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(54) Titre : EPONGE DE RACLAGE
(54) Title: SCRAPER SPONGE

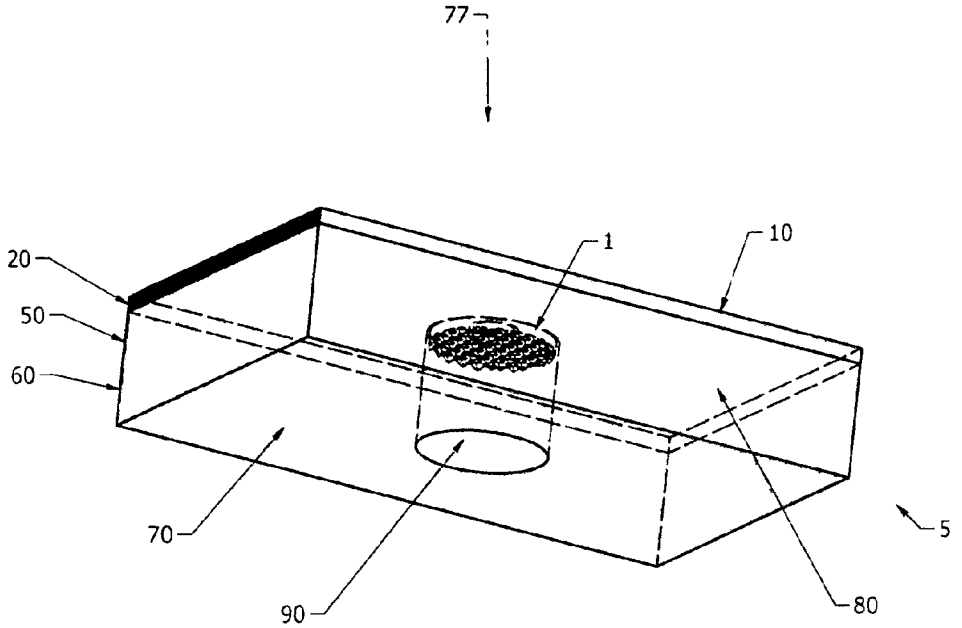

FIG. 1

(57) Abrégé/Abstract:
A scraper sponge for cleaning and scraping away unwanted substances from an object or surface comprising a sponge body and a scraper. The sponge body has three layers and two surfaces available with a circular aperture in the middle where the scraper is inserted and attached to the first layer. The front surface of the scraper is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body and is made level with the second surface of the sponge body when forces are applied to the first surface and subsequent back of scraper to manipulate the rigid scraper on a hard surface.

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(54) **Title:** SCRAPER SPONGE

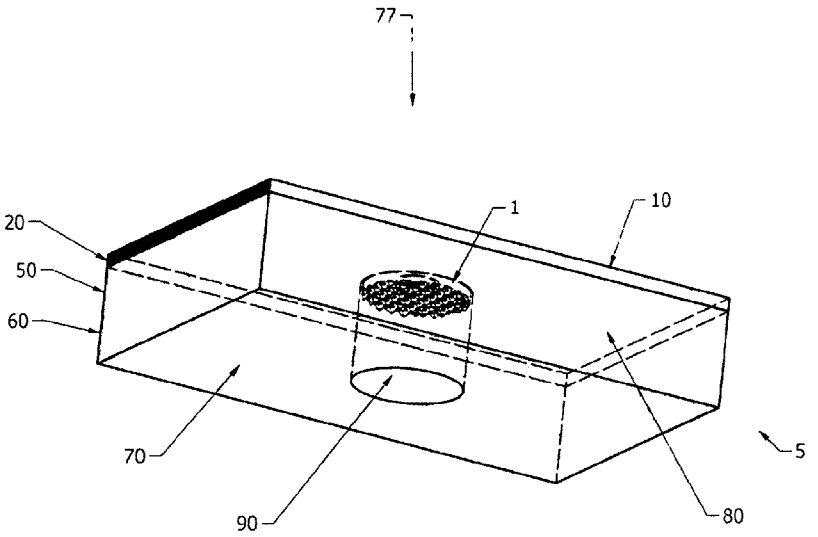

FIG. 1

(57) **Abstract:** A scraper sponge for cleaning and scraping away unwanted substances from an object or surface comprising a sponge body and a scraper. The sponge body has three layers and two surfaces available with a circular aperture in the middle where the scraper is inserted and attached to the first layer. The front surface of the scraper is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body and is made level with the second surface of the sponge body when forces are applied to the first surface and subsequent back of scraper to manipulate the rigid scraper on a hard surface.

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[Continued on next page]

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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
— *of inventorship (Rule 4.17(iv))*
— *as to non-prejudicial disclosures or exceptions to lack of novelty (Rule 4.17(v))*

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BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a bottom left sided semi-opaque view of the scraper sponge and all of its components according to an embodiment of the invention.

[0012] FIG. 2 is a top right-sided hidden line view of the scraper sponge and all of its components according to an embodiment of the invention.

[0013] FIG. 3 is a bottom left-sided hidden line view of the scraper sponge and all of its components according to an embodiment of the invention.

[0014] FIG. 4 is an exploded right-sided bottom view of the scraper sponge and all of its components according to an embodiment of the invention.

[0015] FIG. 5A is a front view of the scraper according to an embodiment of the invention.

[0016] FIG. 5B is a side view of the scraper and its components according to an embodiment of the invention.

[0017] FIG. 5C is a right-sided view of the scraper sponge and all of its components according to an embodiment of the invention.

[0018] FIG. 6 is a transparent right-sided view of the scraper sponge and all of its components according to an embodiment of the invention.

[0019] FIG. 7 is a front section view of FIG. 6 according to an embodiment of the invention.

[0020] FIG. 8 is a bottom view of the scraper sponge according to an embodiment of the invention.

[0021] FIG. 9 is a top view of the scraper sponge according to an embodiment of the

invention.

[0022] FIG. 10 is a transparent right-sided view of the scraper sponge and all of its components according to an embodiment of the invention.

[0023] FIG. 11 is a transparent frontal view of the scraper sponge and all of its components according to an embodiment of the invention.

[0024] FIG. 12 is a transparent left-sided view of the scraper sponge and all of its components according to an embodiment of the invention.

[0025] FIG. 13 is a bottom left sided semi-opaque view of the scraper sponge and all of its components according to a second embodiment of the invention.

[0026] FIG. 14 is an exploded left sided hidden line view of the scraper sponge and all of its components according to a second embodiment of the invention.

[0027] FIG. 15 is a transparent left-sided view of the scraper sponge and all of its components according to a second embodiment of the invention.

[0028] FIG. 16 is a front section view of FIG. 15 according to a second embodiment of the invention.

[0029] FIG. 17 is an angled and exploded side view of the scraper sponge and all of its components according to a third embodiment of the invention.

[0030] FIG. 18 is an angled side view of the scraper sponge and all of its components according to a third embodiment of the invention.

[0031] FIG. 19 is a width side view of the scraper sponge and all of its components according to a third embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0032] The present invention is directed to a scraper sponge and/or pad adapted for scraping and removing unwanted substances such as dirt, hardened oils or grease, mildew, waxes, stuck on foods, or other substances that adhere to surfaces and reside in corners, grooves and crevices.

[0033] Referring to FIGS. (1 Thru 4) an embodiment of the scraper sponge is shown and generally indicated by reference numeral 5. The scraper sponge 77 comprises a sponge body 5 defining a first surface 10, second surface 70 opposite first surface, and a continuous side surface 80 around the perimeter. The sponge body 5 can be made from numerous materials such as polyester foam, natural sponges, polyurethane foams, cellulose fiber, absorbent arrays of synthetic fibers or any combination thereof. The invention is not limited in this regard, and any appropriate sponge material that is currently known or later becomes known to those skilled in the art may be used. In one embodiment, the sponge body 5 is rectangular. However, the invention is not limited in this regard as the sponge body 5 could be any shape appropriate for cleaning such as polygon, oval, square, circle, triangle, trapezoid, etc.

