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(54) Title: DOUBLE FABRIC FACED INJECTION MOLDED FIXTURE

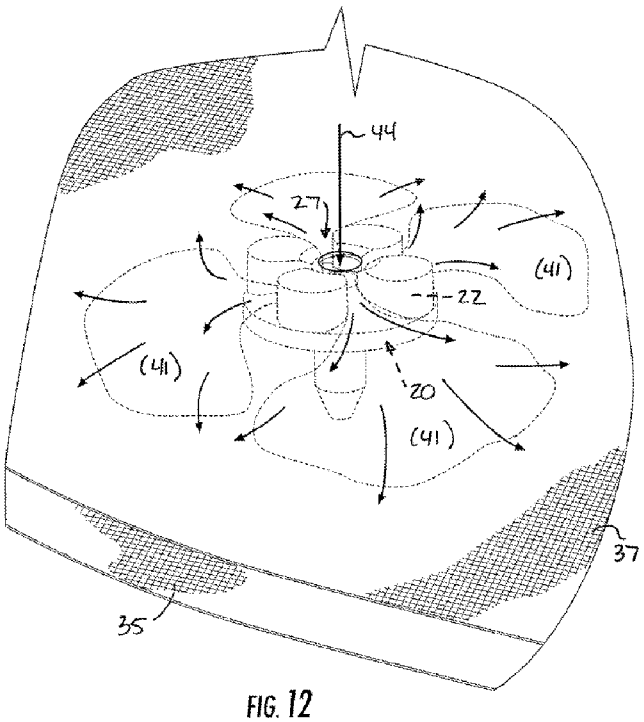

FIG. 12

(57) Abstract: A method of forming a drain fixture is disclosed along with the resulting structure. The method includes the steps of aligning two preformed fabrics on top of each other, with connecting elements positioned between the fabrics and bonded to each of the two fabrics, positioning the connected two fabrics in a mold and centering the connected, fabrics inside the mold by means of the connecting elements, injecting a plastic material through openings in the connecting elements, and filling the space between the two fabrics with the plastic material.

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AMENDED CLAIMS
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Claims

1. A method of forming a drain fixture comprising:

positioning two aligned preformed fabrics on top of each other, with connecting elements positioned between the fabrics and bonded to each of the two fabrics in a mold and centering the connected fabrics inside the mold by means of the connecting elements; and

injecting a plastic material through openings in the connecting elements to fill the space between the two fabrics with the plastic material.

2. A method according to Claim 1 comprising superimposing nonwoven fabrics selected from the group consisting of acrylic, nylon, polyethylene, polypropylene, polystyrene, polyvinyl chloride, PTFE, polyester, polycarbonate and polyurethane.

3. A method according to Claim 1 wherein said connecting elements are formed of a polymer resin that has a higher melting temperature than said plastic material that is injected between said fabrics

4. A method according to Claim 1 comprising injecting a plastic material selected from the group consisting of acrylic, nylon, polyethylene, polypropylene, polystyrene, polyvinyl chloride, PTFE, polyester, polycarbonate, polyurethane, and acrylonitrile butadiene styrene (ABS).

5. A method of forming a double fabric faced injection molded flange comprising:

superimposing a first temperature resistant fabric on a rigid temperature resistant fixture plate;

positioning a temperature resistant spacer on the first fabric opposite the fixture plate;

placing an alignment pin in the spacer on the fabric overlying the fixture plate;

superimposing a second fabric over the first fabric and spaced from the first fabric by the spacer while aligning the second fabric on the alignment pin; and

removing the alignment pins and adding a melted plastic resin into the spacer, and through the spacer and between the fabrics while the fabrics and plate are clamped in a mold.

6. A method according to Claim 5 comprising superimposing nonwoven fabrics.

7. A method according to Claim 5 comprising positioning a plurality of spacers and respective alignment pins on the first fabric.

8. A method according to Claim 5 further comprising connecting a drain pan and a pan nipple to said injection molded flange.

9. A method according to Claim 8 comprising molding said pan and pan nipple with said injection molded flange.

10. A method according to Claim 5 comprising adding the melted thermoplastic resin into the spacer between a plurality of spacing cylinders and thereafter over a support disk and into the space between said first and second fabrics defined by said spacer.

11. A method according to Claim 5 wherein said temperature resistant spacer is formed of a plastic that has a higher melting temperature than said plastic resin that is injected between said fabrics.

AMENDED SHEET (ARTICLE 19)

12. A method according to Claim 5 comprising injecting a thermoplastic resin selected from the group consisting of acrylic, nylon, polyethylene, polypropylene, polystyrene, polyvinyl chloride, PTFE, polyester, polycarbonate, polyurethane, and acrylonitrile butadiene styrene (ABS).

13. A flanged plumbing fixture (45) comprising:

two planar nonwoven fabric layers (35,37) separated by a planar plastic core layer (41) with each planar fabric layer fused to said thermoplastic core layer;

a depending pan (46) beneath said flange; and

a depending threaded nipple (47) beneath said pan.

14. A flanged plumbing fixture according to Claim 13 wherein said fabric layer is selected from the group consisting of acrylic, nylon, polyethylene, polypropylene, polystyrene, polyvinyl chloride, PTFE, polyester, polycarbonate and polyurethane.

15. A flanged plumbing fixture according to Claim 13 wherein said plastic core is selected from the group consisting of acrylic, nylon, polyethylene, polypropylene, polystyrene, polyvinyl chloride, PTFE, polyester, polycarbonate, polyurethane, and acrylonitrile butadiene styrene (ABS).

16. A spacer for injection molding comprising:

a support plate (21);

a plurality of spacing uprights (22) on said support plate for defining the spacing characteristics of said spacer;

said spacing uprights defining an injection opening there between; and

a pin cylinder (25)depending from said support plate opposite said spacing uprights.

17. A spacer according to Claim 16 wherein said depending pin cylinder terminates in a pin frustum (26).

18. A spacer according to Claim 16 wherein said depending pin has a circular cross section.

19. A spacer according to Claim 16 wherein said depending pin has a square cross section.

20. A spacer according to Claim 16 formed from a high melting temperature thermoplastic resin.

21. A spacer according to Claim 16 formed from a resin selected from the group consisting of fluoropolymers, liquid crystal polymers, polyamide, polyimide, polyarylate, polyether keytone, polyether imide and polysulfones.

22. A spacer according to Claim 16 wherein said support plate is round.

23. A spacer according to Claim 16 wherein said spacing uprights comprise cylinders.