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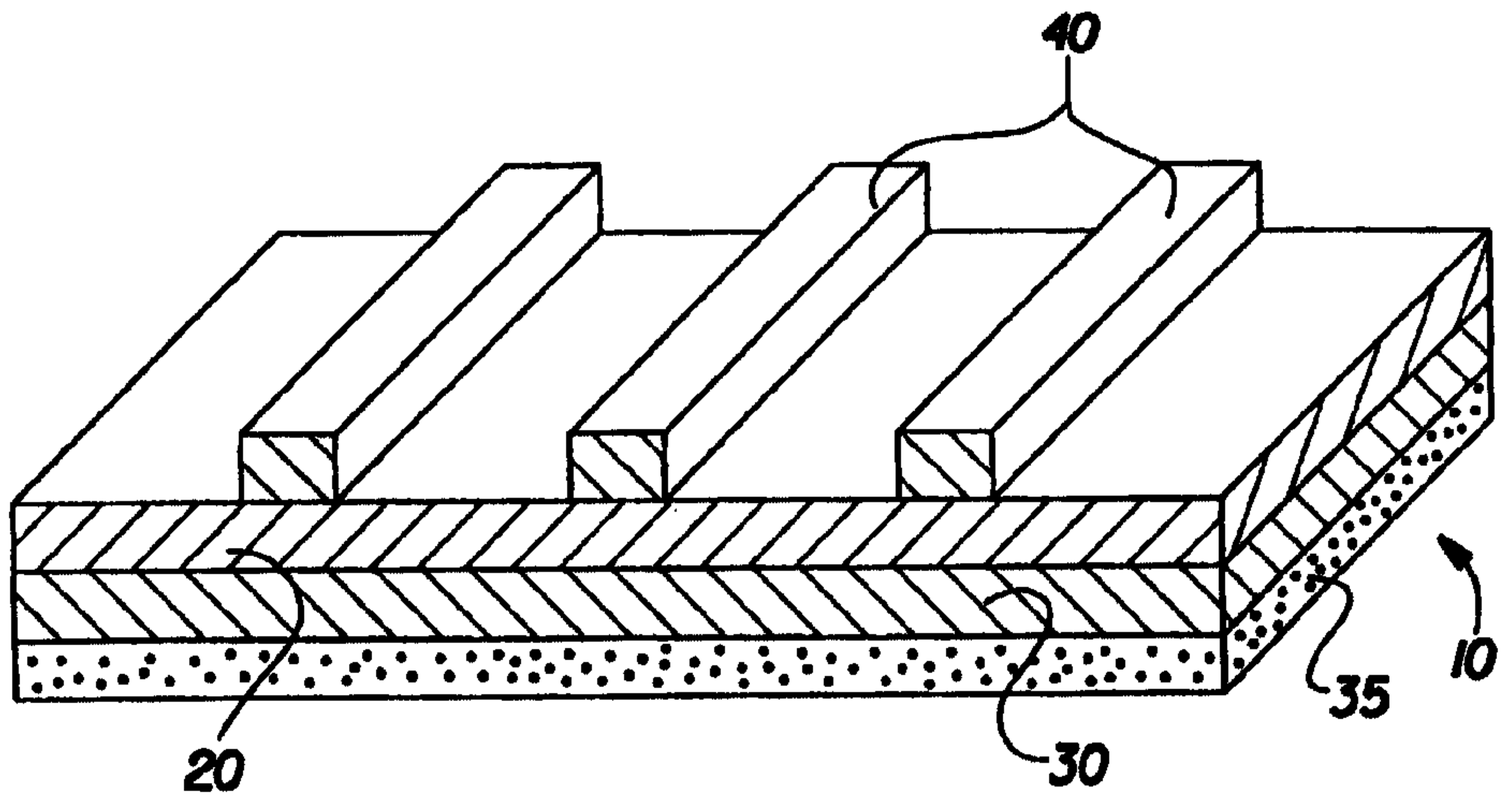
(54) **MATERIAUX EN FEUILLE, ABSORBANTS, PROTECTEURS ET A USAGE MULTIPLE**

(54) **MULTI-PURPOSE ABSORBENT AND PROTECTIVE SHEET MATERIALS**



(57) La présente invention concerne un matériau en feuille (10), à usage multiple, comprenant une couche absorbante (20) présentant des première et seconde surfaces opposées, un système surélevé (40) sensiblement non absorbant et sensiblement imperméable aux fluides, associé à la première surface et s'étendant transversalement sur celle-ci, ainsi qu'une couche barrière (30) imperméable aux fluides, couvrant de manière sensiblement continue la seconde surface. Le système surélevé peut comprendre plusieurs éléments surélevés ou un réseau continu de tels éléments, et il peut être agencé de la manière voulue. Des couches adhésives

(57) The present invention provides a multi-purpose sheet material (10) comprising an absorbent layer (20) having opposing first and second surfaces, a substantially non-absorbent, substantially fluid-impervious standoff system (40) associated with and extending transversely across the first surface, and a substantially fluid-impervious barrier layer (30) substantially continuously covering the second surface. The standoff system may comprise a plurality of discrete standoff elements or may comprise a continuous standoff network, and may be formed in any desired configuration. Optional adhesive layers (35) or elements

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optionnelles (35) ou des éléments disposés sur la surface de la couche barrière faisant face à une surface de support peuvent apporter une stabilité accrue lors de l'utilisation de l'invention. Le système surélevé peut être formé monobloc avec la couche barrière, ou il peut être formé par mise en contact direct avec celle-ci, de façon que les forces appliquées sur le système surélevé soient transmises à la couche barrière, évitant ainsi la couche absorbante.

on the surface of the barrier layer facing a supporting surface may provide for enhanced stability in use. The standoff system may be unitarily formed with or directly contacting the barrier layer such that forces applied to the standoff system are transmitted to the barrier layer, bypassing the absorbent layer.

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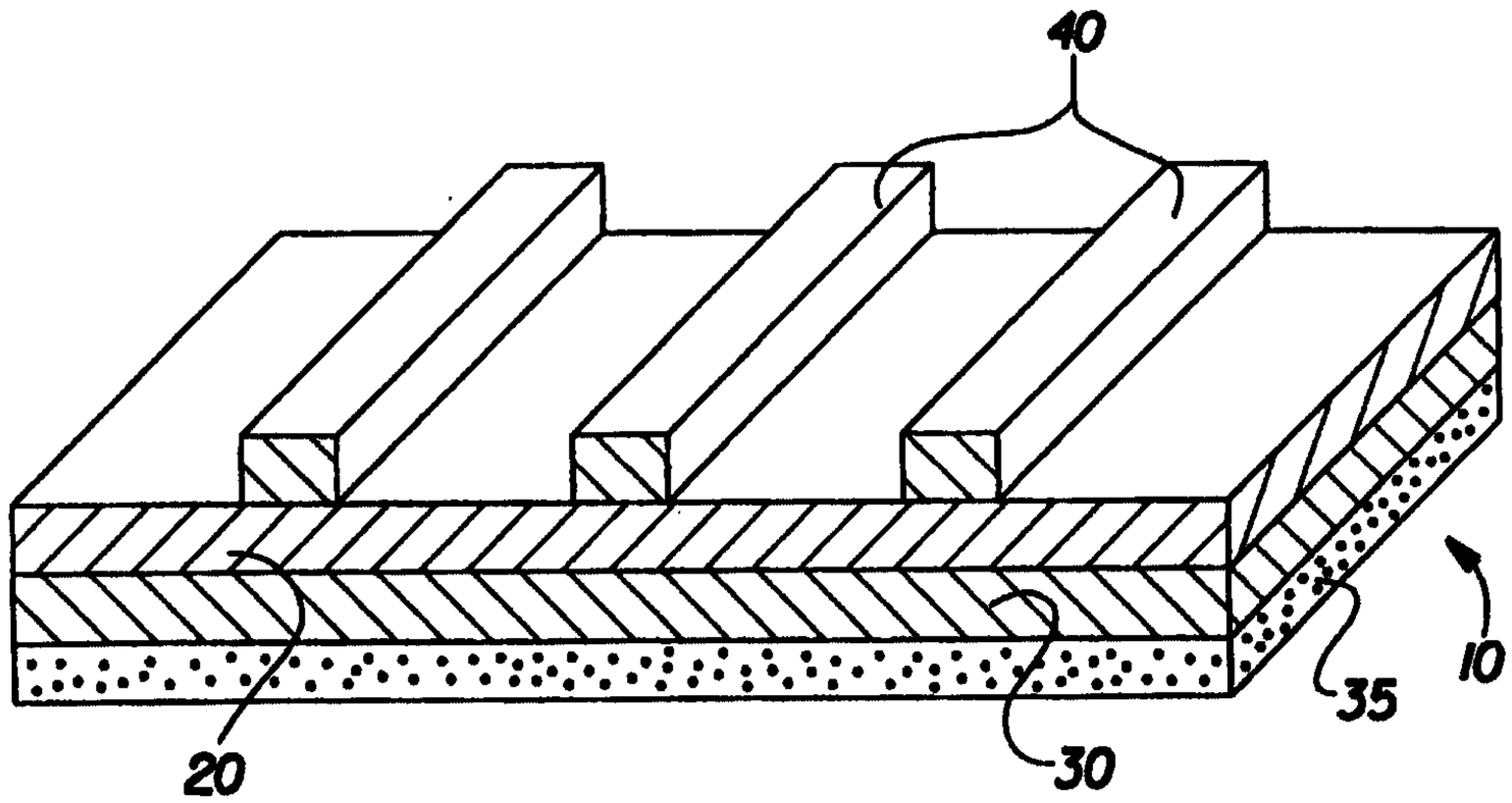

(57) Abstract

The present invention provides a multi–purpose sheet material (10) comprising an absorbent layer (20) having opposing first and second surfaces, a substantially non–absorbent, substantially fluid–impervious standoff system (40) associated with and extending transversely across the first surface, and a substantially fluid–impervious barrier layer (30) substantially continuously covering the second surface. The standoff system may comprise a plurality of discrete standoff elements or may comprise a continuous standoff network, and may be formed in any desired configuration. Optional adhesive layers (35) or elements on the surface of the barrier layer facing a supporting surface may provide for enhanced stability in use. The standoff system may be unitarily formed with or directly contacting the barrier layer such that forces applied to the standoff system are transmitted to the barrier layer, bypassing the absorbent layer.