[0034] Furthermore, the sponge body 5 is not limited by size in any dimension. In one embodiment, the length L (FIG. 10) of the sponge body 5 ranges from about 3 inches to about 23 inches, while the width W (FIG. 11) ranges from about 2 inches to about 15 inches; for circular sponges (not shown), the diameter ranges from about 3 inches to about 16 inches. In another embodiment, the length L of the sponge body 5 ranges from about 3 inches to about 14 inches, while the width W ranges from about 2 inches to about 7 inches; for circular sponges, the diameter ranges from about 3 inches to about 12 inches. In yet another embodiment, the length L of the sponge body 5 ranges from about 4 inches to about 12 inches, while the width W ranges from about 2 inches to about 4 inches; for circular sponges, the diameter ranges from about 4 inches to about 8 inches. With respect to the thickness H (FIG. 12) of the sponge body 5, in one embodiment, the thickness H ranges from about 1 inch to about 5 inches. In another embodiment, the thickness H of the sponge body 5 ranges from about 1 inch to about 7 inches. In yet another embodiment, the thickness H of the sponge body 5 ranges from about 1 inch to about 3 inches.

[0035] Referring to FIGS. (1 thru 3) the scraper sponge 77 defines a sponge body 5 defining an outer continuous side surface 80 including a first surface 10, a second surface 70, and a scraper 1 inserted into a circular aperture 90 approximately through the middle of the seamless second layer 50, third layer 60, and the second surface. An exploded view of the scraper sponge 77 is shown in FIG. 4. In one embodiment, the rear of scraper 1 is fixedly secured to first layer 20 where it joins second layer 50 within the circular aperture 90 of sponge body 5 of FIG. 1 by way of heat fusion and/or the application of an adhesive (not shown), or by any other method that is currently known or later becomes known to one skilled in the art. In another embodiment, (FIG. 13) the rear of scraper 1 can be fixedly secured to second layer 50 where it joins third layer 60 within circular aperture 90 of sponge body 5 approximately in the middle of third layer 60 by way of the second surface 70 of (FIG. 13). An exploded view of this is presented in FIG. 14.

[0036] The rear of scraper 1 (FIG. 5C) is securely attached to the sponge body 5. The scraper 1 can be any size. The scraper 1 on its front surface (FIG. 5A) has approximately 70 defined pyramid shaped edges 4, depending on the surface area of the scraper 1 (FIGS. 5A and 5B). The pyramid shaped edges 4 extend outwardly toward the second surface 70. The scraper 1 pyramid shaped edges 4 range from being semi rigid to substantially rigid for scraping unwanted substances and is narrow at its circular border for entering tight corners, groves and crevices and for effectively scraping surfaces. The scraper 1 can be any shape; circular, rectangular, polygonal. Further, the letter O shaped ring 2 on the rear of scraper 1 defines a depressible surface concave female groove to which normal and angular forces are applied by way of the first surface 10 by the user to manipulate the scraper 1 and apply pressure as required to scrape away and remove substances where desired. The scraper 1 can be made from numerous materials such as natural rubber, synthetic rubber, plastics, polymers, wood, metal or any combination thereof. The invention is not limited in this regard, and any appropriate scraper material that is currently known or later becomes known to those skilled in the art may be used. For improved manipulation and scraping, the rear surface of the scraper has a letter O shaped ring 2 that is contoured in a concave-like manner and, depending on the size of the scraper 1, is adapted for receiving at least a portion of a human finger for applying pressure and manipulating the scraper 1 as noted above.

[0037] In one embodiment, shown in (FIG. 1), the sponge body 5 comprises multiple layers including a first layer 20 defining the first surface 10 and a second layer 50 defining a third layer 60 defining a second surface 70. The first layer 20 and second layer 50 are heat fused and/or bonded together using an adhesive (not shown), or by any method that is currently known or later becomes known to those skilled in the art. In one embodiment, the second layer 50, third layer 60, and second surface 70, are made of the same material and are seamlessly heat fused and/or bonded together using an adhesive (not shown), or by any method that is currently known or later becomes known to those skilled in the art. The first surface 10 and first layer 20 can be made from numerous materials such as nylon, polypropylene, polyester foam, melamine, natural sponges, polyurethane foams, cellulose, and absorbent arrays of synthetic fibers, non-woven materials or any combination thereof. The second layer 50, third layer 60, and second surface 70, can be made from numerous materials such as nylon, polypropylene, polyester foam, melamine, natural sponges, polyurethane foams, cellulose, and absorbent arrays of synthetic fibers, non-woven materials or any combination thereof. In one embodiment, the first surface 10 and first layer 20 are made from nylon. The second layer 50, third layer 60, and second surface 70 are indistinguishable and made from cellulose fiber. In one embodiment, (FIGS. 6 and 7), the rear of scraper 1 is secured to layer 1 and fits securely into the circular aperture 90 approximately through the middle of layer two and layer three and second surface 70. The thickness of the second layer 50 and third layer 60 may comprise approximately 85% to about 90% of the total thickness of the scraper sponge 77. Preferably, the first layer 20 comprises between about 10% to about 20%, of the total thickness of the scraper sponge 77. In an alternative embodiment, (FIGS. 13, 15 and 16) the first layer 420 and second layer 450 comprise about 40% of the total thickness of the sponge body 477 and the third layer 460 comprises about 60%. All three layers can be made of different types of surface scrubbing materials.

[0038] Referring now to (FIGS. 13, 15, and 16), an alternative embodiment is shown where like numerals represent like elements and are preceded with the number "4". In this embodiment, the scraper sponge 477 defines a sponge body 45 defining an outer surface including a first surface 410, a first layer 420, a second layer 450, a third layer 460 including

a second surface 470, a continuous side surface 480, and a circular aperture 490 extending through the second surface 470 and third layer 460 for receiving the scraper 41. The rear of scraper 41 (FIG. 5C) is fixedly secured to layer two 450 where it borders layer three 460 within the circular aperture 490 by way of heat fusion or by an adhesive (not shown), and like the scraper described above, has approximately 70 three dimensional pyramid shaped cones defining edges 44 and a depressible groove like surface 42 on the rear of scraper 41 to which forces are applied to manipulate the scraper 41. For improved manipulation and scraping, the depressible surface 42 on the rear of scraper 41 is contoured in a concave-like manner and, depending on the size, is adapted for receiving at least a portion of: (i) a human finger, (ii) multiple human fingers, (iii) a human hand, or (iv) two human hands, for applying pressure and manipulating the scraper 41 as noted above. The scraper edges 44 extend outwardly from within the aperture 490 in the sponge body 45. In this embodiment the materials used for the sponge body 45 and scraper 41 are consistent with the materials used in connection with the sponge body 5 and scraper 1 described above. As noted above, the sponge body 45 can comprise a first layer 420, a second layer 450, a third layer 460 and a second surface 470. At least one of the second layer 450 or third layer 460 defines the circular aperture 490 through which the scraper 41 extends. The materials used for the first surface 410, first layer 420, second layer 450, third layer 460 and second surface 470 are consistent with the materials used in connection with the sponge body 5 and scraper 1 described above. One advantage of this embodiment is that it allows each layer 420, 450, and 460 to be made of a different textured material to be used for scrubbing and cleaning and/or polishing a surface. For example, layer one 420 can be made of a coarse grain scouring material, the continuous side surface 480 of the second layer 450 can be made of a melamine resin material, and the third layer 460 can be made of cellulose fiber.

