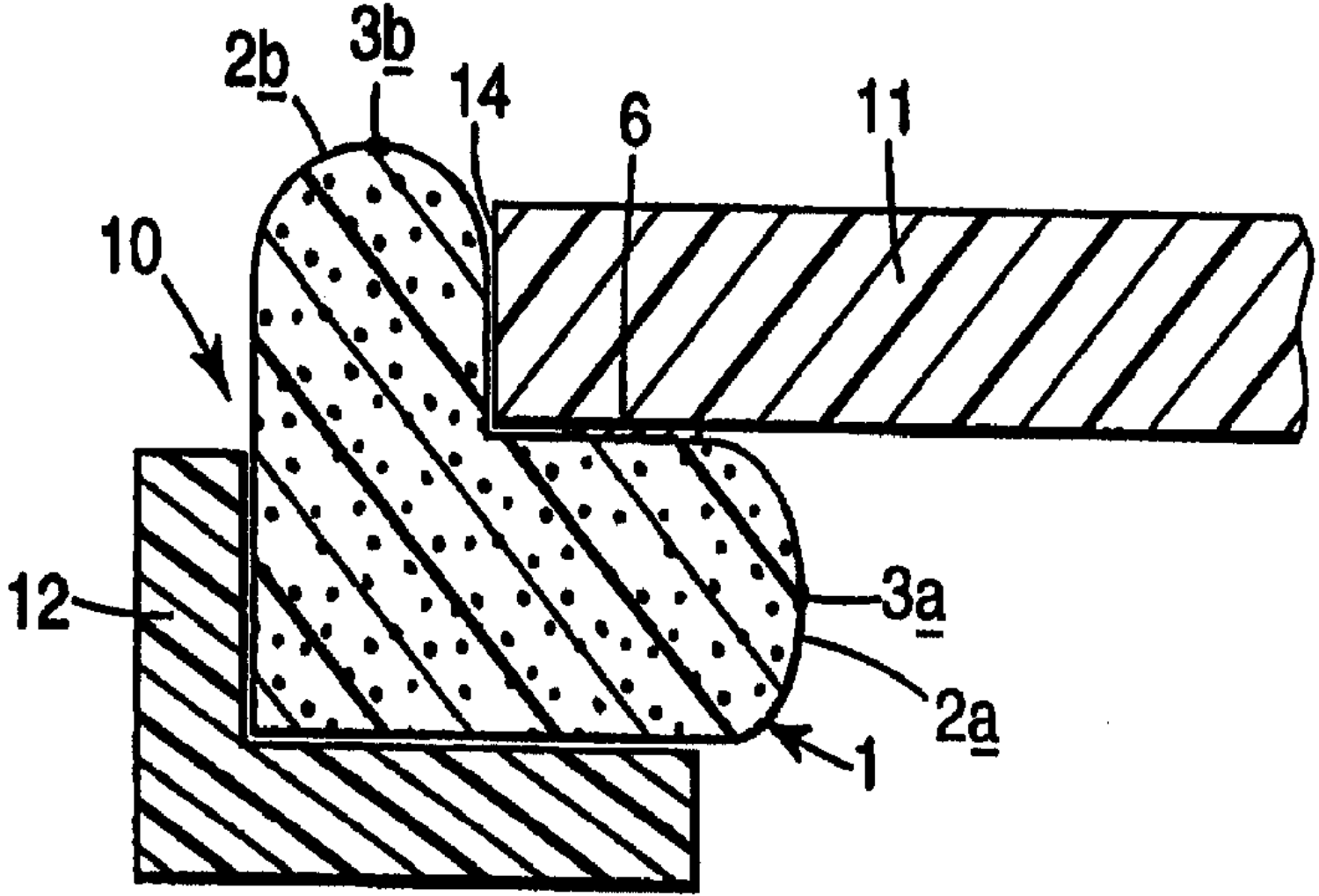


Fig. 6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