MULTI-PURPOSE ABSORBENT AND PROTECTIVE SHEET MATERIALS

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of our earlier application, U.S. Serial No. 08/918,486, filed August 26, 1997.

FIELD OF THE INVENTION

The present invention relates to sheet materials which are suitable for protecting a supporting surface from various articles and/or substances placed thereon and vice-versa. The present invention further relates to such sheet materials which are also capable of absorbing various liquids which may be carried by or exuded from such various articles and/or substances and optionally neutralizing noxious or undesirable properties of such fluids.

BACKGROUND OF THE INVENTION

Sheet-like materials for use in protecting objects or substances from a supporting surface, and/or protecting supporting surfaces from objects or substances, are well known in the art. Such materials can be utilized to provide a permanent form of protection, but most commonly are situation- or task-oriented and are only required or utilized for a limited period of time and then disposed of.

One common scenario for the use of such sheet materials is the preparation of food items for consumption, such as the preparing of certain cuts of meat for cooking. Protective sheet materials in this scenario may provide dual protective functions in protecting the food item from soiling and other contamination from a supporting surface such as a countertop as well as protecting the countertop from soiling due to blood, water, and other fluids and substances present on the surface of the food item. Protective sheet materials may also protect a supporting surface from physical damage such as impact from a sharp object or cutting device such as a knife or cleaver used in such food preparation.

Protective sheet materials intended for use in these environments often typically comprise a sheet of an absorbent paper-type product which may include an impervious backing layer or coating. Such materials are relatively inexpensive and intended for a relative short period of usage followed by disposal. While such materials do form an intervening barrier between a substance or object and a supporting surface, their

performance is less than desirable since the substance or object remains in continuous contact with the absorbent material which has absorbed fluids carried by or exuded from the object or substance placed thereon. Moreover, such materials are also comparatively susceptible to damage from sharp objects or cutting devices and in turn do not typically provide adequate protection to the supporting surface from these types of potential damage.

Accordingly, it would be desirable to provide a sheet material which is useful in a wide variety of applications for protecting objects and substances from supporting surfaces and vice-versa.

It would also be desirable to provide such as sheet material which is capable of absorbing liquids exuded by or carried on such objects and substances and isolating such liquids from the objects and substances.

It would further be desirable to provide such a sheet material which, while durable in use, may be so readily and economically manufactured so as to be disposed of after use.

SUMMARY OF THE INVENTION

The present invention provides a multi-purpose sheet material comprising an absorbent layer having opposing first and second surfaces, a substantially non-absorbent, substantially fluid-impervious standoff system associated with and extending transversely across the first surface, and a substantially fluid-impervious barrier layer substantially continuously covering the second surface.

The standoff system may comprise a plurality of discrete standoff elements or may comprise a continuous standoff network, and may be formed in any desired configuration. Optional adhesive layers or elements on the surface of the barrier layer facing a supporting surface may provide for enhanced stability in use. The standoff system may be unitarily formed with or directly contacting the barrier layer such that forces applied to the standoff system are transmitted to the barrier layer, bypassing the absorbent layer.

BRIEF DESCRIPTION OF THE DRAWINGS

While the specification concludes with claims particularly pointing out and distinctly claiming the present invention, it is believed that the present invention will be better understood from the following description in conjunction with the accompanying Drawing Figures, in which like reference numerals identify like elements, and wherein:

Figure 1 is a partially-segmented perspective view of an embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 2 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 3 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 4 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 5 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 6 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 7 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 8 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention;

Figure 9 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention; and

Figure 10 is a partially-segmented perspective view of another embodiment of a multi-purpose absorbent and protective sheet material according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 depicts one embodiment of a multi-purpose sheet material 10 in accordance with the present invention. Sheet material 10 includes a fluid absorbent layer 20, a fluid-impervious backing layer 30, and a standoff system comprising a plurality of individual standoff strips 40. Sheet material 10 is shown in an orientation suitable for placement upon a supporting surface (not shown), such as a countertop or table, with the backing layer 30 in contact with the supporting surface and the standoff strips facing outwardly from the supporting surface. Sheet material 10, in the embodiment shown, also includes an optional adhesive system 35 on the outwardly-facing surface of the barrier or backing layer 30 which would be placed in contact with a supporting surface.

The sheet material 10 comprises a generally planar sheet-like structure of the desired planar dimensions and having two opposed principal surfaces which are likewise substantially planar. "Layers" of such a sheet material are also typically substantially planar and/or define planes of contacting surfaces. Backing layer 30 fully covers one

surface of the absorbent layer 20, such that any fluids contained therein cannot pass through the backing layer 30 and onto any supporting surface upon which the sheet material 10 is placed. Standoff strips 40 extend across the surface of the absorbent layer 20 opposite from the backing layer 30, in the embodiment shown forming generally parallel lines.

The absorbent layer may be formed from any material or materials suitable for absorbing and/or containing any fluid(s) of interest. Suitable materials include fibrous webs or sheets of material formed from fibers of natural (cellulosic, etc.) and/or synthetic origin, including hollow fibers and capillary channel fibers, absorbent polymeric foams, absorbent polymeric gelling materials, hydrogels, natural starches and gums, etc. Materials of particular interest include cellulosic substrates such as paperboard. The absorbent layer may comprise one monolithic layer of material or may comprise a laminate structure having multiple layers of the same or diverse composition. In addition, the absorbent layer may comprise a carrier web that itself may or may not be absorbent, but may carry an absorbent material. The role of the absorbent layer in the sheet materials of the present invention is to absorb and sequester fluids such that the sheet material remains functional, supportive, and protective even after acquisition of some fluids has taken place and the object or substance placed upon the standoff system remains separated from fluids residing with the absorbent layer.

The backing layer may be formed from any material or materials suitable for forming a continuous layer or coating on a surface of the absorbent layer which is impervious to fluids of interest. Suitable materials include polymeric films bonded or laminated to the absorbent layer, thermoplastic resins directly cast or extruded onto the absorbent layer, metallic foils, or other impervious coatings printed, sprayed, or otherwise topically applied, etc. The backing layer may comprise one monolithic layer of material or may comprise a laminate structure having multiple layers of the same or diverse composition.

The standoff strips may be formed from any material or materials suitable for forming strips of the desired size, shape, and spacing. In accordance with the present invention, the standoff strips are substantially non-absorbent and substantially impervious to the fluid(s) of interest. In a preferred embodiment, the standoff strips are formed from a hydrophobic material which tends to repel the fluids of interest rather than being wetted by them. Suitable materials include strips of polymeric film bonded or laminated to the absorbent layer, thermoplastic, thermoset, or crosslinked resins or thermoset foams directly cast or extruded onto the absorbent layer, strips of coated paper or cardboard bonded to the absorbent layer by adhesives or the like, etc. The standoff

strips may comprise one monolithic layer of material or may comprise a laminate structure having multiple layers of the same or diverse composition. Standoff systems may have any desired caliper suitable for a particular application. Calipers of between about 1.5 and about 100 mils have proven suitable for use. Standoff widths of between about 0.010 and about 0.150 inches have proven suitable, as have standoff spacings (between adjacent standoff elements or members) of between about 0.030 and about 0.500 inches. While the standoff system may comprise elements of differing size, shape, and/or caliper, or elements which vary in caliper, it is presently preferred that the standoff system provide a substantially planar surface which substantially parallels the major plane of the sheet material.

The optional adhesive system 35 may comprise a zonal, patterned, discrete, or continuous coating or layer of a pressure sensitive adhesive or any other adhesive system known in the art to provide for an adhesive force between the sheet material 10 and a supporting surface. This optional feature provides additional lateral stability over and above the coefficient of friction between the backing layer and the supporting surface. Release liners or other configurations may be desired depending upon the tack of the adhesive and/or the construction of the sheet material. Other configurations may utilize a non-adherent but comparatively high coefficient of friction material which resists sliding upon most typical supporting surfaces.