[0039] Referring now to figures (17, 18, and 19) a third alternative embodiment is shown where like numerals represent like elements and are preceded with the number "5". In this embodiment, the scraper sponge 577 defines a sponge body 55 defining an outer surface including a first surface 510, a first layer 520, a second layer 550, a third layer 560 including a second surface 570, a continuous side surface 580, and a circular aperture extending into the continuous side surface 580 on the width side of scraper sponge 577 for receiving the scraper 51. The rear of scraper 51 (FIG. 5C) is fixedly secured within the continuous side surface to layer two 550 and layer three 560 within the circular aperture 590 by way of heat

fusion or by an adhesive (not shown), and like the scraper described above, has approximately 70 three dimensional pyramid shaped cones defining edges 54 and a depressible groove like surface 52 on the rear of scraper 51 to which forces are applied to manipulate the scraper 51. The scraper edges 54 extend outwardly from within the aperture 590 in the sponge body 55. In this embodiment the materials used for the sponge body 55 and scraper 51 are consistent with the materials used in connection with the sponge body 45 and scraper 41 described above. As noted above, the sponge body 55 can comprise a first layer 520, a second layer 550, a third layer 560, a second surface 570 and a continuous side surface 580. At least one of the second layer 550 or third layer 560 defines the circular aperture 590 through which the scraper 51 extends. The materials used for the first surface 510, first layer 520, second layer 550, third layer 560 and second surface 570 are consistent with the materials used in connection with the sponge body 45 and scraper 41 described above. One advantage of this embodiment is that the entire surface area of the second surface can be used as a liquid absorbing cleaning

[0040] In light of the above description of the scraper sponge 77, 477 and an example of its use will now be described. With the scraper sponge 77, 477 and/or the desired object or surface for cleaning (not shown) prepared with water, soap, cleaning liquids, cleaning powders, or the like, the user places the sponge body 5, 45 in contact with said object or surface. The user then presses on the middle of the first surface 10, 410 imparting downward pressure on the scraper 1, 41 and sponge body 5, 45. The sponge body through which pressure is applied to the scraper 1, 41 and, in particular, the middle of the scraper, is compressed thereby allowing the scraper 1, 41 to extend through the circular aperture 90, 490 into a position for contacting and scraping unwanted substances in a desired location. While maintaining the applied pressure, the user simultaneously moves the sponge body 5, 45 and scraper 1, 41 in, for example, a forward or reciprocating motion to effectively scrape away and remove the unwanted substances. When the user is finished, both the sponge body and scraper can be cleaned for future applications. It should be noted that the sponge body 5, 45 can be used for cleaning and scouring purposes without engaging the scraper 1, 41. Further, the scraper sponge 77, 477 can be used in a dry state without the addition of water, soap, cleaning liquids, cleaning powders, or the like.

CLAIMS

The claimed invention is:

1. A scraper sponge for cleaning and scraping away unwanted substances from an object or surface comprising a sponge body defining a first surface, first layer, second layer, third layer, second surface opposite the first surface, a continuous side surface around the perimeter; and the back of a scraper secured to the first layer opposite the first surface and the scraper defined by the first layer and a circular aperture through and approximately in the middle of the second layer, third layer and second surface of the sponge body. The entire surface area of the scraper, on its front surface, is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body and is made level with the second surface of the sponge body when forces are applied to the first surface and subsequent back of scraper to manipulate the rigid scraper on a hard surface.

2. The scraper sponge of claim 1, wherein said sponge body is made of material selected from the group consisting of polyester foam, natural sponges, polyurethane foams, cellulose, absorbent arrays of synthetic fibers and any combination thereof.

3. The scraper of claim 1, wherein said scraper is made of material selected from the group consisting of natural rubber, synthetic rubber, polymers, wood, metal and any combination thereof.

4. The scraper of claim 3, wherein said scraper surface area can be any size smaller than the surface area of the scraper sponge.

5. The scraper of claim 3, wherein said scraper is thin and circular in shape with pointed pyramid shaped edges on its front surface.

6. The scraper of claim 3, wherein the rear surface of said scraper is fixedly secured to the first layer opposite the first surface by way of an adhesive, by heat fusion or any combination thereof.

7. The scraper of claim 3, wherein said scraper is defined by layer one and a circular aperture extending through the middle of the seamless second layer, third layer and second surface of the sponge body.

8. The scraper of claim 3, wherein said rear scraper surface has a three-dimensional letter O shaped ring with a concave like groove in the ring.

9. The scraper of claim 3, wherein said front surface of scraper has approximately 70 three-dimensional pyramid shaped edges, that are at least one of (i) semi rigid and (ii) substantially rigid, attached to it.

10. The scraper sponge of claim 1, wherein said sponge body comprises multiple layers including a first layer defining the first surface and second layer, a second layer defining a third layer and a third layer defining the second surface.

11. The scraper sponge of claim 10, wherein said first surface and first layer is made of a coarse grain scouring material.

12. The scraper sponge of claim 10, wherein said second layer is made of cellulose fiber and a circular aperture extends through the middle of the second layer.

13. The scraper sponge of claim 10, wherein said third layer is made of cellulose fiber and a circular aperture extends through the middle of the third layer.

14. The scraper sponge of claim 10, wherein the thickness of said first layer is between approximately 10% and about 15% of the thickness of the scraper sponge.

15. The disposable liquid absorbing cleaning material of claim 12, wherein the total thickness of said second layer is approximately 40% to about 45% of the total thickness of the scraper sponge.

16. The disposable liquid absorbing cleaning material of claim 13, wherein the total thickness of the said third layer is between about 40% to about 45% of the total thickness of the scraper sponge.

17. A scraper sponge for cleaning and scraping away unwanted substances from an object or surface comprising a sponge body defining a first surface, first layer, second layer, third layer, second surface opposite the first surface, a continuous side surface around the perimeter; and the back of a scraper secured to the second layer adjacent to the third layer and the scraper defined by the second layer and an aperture through and approximately in the middle of the third layer and second surface of the sponge body. The entire surface area of the scraper, on it's front surface, is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body and is made level with the second surface of the sponge body when forces are applied to the first surface and subsequent back of scraper to manipulate the rigid scraper on a hard surface.

18. The scraper sponge of claim 17, wherein said sponge body is made of material selected from the group consisting of polyester foam, natural sponges, polyurethane foams, cellulose, absorbent arrays of synthetic fibers and any combination thereof.

19. The scraper of claim 17, wherein said scraper is made of material selected from the group consisting of natural rubber, synthetic rubber, polymers, wood, metal and any combination thereof.

20. The scraper of claim 19, wherein said scraper surface area can be any size smaller than the surface area of the scraper sponge.

21. The scraper of claim 19, wherein said scraper is thin and circular in shape with pointed pyramid shaped edges on its front surface.

22. The scraper of claim 19, wherein the rear surface of said scraper is secured to the second layer opposite the first surface by way of an adhesive, by heat fusion or any

combination thereof.

23. The scraper of claim 19, wherein said scraper is defined by the second layer and a circular aperture extending through the middle of the third layer and second surface of the sponge body.

24. The scraper of claim 22, wherein said rear scraper surface has a three-dimensional letter O shaped ring with a concave like groove in the ring.

25. The scraper of claim 21, wherein said front surface of scraper has approximately 70 three-dimensional pyramid shaped edges that are at least one of (i) semi rigid and (ii) substantially rigid, attached to it.

26. The scraper sponge of claim 17, wherein said sponge body comprises multiple layers including a first layer defining the first surface and second layer, a second layer defining a third layer and a third layer defining the second surface.

27. The scraper sponge of claim 26, wherein said first surface and first layer is made of a coarse grain scouring material.

28. The scraper sponge of claim 26, wherein said second layer is made of melamine and its continuous side surface is made of a course grain scouring material and the rear of the scraper is attached to the second layer opposite the first surface.

29. The scraper sponge of claim 26, wherein said third layer is made of cellulose fiber and a circular aperture extends through the middle of the third layer.

30. The scraper sponge of claim 27, wherein the thickness of said first layer is between approximately 10% and about 15% of the thickness of the scraper sponge.

31. The disposable liquid absorbing cleaning material of claim 28, wherein the total thickness of said second layer is approximately 40% to about 45% of the total thickness of the scraper sponge.

32. The disposable liquid absorbing cleaning material of claim 29, wherein the total thickness of the said third layer is between about 40% to about 45% of the total thickness of the scraper sponge.

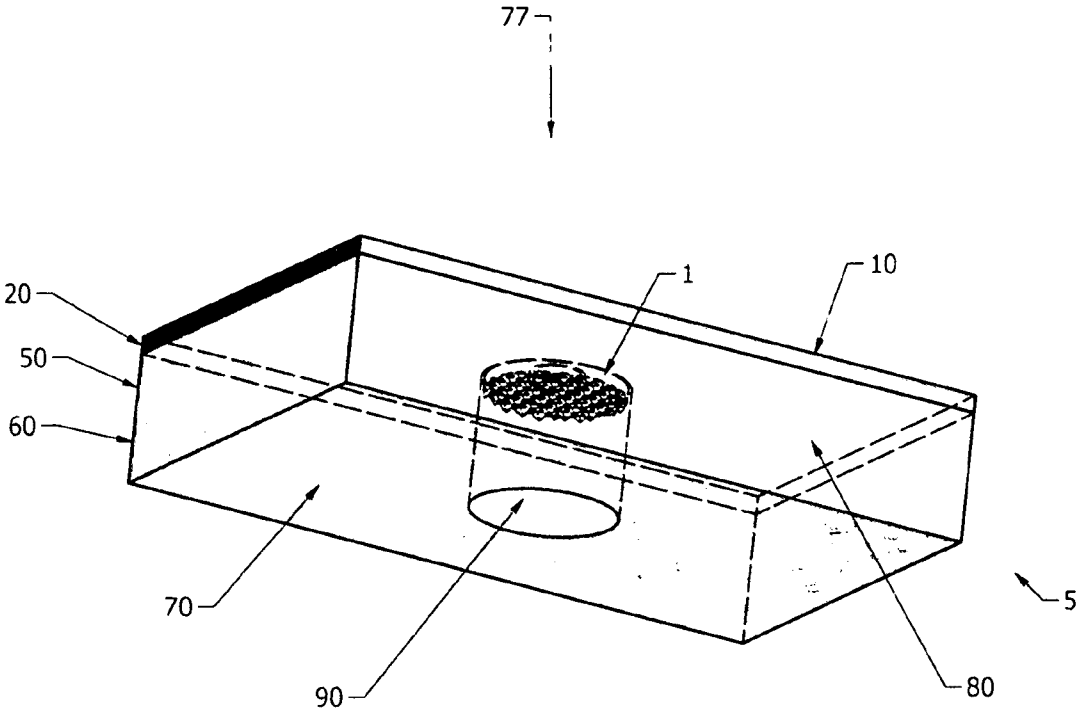

FIG. 1

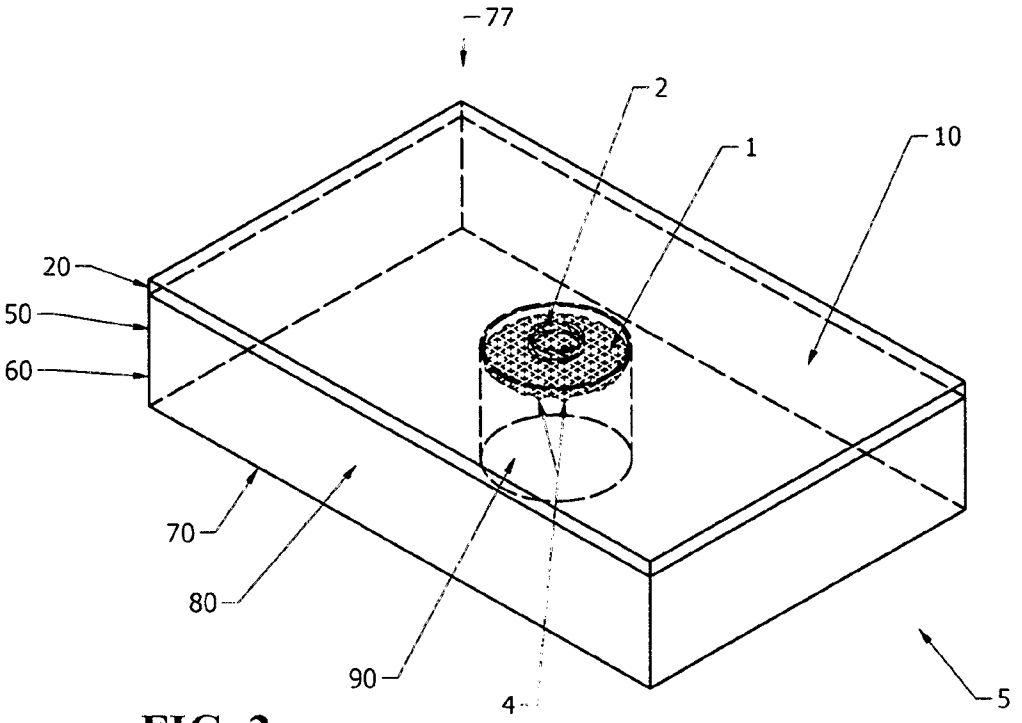

FIG. 2

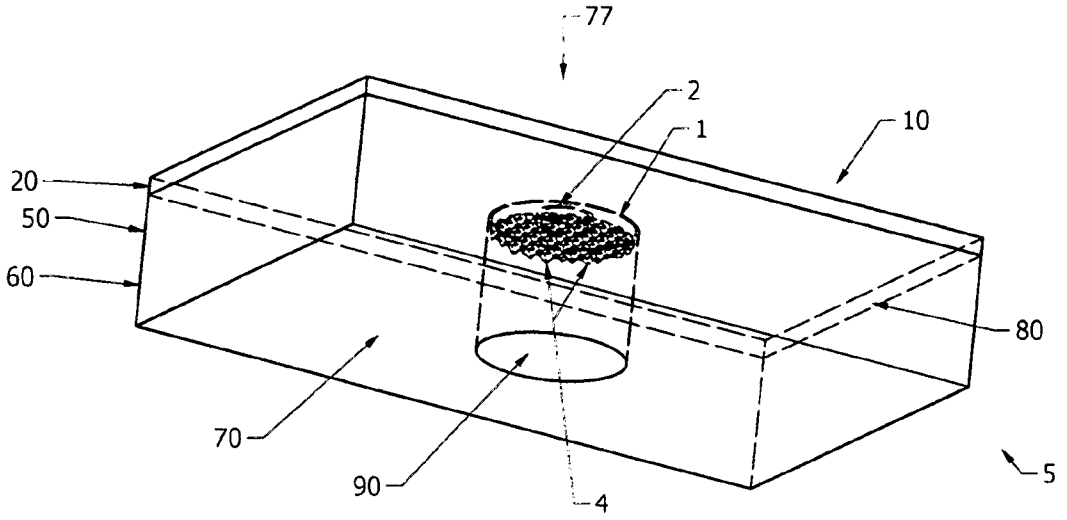

FIG. 3

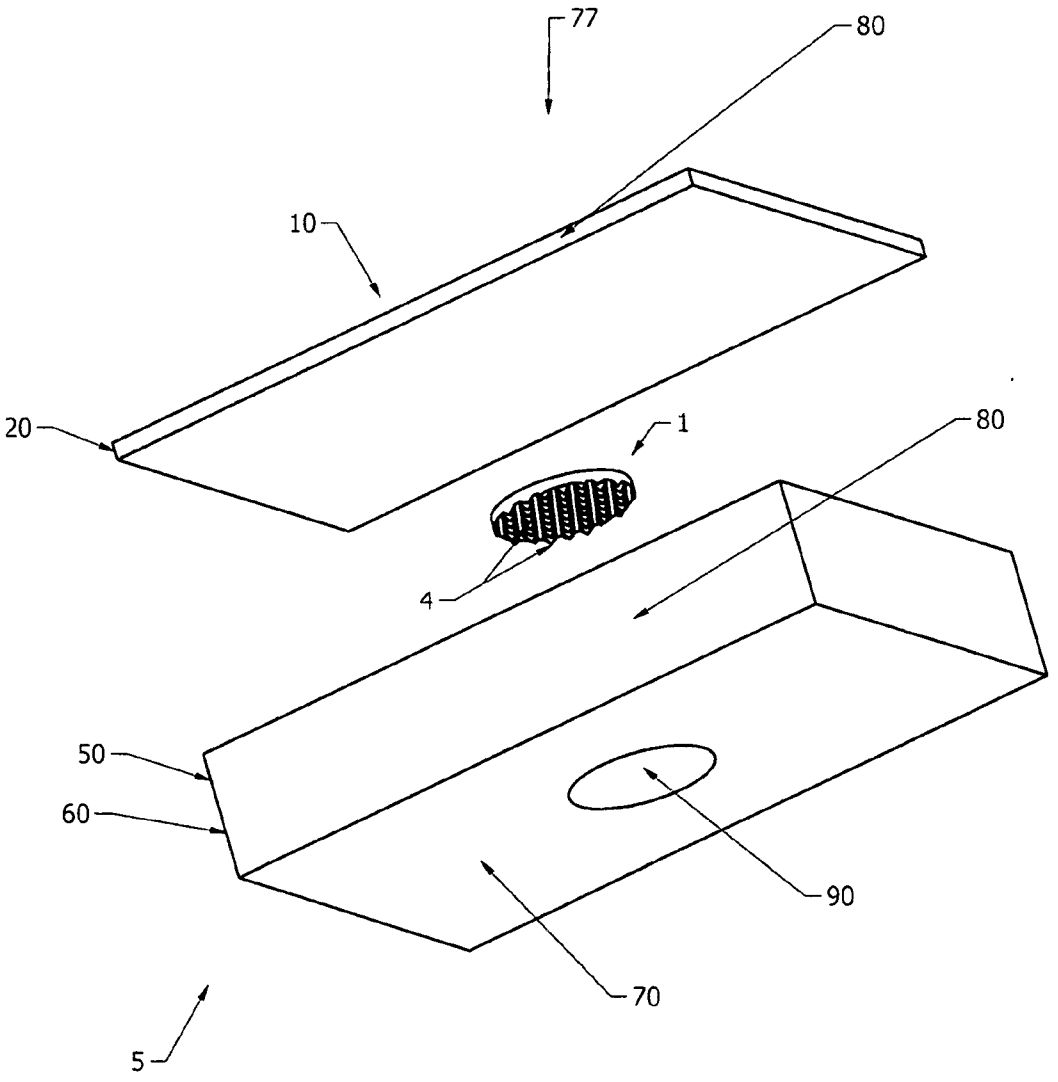

FIG. 4

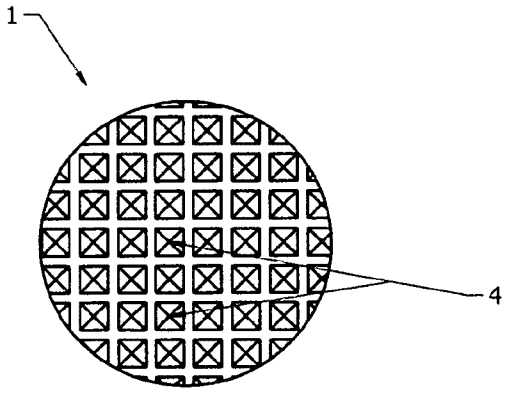

FIG. 5A