One approach of interest is the construction of a selectively-activatible adhesive system integrally with the backing layer which activates to render the outer surface of the backing layer tacky when compressed. Such materials comprise a polymeric or other sheet material which is embossed/debossed to form a pattern of raised "dimples" on at least one surface which serve as stand-offs to prevent a substance (adhesive) therebetween or therein from contacting external surfaces until the stand-offs are deformed to render the structure more two-dimensional. Representative structures include those disclosed in commonly assigned, co-pending (allowed) U.S. Patent Application Serial Nos. 08/584,638, filed January 10, 1996 in the names of Hamilton and McGuire, entitled "Composite Material Releasably Sealable to a Target Surface When Pressed Thereagainst and Method of Making", 08/744,850, filed November 8, 1996 in the names of Hamilton and McGuire entitled "Material Having A Substance Protected by Deformable Standoffs and Method of Making", 08/745,339, filed November 8, 1996 in the names of McGuire, Tweddell, and Hamilton, entitled "Three-Dimensional, Nesting-Resistant Sheet Materials and Method and Apparatus for Making Same", 08/745,340, filed November 8, 1996 in the names of Hamilton and McGuire, entitled "Improved Storage Wrap Materials", 08/869,602, filed June 6, 1997 in the names of Hamilton,

McGuire, Tweddell, and Otten, entitled "Selectively-Activatible Sheet Material For Dispensing and Dispersing a Substance Onto a Target Surface", and [ ], Attorney's Docket No. 6761, filed July 16, 1997 in the names of Hamilton and McGuire, entitled "Selectively-Activatible Three-Dimensional Sheet Material Having Multi-Stage Progressive Activation to Deliver a Substance to a Target Surface". The disclosures of each of these applications are hereby incorporated herein by reference.

In use, the sheet material is placed upon a supporting surface such as a countertop, tabletop, or floor surface and an object or substance is placed thereon. The object or substance may be a food item or any other item of interest which is to be manipulated or otherwise handled or treated during the course of any operation. The sheet material could also be utilized for storage of an object to collect residual fluids. The object or substance is supported by the standoff strips, which prevent the object or substance from substantially directly contacting the absorbent layer and thus becoming contaminated or wetted by fluids contained therein. After use or when the absorbent layer has become sufficiently contaminated or saturated with fluids, the sheet material may be disposed of in a responsible manner.

The sheet material is preferably sufficiently flexible and conformable such that it will conform to somewhat irregular or profiled supporting surfaces. For certain dispensing or packaging configurations, it may also be desirable for the sheet material to be sufficiently conformable in one or more directions such that it may be rolled upon itself to form a more compact configuration. Selection of materials for respective elements of the sheet material, as well as maintaining a comparatively low bending modulus via appropriate structural design (small cross-section, minimal thickness normal to the plane of the sheet material, etc.), aids in obtaining the desired degree of flexibility.

If desired for particular applications, the absorbent layer or any other elements of the sheet material of the present invention may contain or incorporate certain active materials which act upon the object or substance placed upon the sheet material, and/or upon the fluids carried by or exuded from the object or substance. Such actives may comprise agents intended to neutralize, sequester, disinfect, or otherwise modify the properties of solid or liquid materials or the atmospheric environment surrounding the sheet material during use. Particular agents of interest would be those which modify the behavior of fluids such as aqueous fluids, blood-based fluids, oils, etc. Typical properties which may be desirable for certain applications are deodorant properties, antimicrobial properties, coagulating properties, etc. Exemplary materials include baking soda, fibrinogen, and other materials in suitable form for inclusion.

It may be desirable for certain applications to include a color-changing feature to the protective sheet to indicate a change in condition of the sheet occurring during use. For example, it may be desirable to include a color-changing composition in the sheet whereby the absorbent layer changes color when it absorbs fluid. Additionally, colors of respective sheet elements may be selected such that the standoff system and absorbent layer are initially the same color, such as white, until the absorbent layer changes to a contrasting color, such as red. One method of accomplishing such a color change is to incorporate a food grade additive, such as a powered, flavored drink mix commercially available under the brand name KoolAid® or other pigmented powder, either within or underneath the absorbent layer. When the drink mix or pigmented powder is exposed to fluid it dissolves in the fluid and "bleeds" into the absorbent layer and changes the apparent color of the absorbent layer. Color change may be triggered by the occurrence of other physical changes in functionality, such as depletion of an anti-microbial agent, or presence of bacteria, within the absorbent layer. One method believed suitable for such an execution is disclosed in U.S. Patent No. 4,311,479, issued January 19, 1982 to Fenn et al., the disclosure of which is hereby incorporated herein by reference.

The standoff system is designed such that the spacing between adjacent supporting strips, elements, or regions is sufficiently small such that the object or substance placed thereon is prevented from substantially contacting the absorbent layer under forces normally encountered in use. The standoff system is also preferably substantially deformation-resistant under such typical forces such that a separation between the substance or object and the underlying absorbent layer is maintained. Materials utilized to form the standoff system may additionally be resilient such that some slight degree of deformation may be encountered in use but that the deformation is temporary in nature and the standoff system returns to its substantially undeformed state when the externally-applied forces are removed from the substance or object.

When subjected to impact from a sharp object or cutting implement such as a knife having an elongated, substantially linear edge, the sheet material 10 of Figure 1 is preferably oriented such that the standoff strips 40 are positioned in a direction substantially perpendicular to the impacting edge. Such an orientation helps to ensure that the impacting edge will contact at least one, and preferably more than one, standoff strip to distribute the impact force and ensure that the impacting edge will not contact the comparatively more vulnerable absorbent layer and barrier layer underneath.

The standoff system is preferably formed from a material which is durable in use, resilient, cut-resistant, and/or scuff/abrasion-resistant. Typical materials which are known in the art as exhibiting such properties may be utilized, including those which

typically exhibit a high degree of toughness, interlocked molecular structure of comparatively high molecular weight material, and comparatively high coefficient of sliding friction. Suitable materials include polymeric materials, such as EVA, high density polyethylene (HDPE), low density polyethylene (LDPE), linear low density polyethylene (LLDPE), polyvinyl choloride (PVC), plastisols, polypropylene (PP), and polyurethanes, densified paper materials, etc.

Figure 2 depicts another embodiment of a sheet material 10 in accordance with the present invention. In the embodiment of Figure 2, the standoff strips of the embodiment of Figure 1 are replaced by a continuous standoff network 50 to form a standoff system. The standoff network 50 may be unitarily formed or formed from an overlapping and intersecting pattern of discrete strips joined to one another to form a contiguous structure.

In the embodiment of Figure 2, the standoff system is similar to the system of Figure 1, but provides for omnidirectional protection from impacting edges such as knives or sharp objects. Accordingly, the sheet material 10 of Figure 2 may be oriented in any desired direction with regard to an impacting edge and yet provide protection for the absorbent layer and barrier layer from direct contact with such an edge.

Another embodiment of a sheet material 10 according to the present invention is shown in Figure 3. In this embodiment, a plurality of discrete absorbent elements 60 replace the continuous absorbent layer 20 of the embodiments of Figures 1 and 2. Absorbent elements 60 comprise discrete deposits or members of an absorbent material such as the materials identified as being suitable for forming a continuous absorbent layer, and are associated with the spaces within the continuous standoff network 50. Accordingly, the surface formed by the surfaces of adjacent absorbent elements is periodically interrupted by the standoff system which extends outwardly therefrom. As shown in Figure 3, the standoff system is in direct contact with the barrier layer such that forces applied to the outer surface of the standoff system are transmitted to the barrier layer, bypassing the absorbent layer. Such a configuration therefore reduces the likelihood of fluid being forced from the absorbent layer onto the object or substance of interest.

A compartmentalized absorbent material arrangement such as that of Figure 3 tends to confine fluids to the vicinity of initial fluid deposition, since migration of fluid between adjacent absorbent elements is effectively prevented by the impervious backing layer and the non-absorbent, impervious continuous standoff network. Although for some applications a compartmentalized absorbent material distribution may be desirable,

it is presently preferred for most applications to utilize a continuous absorbent layer so as to provide for the maximum level of absorbency.

Figure 4 depicts another embodiment of a sheet material 10 in accordance with the present invention which is generally similar to that of Figure 3, but in which the continuous standoff network 50 is integrally, and preferably unitarily, formed with the barrier layer 30. Such a configuration provides additional integrity and stability to the resulting overall structure by reducing the number of independent elements which may move relative to one another under the influence of external forces, particularly shear forces. The embodiment of Figure 4 also, as with that of Figure 3, ensures that forces applied to the outer surface of the standoff system are transmitted to the barrier layer, bypassing the absorbent layer.

In the embodiment of Figure 5, which is generally similar to that of Figure 2, the standoff system comprises a continuous standoff network 50. However, the sheet material 10 of Figure 5 includes a continuous standoff network 50 which comprises a comparatively thin layer or structure which is superimposed upon a correspondingly-shaped supporting member 70. Supporting member 70 may be formed from the same material as the standoff network 50, the same material as the absorbent layer 20, or a different material than either adjoining element. A configuration such as that shown in Figure 5 permits the use of a thinner material for the standoff network, which may prove more economical, yet still provides the desired degree of standoff between the object or substance placed upon the sheet material and the absorbent layer via the supporting member 70.