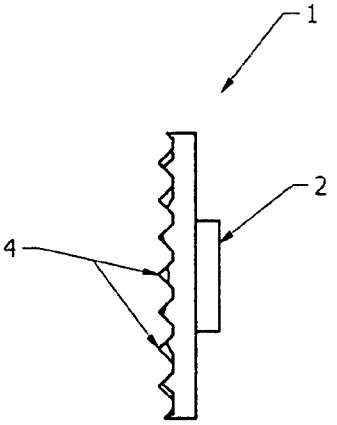

FIG. 5B

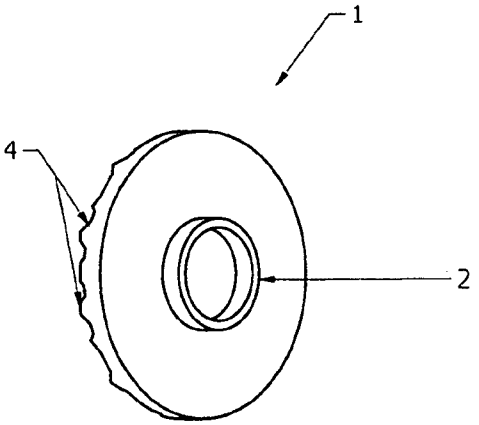

FIG. 5C

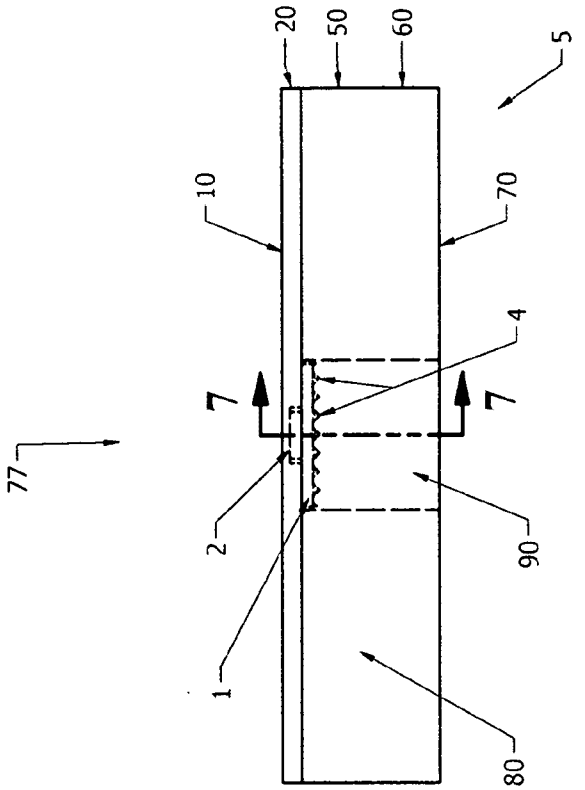

FIG. 6

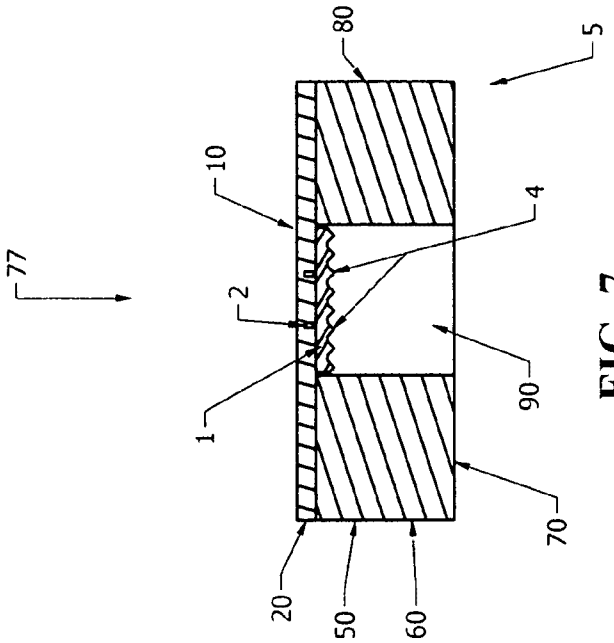

FIG. 7

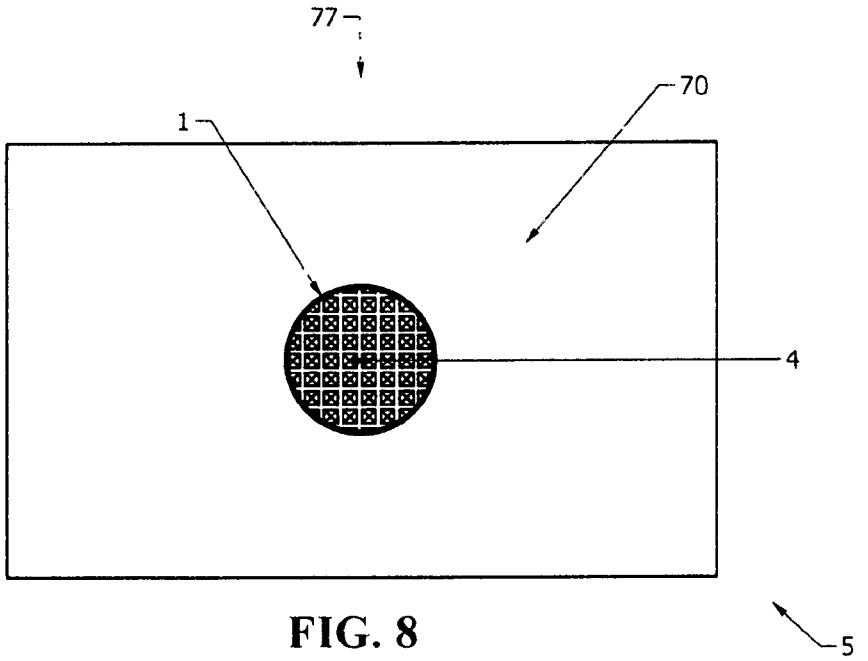

FIG. 8

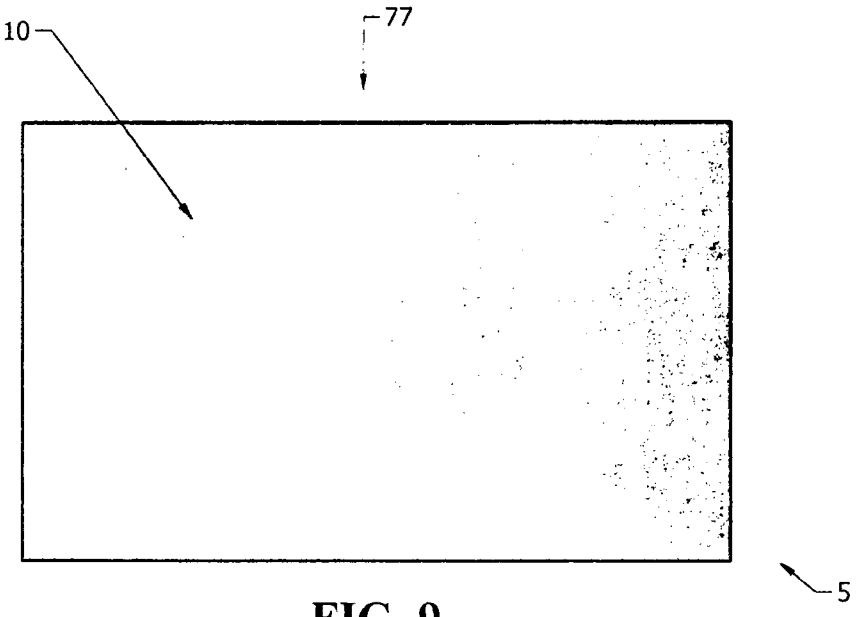

FIG. 9

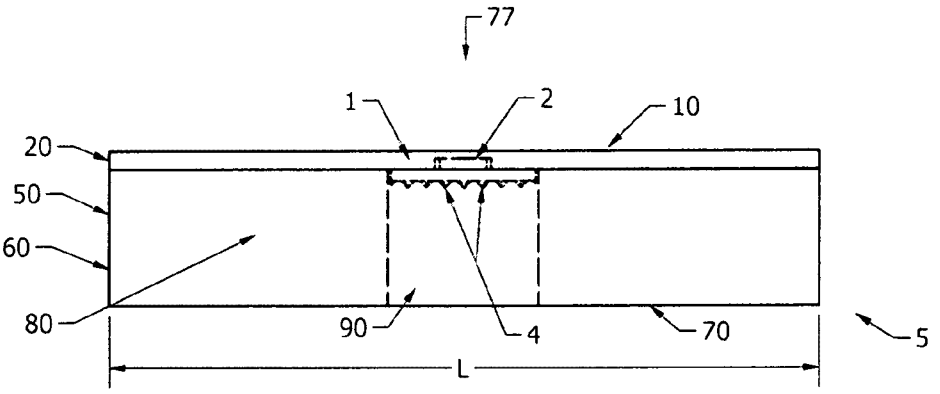

FIG. 10

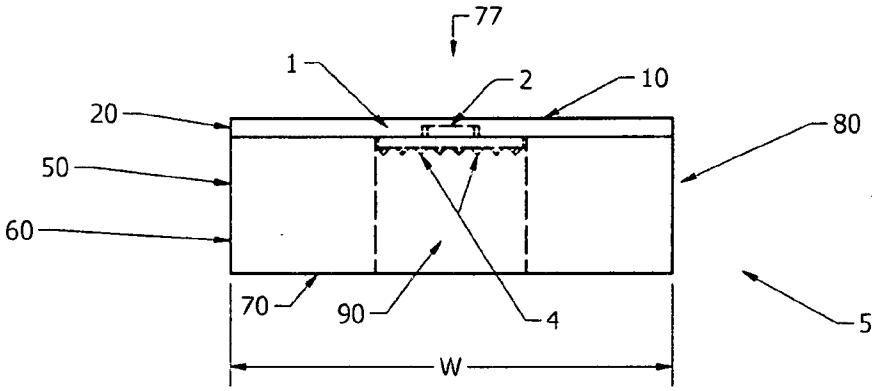

FIG. 11

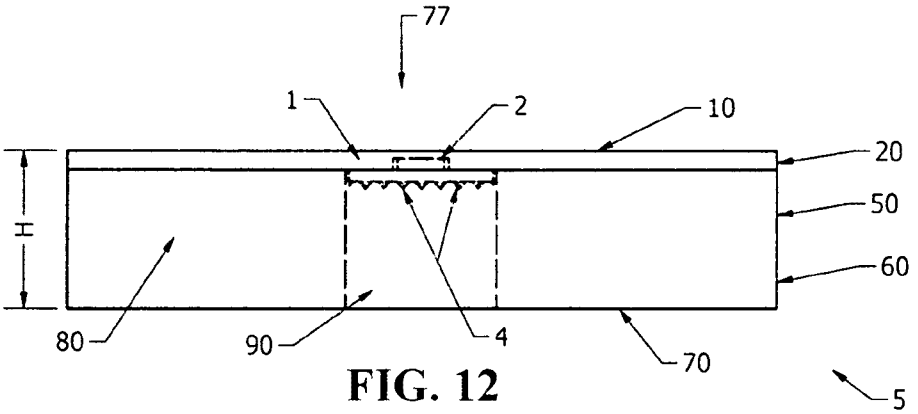

FIG. 12

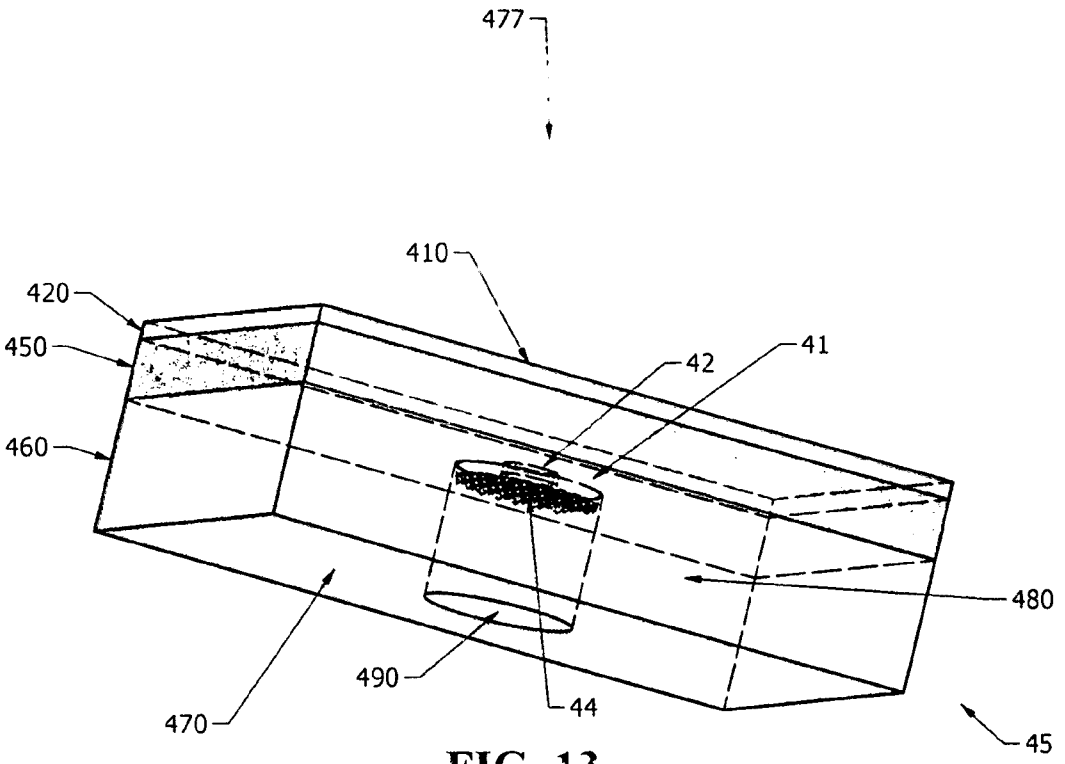

FIG. 13