Figure 6 depicts another presently preferred embodiment of a sheet material 10 according to the present invention. The embodiment of Figure 6 is generally similar to that of Figure 5, but differs in that the supporting member for the comparatively thin standoff network 50 is integrally and unitarily formed with the absorbent layer 20 and takes the form of the profiled portion 25 of the absorbent layer 20. The profiled portion 25 has a planform within the plane of the sheet material which is substantially similar to that of the standoff network 50. Although a wide variety of formation processes may be utilized to form the profiled portion of the absorbent layer, a presently preferred process utilizes a profiled forming structure to form a fibrous, cellulose-based absorbent layer such as the processes disclosed in commonly-assigned U.S. Patents No. 4,514,345 to Johnson et al., No. 5,098,522 to Smurkoski et al., No. 4,528,239 to Trokhan, and No. 5,245,025 to Trokhan, the disclosures of which are hereby incorporated herein by reference.

Figure 6 also illustrates a different shape of the continuous standoff network within the plane of the sheet material from the configurations shown in Figures 2-5. In accordance with the present invention, it is presently believed that the continuous standoff network may be constructed in any desired configuration having sufficient open area for fluid acquisition into the absorbent layer.

Much of the foregoing discussion has focused upon the use of a standoff system comprising a continuous standoff network as is presently preferred or, in the alternative, at least a semi-continuous standoff network which is continuous in a specific direction within the plane of the sheet material. However, the present invention is believed to be equally applicable to discontinuous standoff networks comprising a plurality of discrete standoff elements which are discrete in multiple directions within the plane of the sheet material. Accordingly, Figure 7 depicts a sheet material 10 according to the present invention having a plurality of discrete standoff elements 40 which may, if desired, be unitarily formed with the backing layer 30 and may formed in a solid or hollow configuration, as shown in Figure 7. Such a configuration imparts additional stability to the individual standoff elements since they have a comparatively small footprint in the plane of the sheet material. The embodiment of Figure 7 also, as with that of Figure 3, ensures that forces applied to the outer surface of the standoff system are transmitted to the barrier layer, bypassing the absorbent layer.

Although such a standoff system may provide comparatively little in the way of protection for the absorbent layer from impinging edges or blades, the comparatively lower bending modulus (increasing flexibility) allows the sheet material to more readily conform to supporting surfaces having a non-planar topography. Greater conformability also facilitates a greater variety in shipping and/or dispensing arrangements, such as rolling the sheet materials into a compact form or dispensing sheet materials from a continuous product roll. While Figure 7 depicts an ordered arrangement of standoff elements, an amorphous (non-ordered) pattern of standoff elements would minimize the likelihood of a blade or edge contacting the absorbent layer while maintaining a flexible structure having individual standoff elements. Such amorphous patterns are described in greater detail in the aforementioned and incorporated McGuire et al. application.

The sheet materials of Figures 1-7 have focused upon embodiments wherein the standoff system occupies a comparatively small proportion of the surface area of the sheet material, the balance being made up of free space overlying the absorbent layer underneath. Conversely, the embodiment of Figure 8 comprises a sheet material 10 which includes a standoff system in the form of a plurality of discrete standoff elements 90 similar to those of Figure 7, but being unitarily formed from a cover sheet 80 which

overlies the absorbent layer 20 on the side opposite from the backing layer 30. In order to facilitate fluid access to the absorbent layer 20 the cover sheet 80 and/or the standoff elements 90 are provided with a plurality of drainage apertures 100 of any desired shape, spacing, and arrangement.

In the embodiment of Figure 8 the absorbent layer comprises a comparatively planar layer which lies between the cover sheet and the backing layer. However, such a configuration leaves the standoff elements, which as shown in Figure 8 may be hollow and unitarily formed from the cover sheet, empty and substantially non-supported internally. Figure 9 presents an alternative embodiment substantially similar to that of Figure 8 but wherein the hollow standoff elements 90 are filled with a portion of the absorbent layer 20 which extends upwardly into the hollow side of the standoff elements. Such a configuration provides for additional absorbent capacity beyond that provided by a substantially planar absorbent layer.

Figure 10 illustrates another embodiment of a sheet material 10 in accordance with the present invention similar to that of Figures 8 and 9, but having the standoff system formed as a continuous standoff network via cover sheet 80 which includes depressions 95 rather than discrete standoff elements 90. Apertures 100 are provided as desired in the cover sheet and/or in the base of the depressions 95, which form natural collection points for fluids impinging upon the sheet material.

Sheet materials in accordance with the present invention may be deployed in a wide variety of scenarios and be utilized for a wide variety of functions. Representative products made from such sheet materials and corresponding uses include, but are not limited to, place mats, food preparation mats, mats for draining washed or cooked food, floor mats, drawer and shelf liners, etc. Objects of interest may include food items such as cuts of meat, produce, baked goods, etc. Substances of interest would include substances having sufficient integrity to bridge the standoff system, such as cookie dough, etc.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

What is claimed is:

1. A multi-purpose sheet material comprising:
   (a) an absorbent layer having opposing first and second surfaces;
   (b) a substantially non-absorbent, substantially fluid-impervious standoff system associated with and extending transversely across said first surface; and
   (c) a substantially fluid-impervious barrier layer substantially continuously covering said second surface.

2. The sheet material of Claim 1, characterized in that said standoff system comprises a plurality of discrete standoff elements.

3. The sheet material of Claim 2, characterized in that said standoff elements have a solid cross-section defined by a plane passing through said standoff elements in a direction substantially normal to the plane of said sheet material.

4. The sheet material of Claim 1, characterized in that said standoff system comprises a continuous standoff network.

5. The sheet material of Claim 1, characterized in that said standoff system directly contacts said barrier layer.

6. The sheet material of Claim 5, characterized in that said standoff system is unitarily formed with said barrier layer.

7. The sheet material of Claim 1, characterized in that said absorbent layer comprises a plurality of discrete absorbent elements.

8. The sheet material of Claim 1, characterized in that said backing layer includes an adhesive on a surface facing outwardly from said absorbent layer.

9. The sheet material of Claim 1, characterized in that a profiled layer is interposed between said standoff system and said absorbent layer.

10. The sheet material of Claim 9, characterized in that said standoff system comprises a continuous standoff network, and further characterized in that said standoff network and said profiled layer have corresponding planforms.

11. The sheet material of Claim 10, characterized in that said profiled layer is non-absorbent.

12. The sheet material of Claim 10, characterized in that said profiled layer is absorbent.

13. The sheet material of Claim 12, characterized in that said profiled layer is unitarily formed with said absorbent layer.

14. The sheet material of Claim 1, characterized in that said standoff system comprises a polyolefin material.

15. The sheet material of Claim 1, characterized in that said absorbent layer comprises a cellulosic material.

16. The sheet material of Claim 1, characterized in that said standoff system is formed from a substantially hydrophobic material.

17. The sheet material of Claim 1, characterized in that said barrier layer comprises an impervious coating topically applied to said second surface of said absorbent layer.

18. The sheet material of Claim 1, characterized in that said standoff system comprises a plurality of elongated standoff elements extending across said first surface of said absorbent layer.

19. A multi-purpose sheet material comprising:

(a) a cellulosic absorbent layer having opposing first and second surfaces, said first surface of said absorbent layer including a profiled portion unitarily formed with and extending outwardly from said absorbent layer;

(b) a substantially non-absorbent, substantially fluid-impervious continuous standoff network associated with and extending transversely across said

first surface, said standoff network and said profiled portion having corresponding planforms; and

(c) a substantially fluid-impervious barrier layer substantially continuously covering said second surface.

20. A multi-purpose sheet material comprising:

(a) an absorbent layer having opposing first and second surfaces;

(b) a substantially non-absorbent, substantially fluid-impervious standoff system associated with and extending transversely across said first surface, said standoff system comprising a plurality of discrete polymeric standoff elements; and

(c) a substantially fluid-impervious polymeric barrier layer substantially continuously covering said second surface, said standoff elements being unitarily formed with said barrier layer.