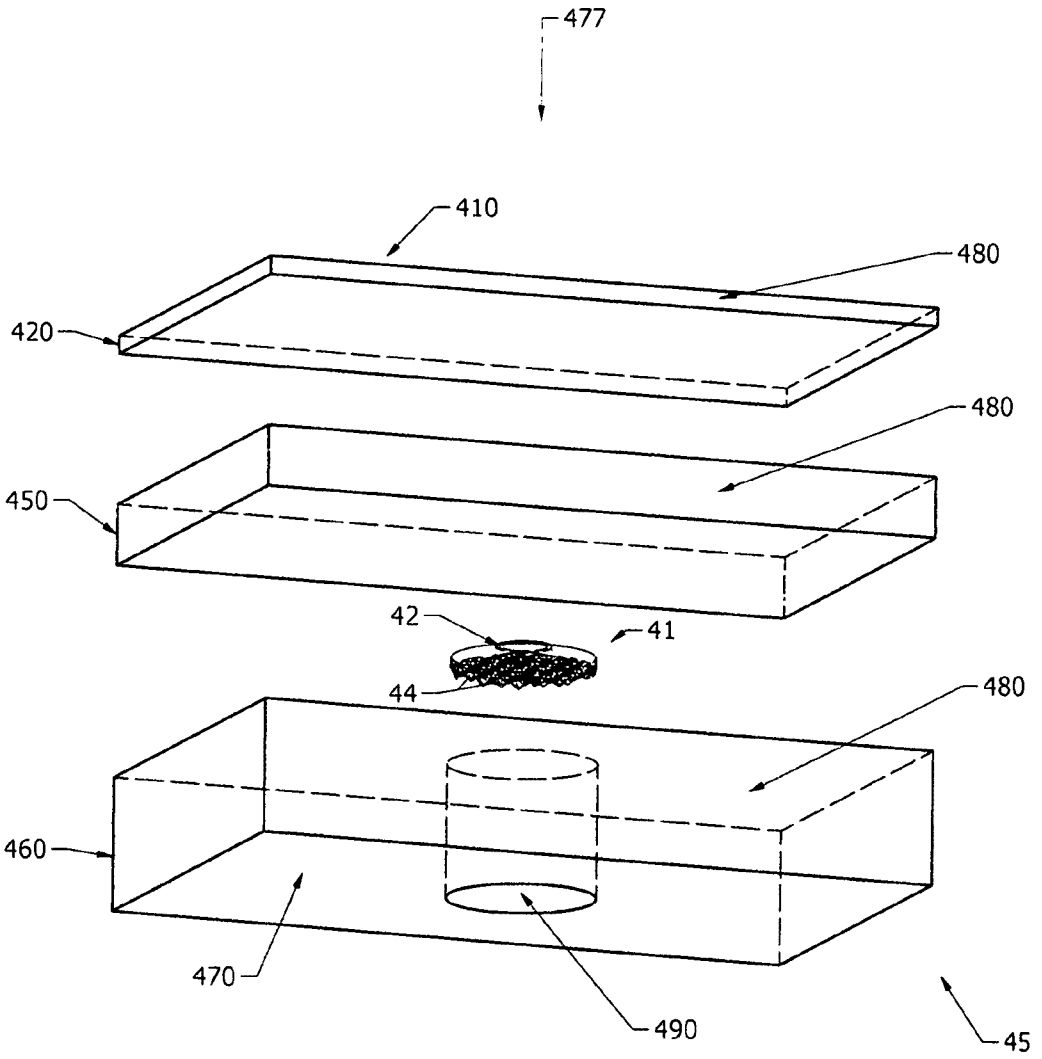

FIG. 14

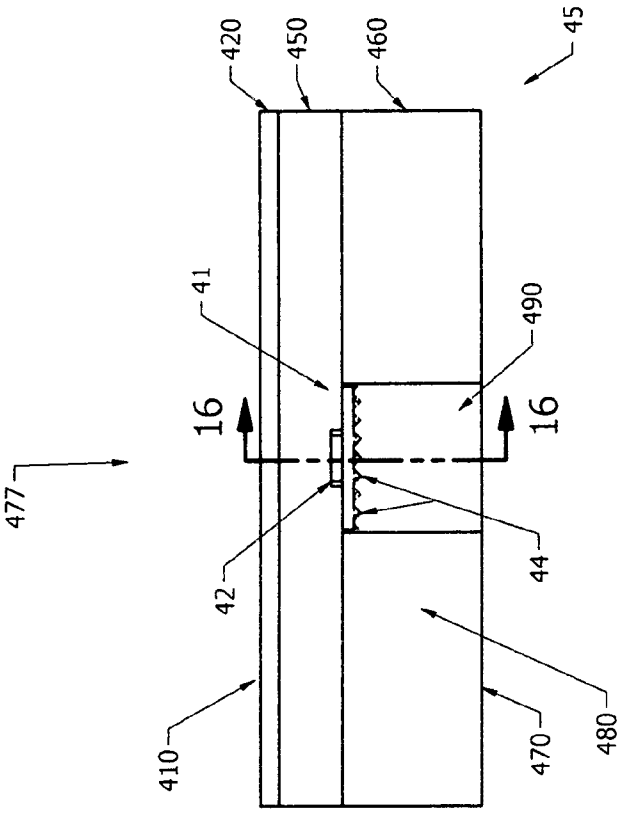
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FIG. 15

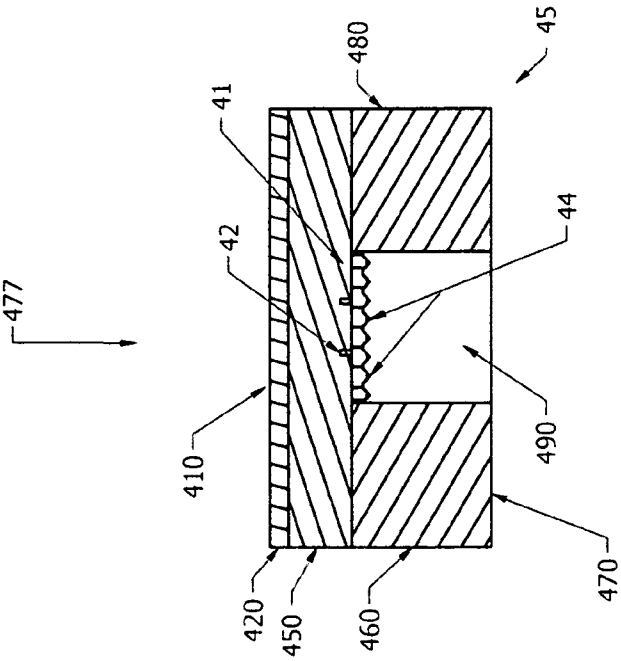
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FIG. 16