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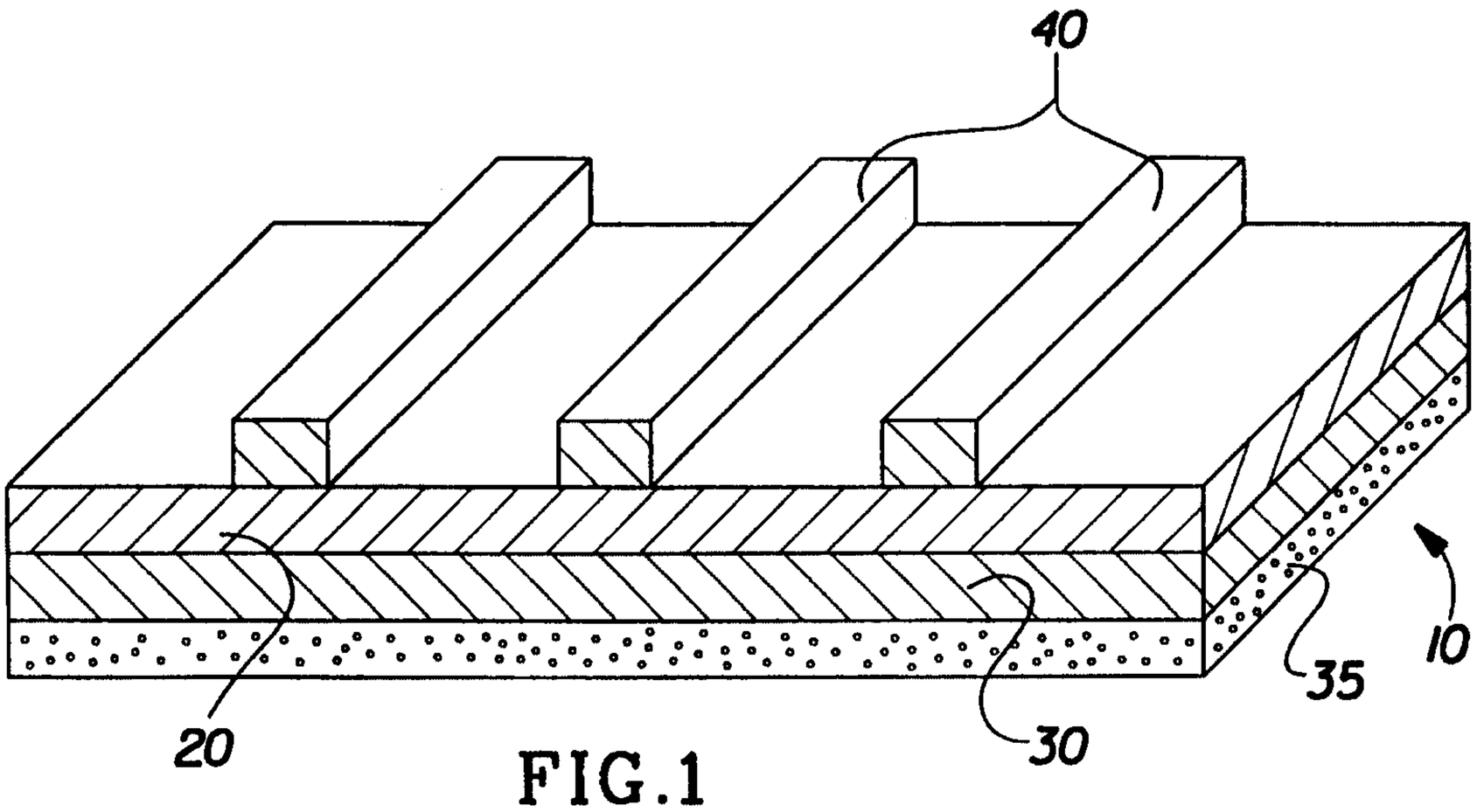