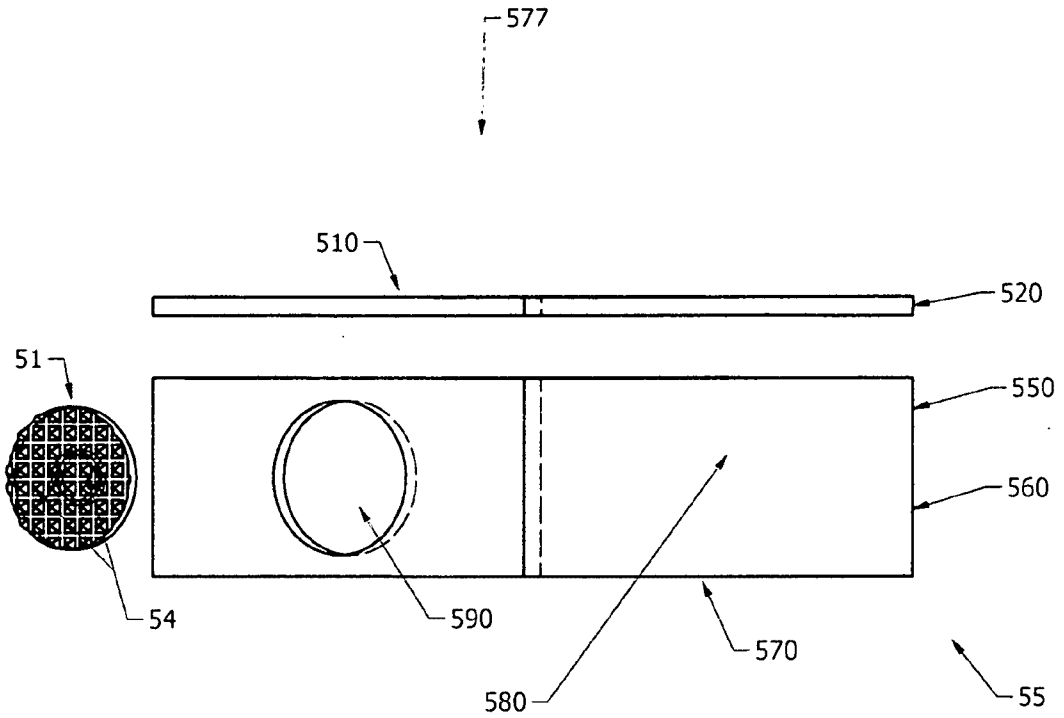

FIG. 17

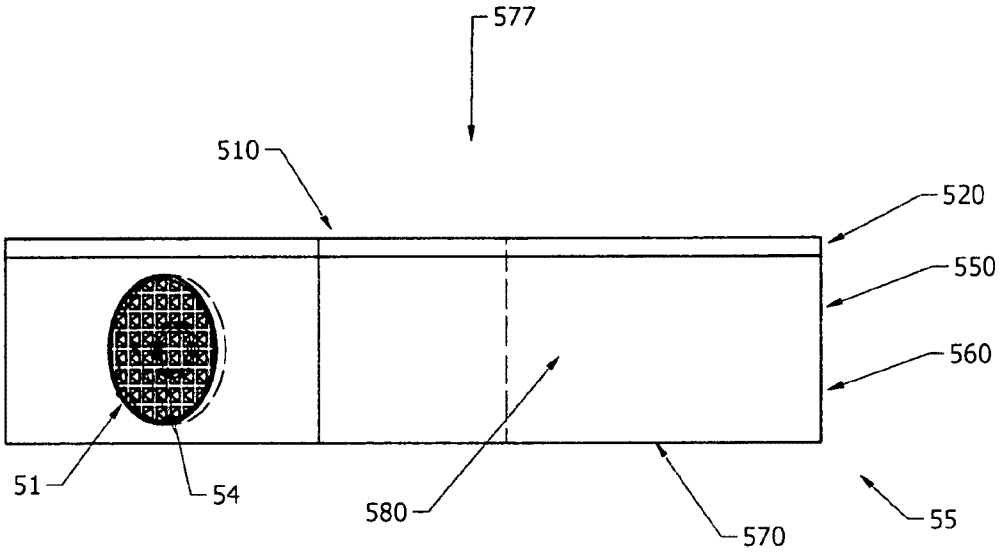
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FIG. 18

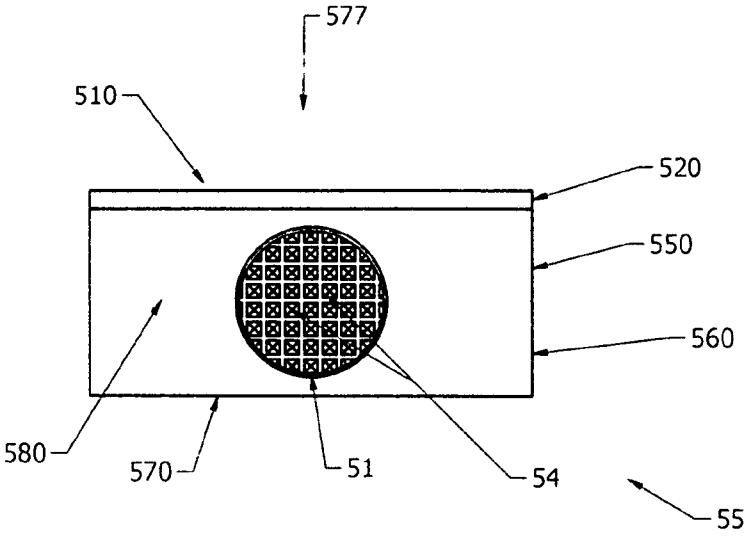
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FIG. 19

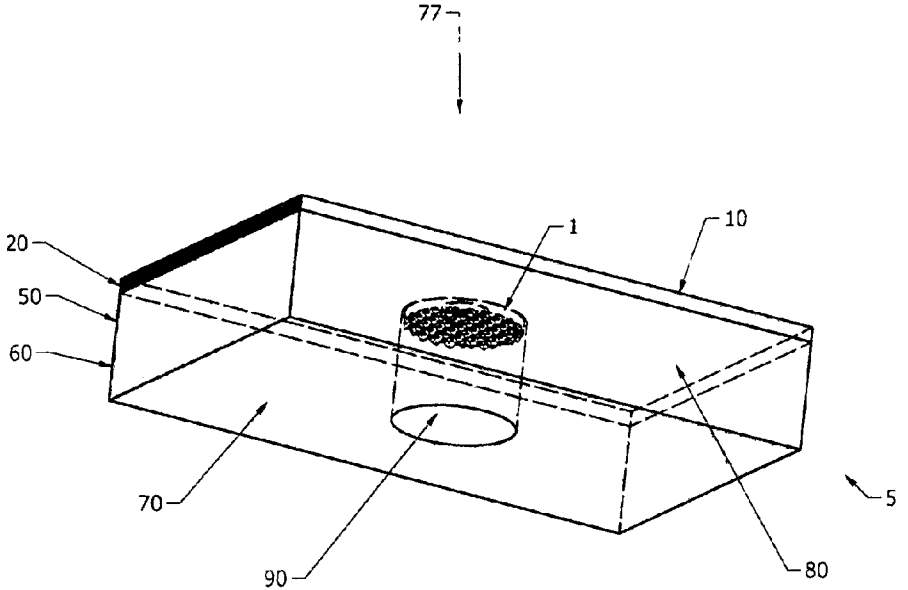

FIG. 1