FIG.1

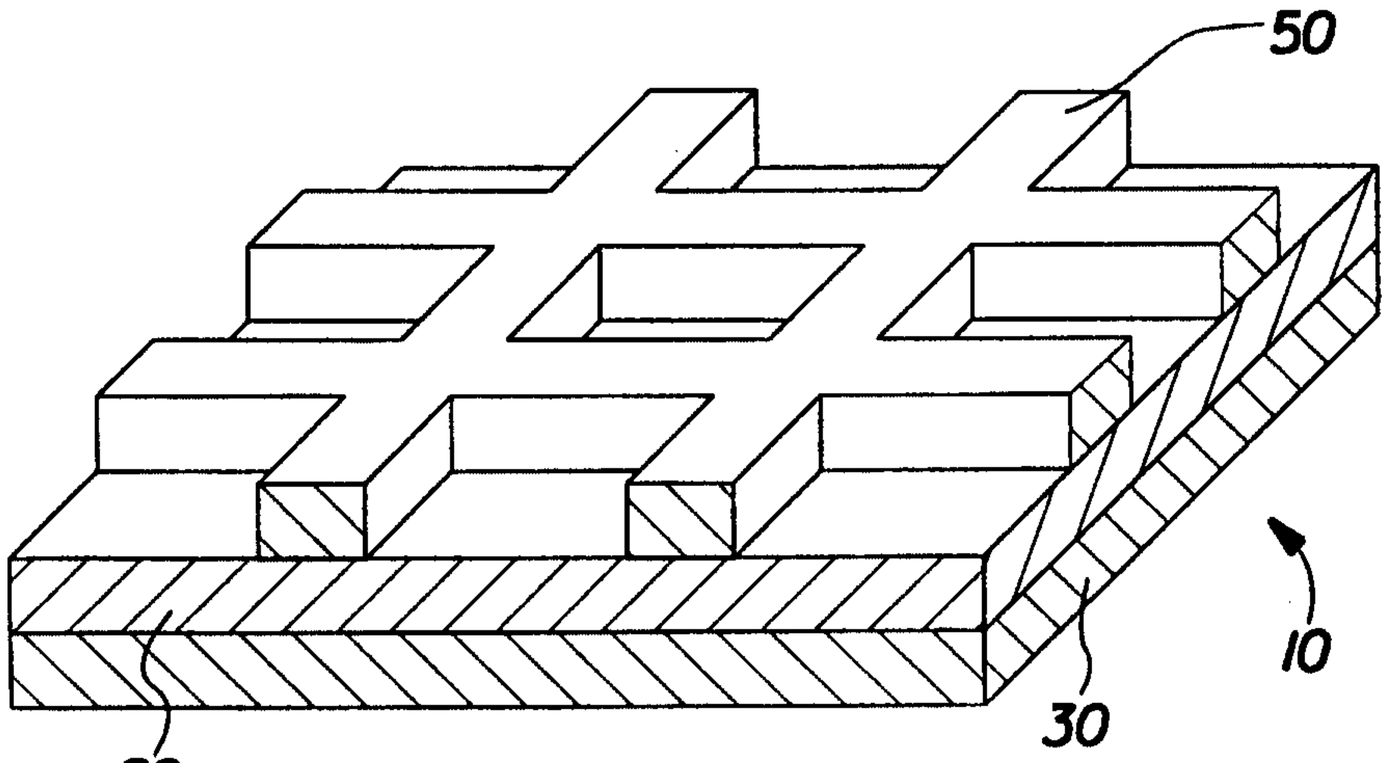

FIG.2

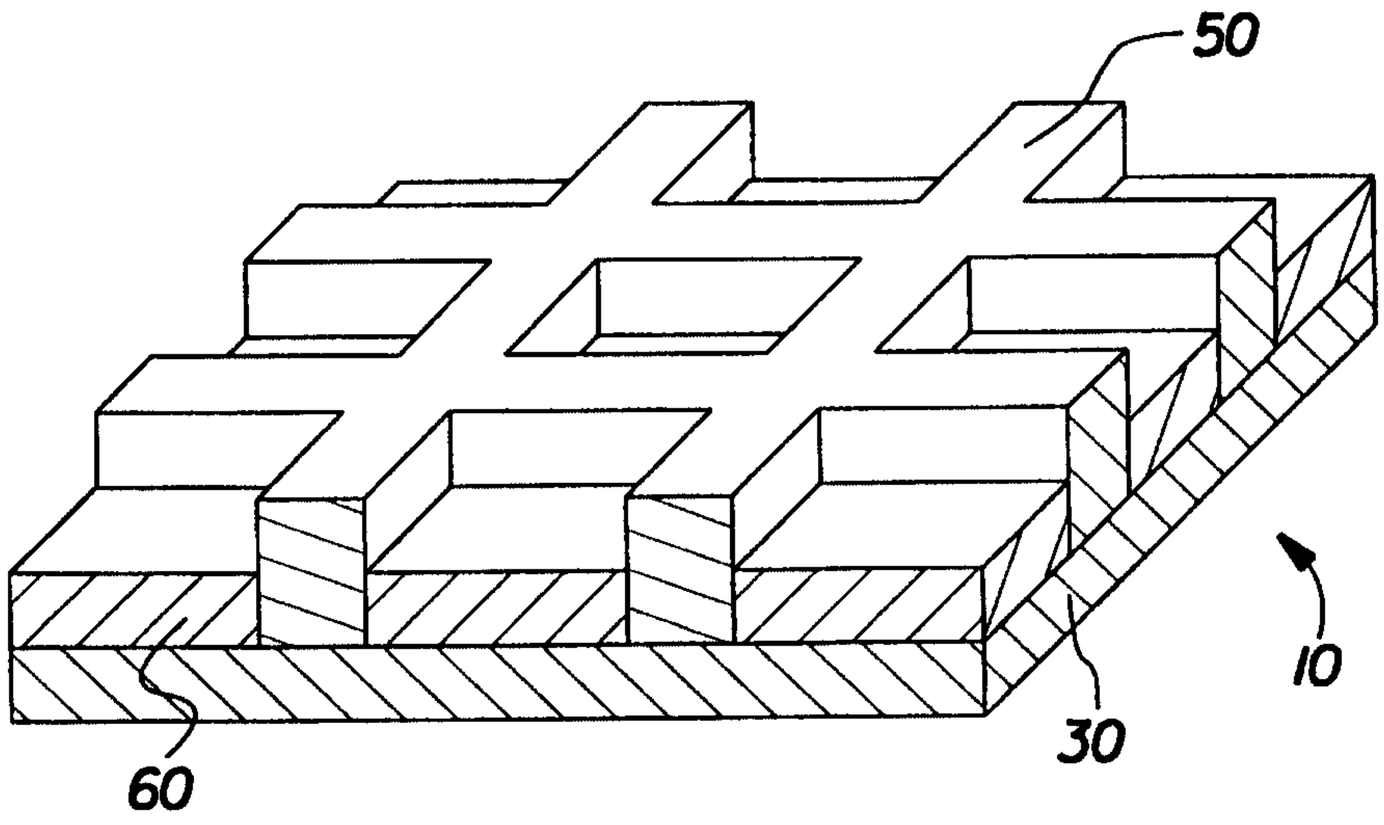

FIG.3

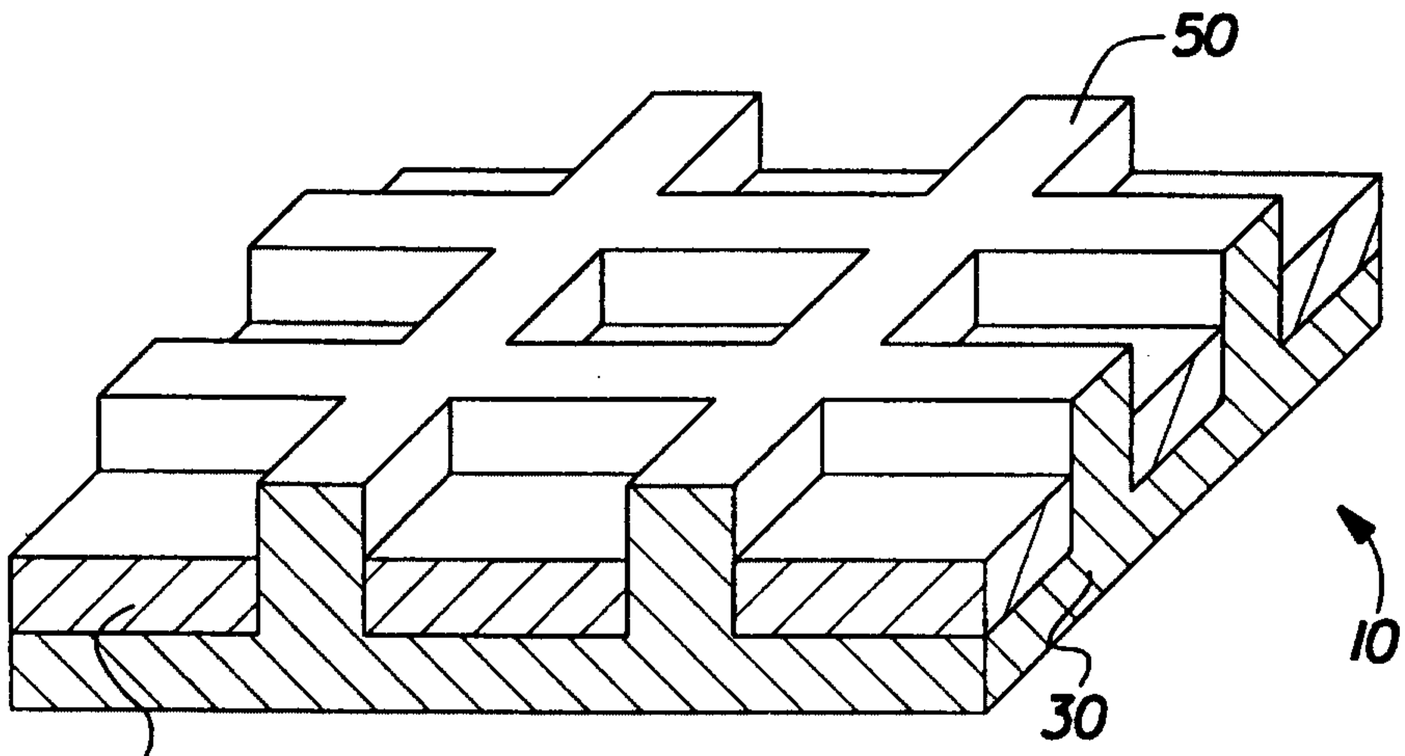

FIG.4

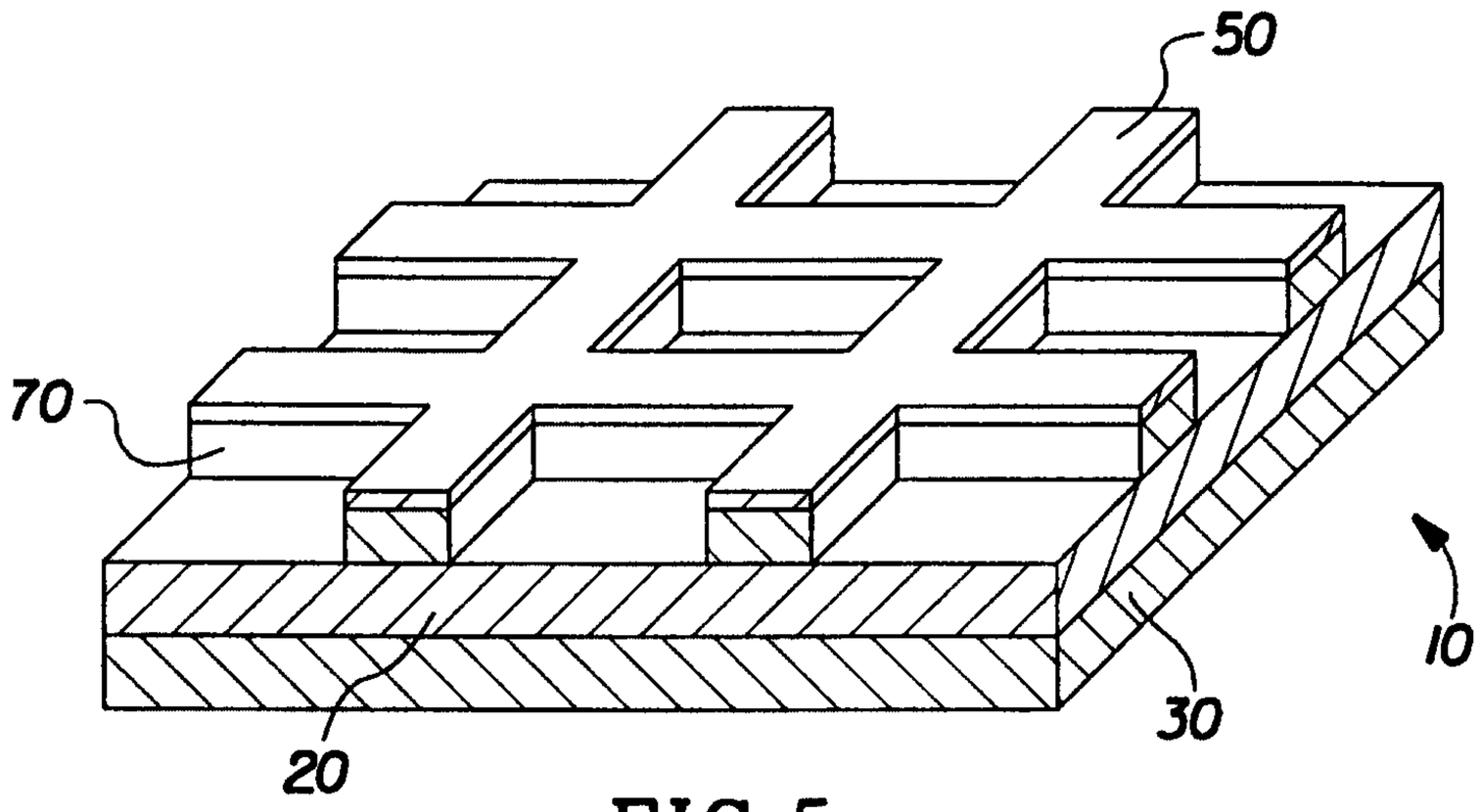

FIG.5

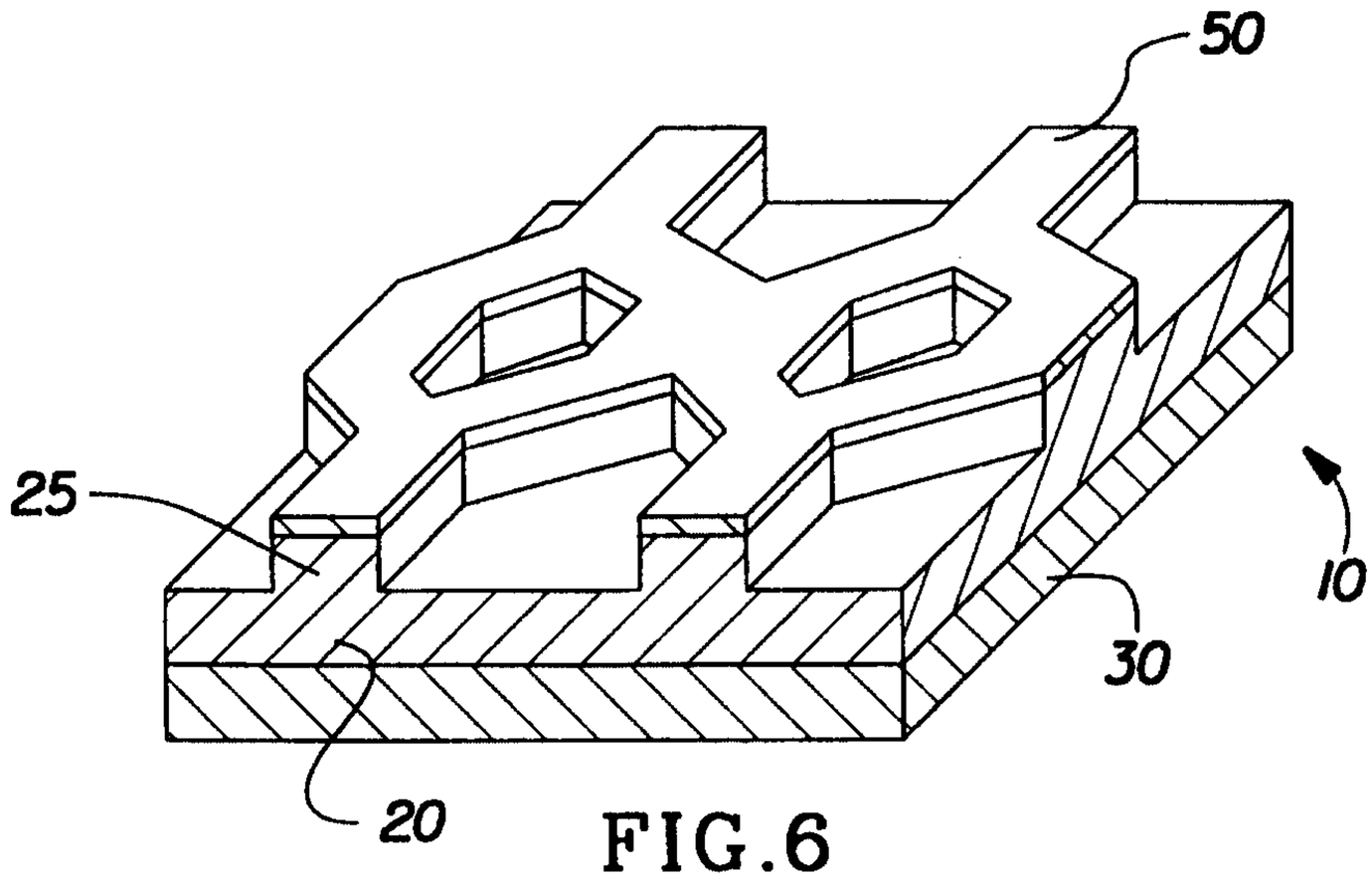

FIG.6

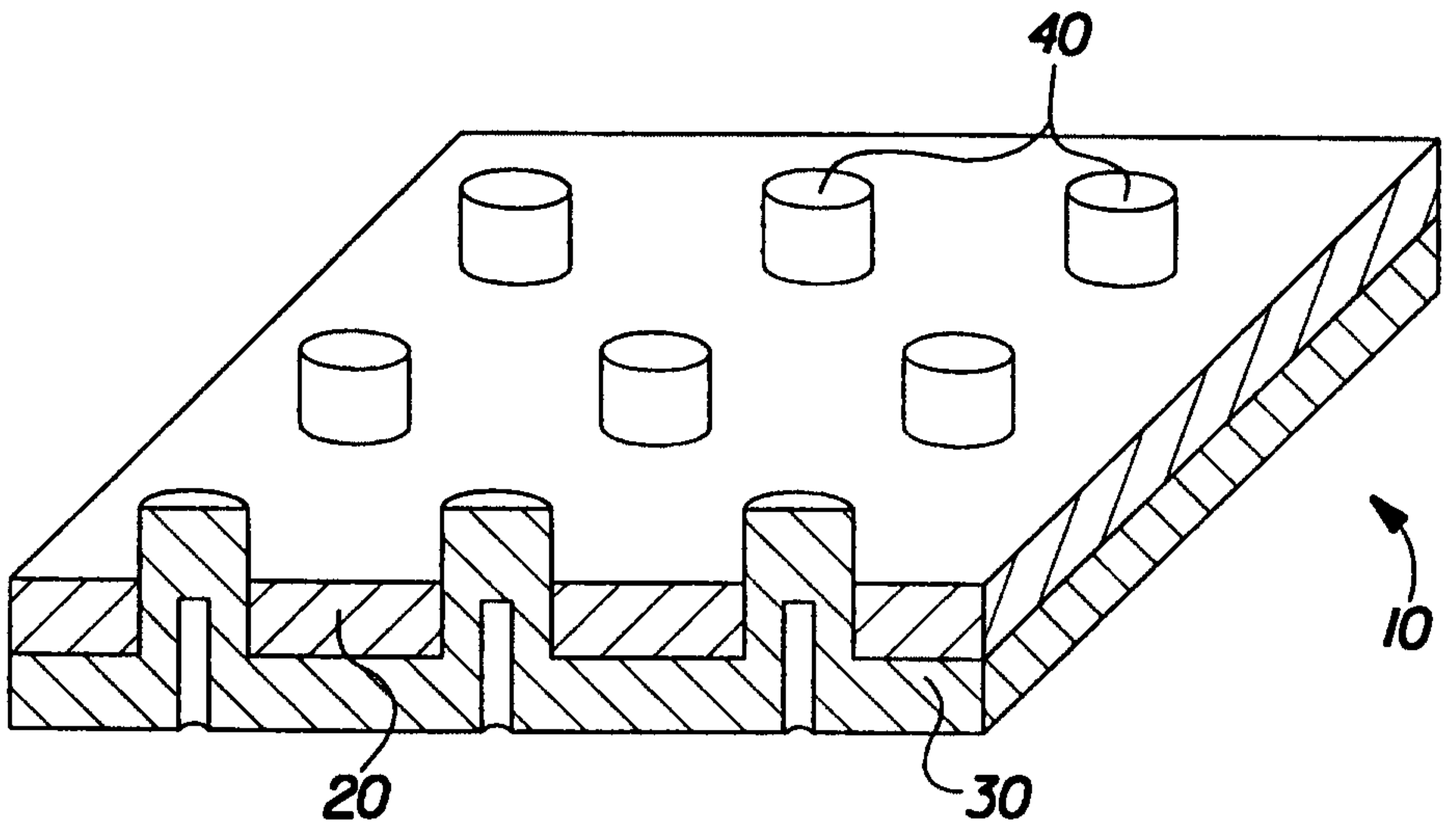

FIG.7

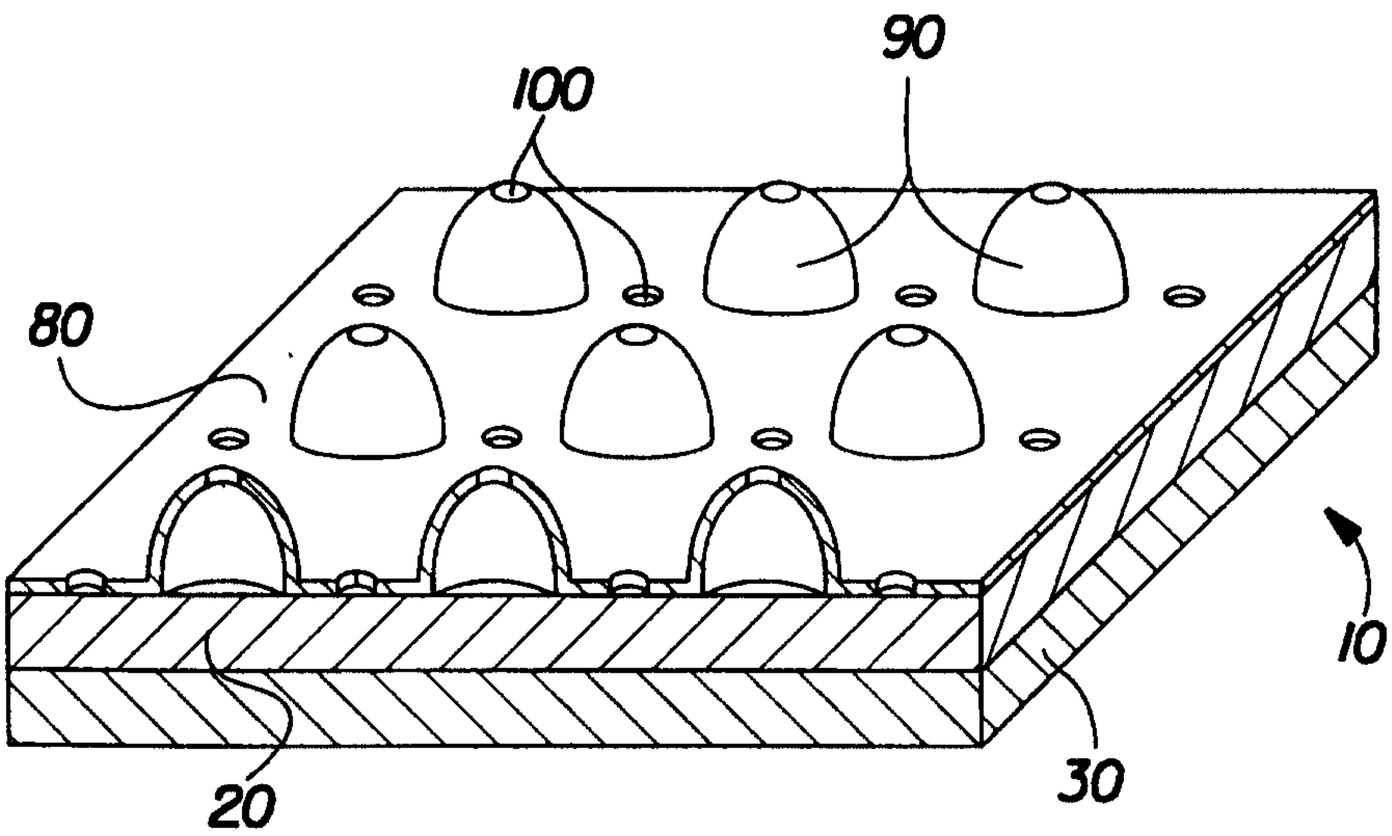

FIG.8

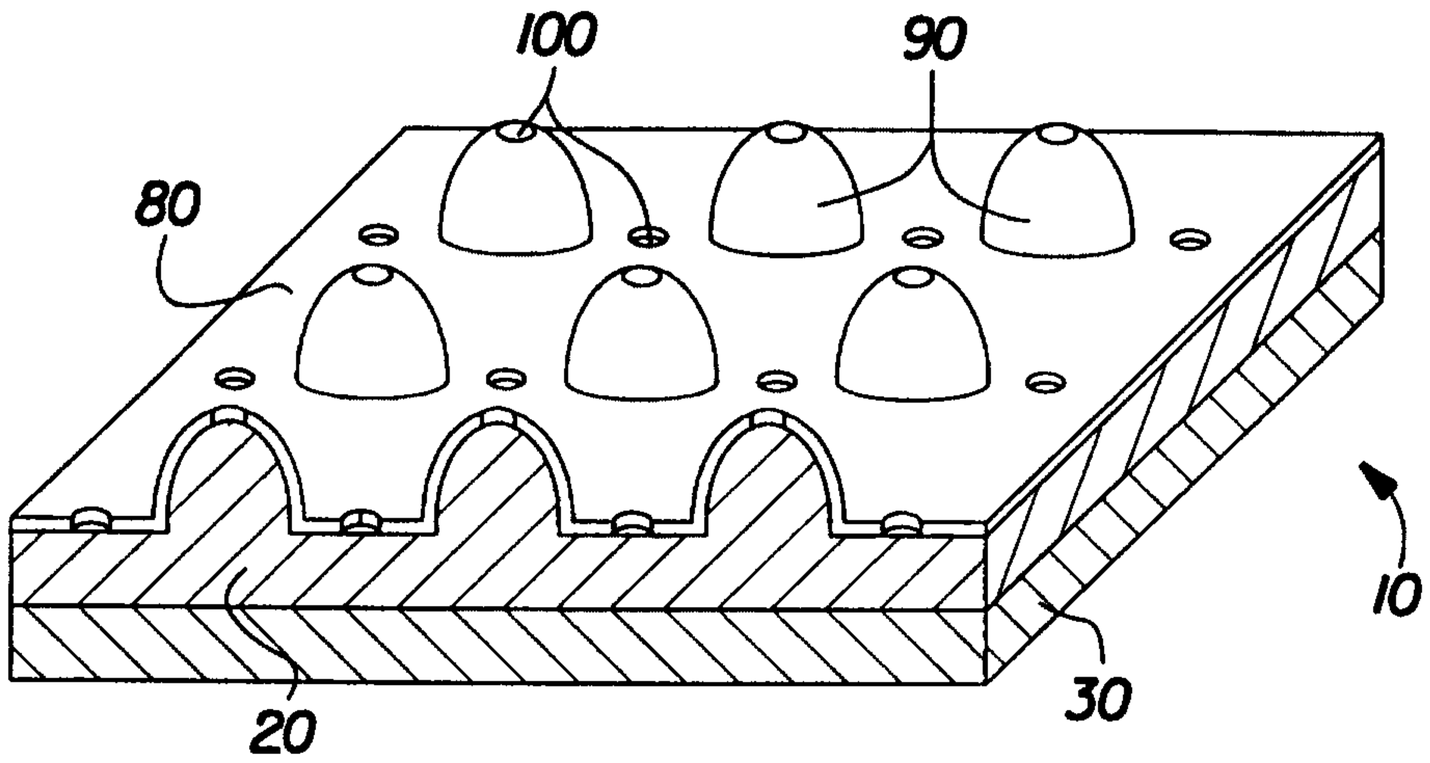

FIG.9

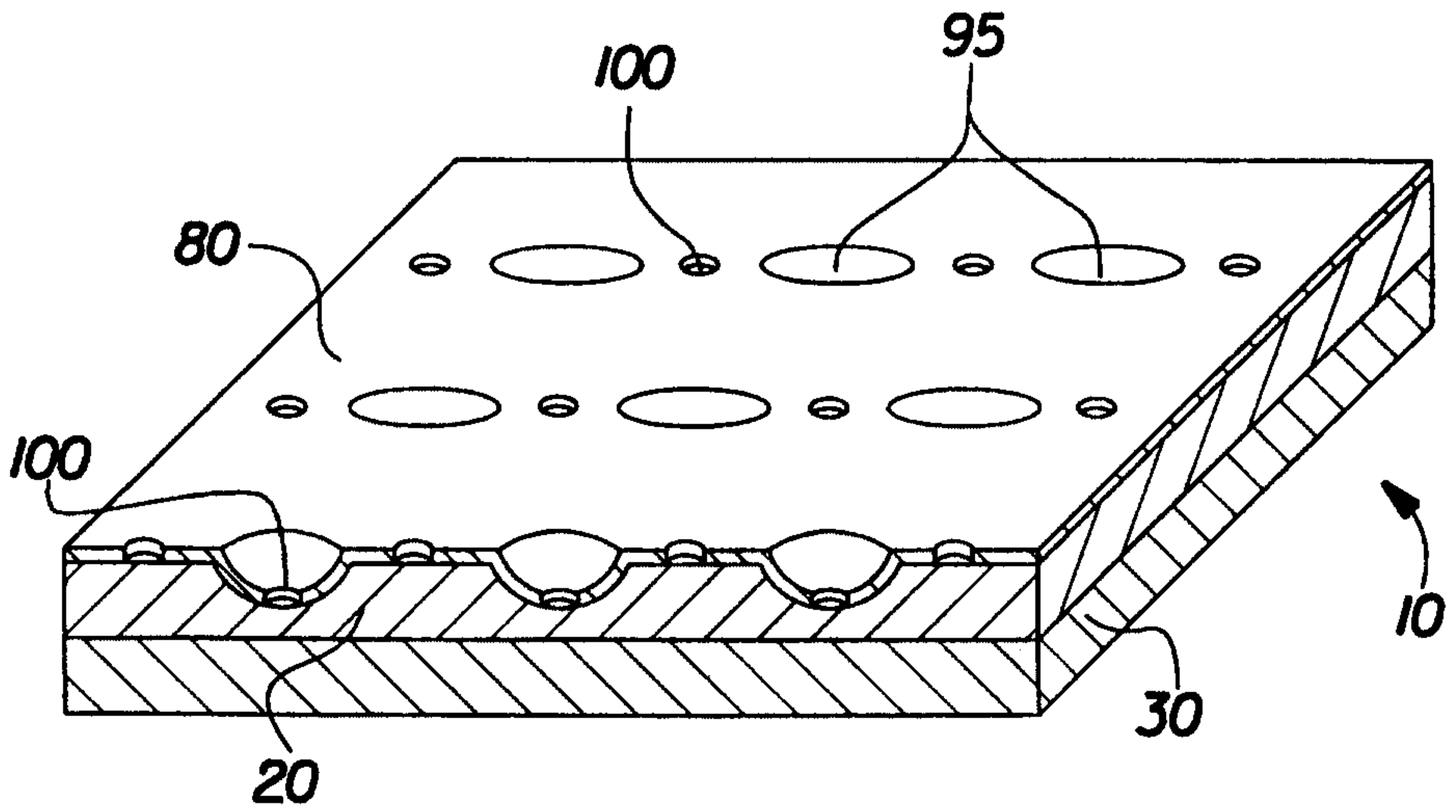

FIG.10