July 8, 1969 A. CAHN 3,454,168

GRID SHEET SHELF LINER

Filed Oct. 23, 1965

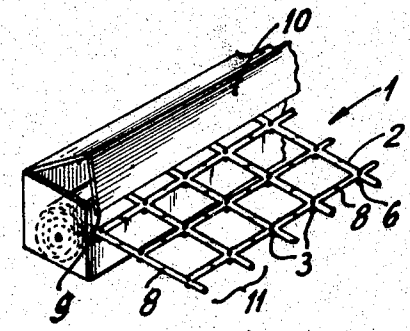


FIG. 1

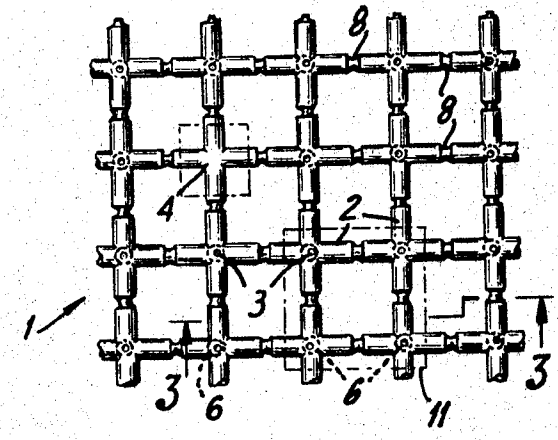


FIG. 2

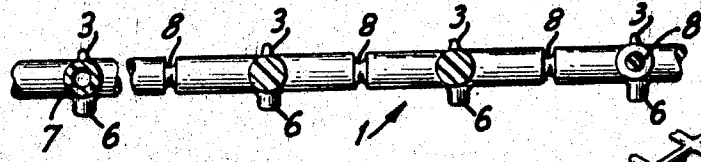


FIG. 3

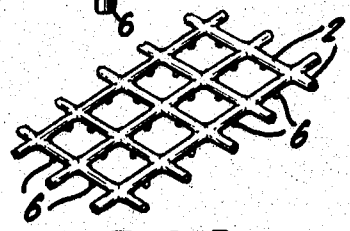


FIG. 5

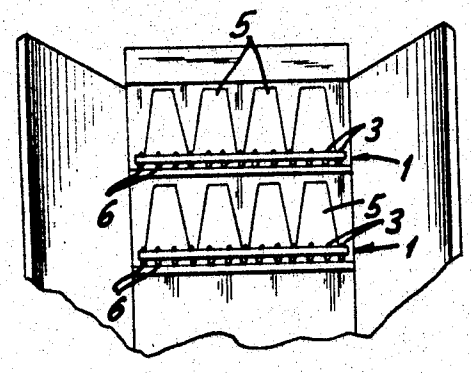


FIG. 6

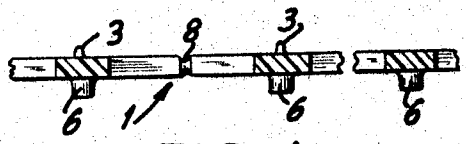


FIG. 4

INVENTOR.
ARNO CAHN

BY
Auslander & Thomas
ATTORNEYS

United States Patent Office 3,454,168 Patented July 8, 1969

3,454,168

GRID SHEET SHELF LINER

Arno Cahn, 72 E. Allison Ave., Pearl River, N.Y. 10965

Filed Oct. 23, 1965, Ser. No. 503,229
Int. Cl. A47f 3/06, 3/14, 7/28
U.S. Cl. 211—134 4 Claims

ABSTRACT OF THE DISCLOSURE

The present invention relates to a grid sheet shelf liner of a flexible lattice construction of integral strands. The sheet includes a plurality of integral spaced supports extending at right angles to one surface of the lattice and a plurality of dimples extending at right angles from the opposite surface of the lattice. The supports maintain the lattice raised above the surface upon which the grid sheet is placed.

The present invention relates to a grid sheet adaptable for shelf lining or other spacing uses wherein exposed ventilated areas are desirable or advisable.

While grids and dimples and sheets have been provided in the past, the present invention provides a simple sheet available in sheet or roll form which may easily be adapted to a desired size or shape.

In the past, complicated devices have approached the idea of elevating surfaces by stuffing, perforating, or by the complicated provision of structural effects.

According to the present invention, a simple sheet is provided which is simple to manufacture, simple to adapt to a desired shape and structurally strong, with a minimum of complexity.

Such sheeting may be used, for instance, in shelf lining where glasses are to be stored inverted. By providing such sheeting, the advantages of air circulation may be had and the added advantage of having a shelf liner wherein the objects on the shelf liner would not be engaged with the flat surface of an ordinary shelf liner which would normally receive dust that naturally accumulates would similarly be provided.

By its nature the sheeting of the present invention may be molded or extruded, especially of plastic, in a single sheet or continuous sheet in a single manufacturing operation, thus reducing the cost of complicated, expensive to manufacture operations and may be provided with simple tearability or cuttability for the providing of the desired shape or size for use.

While the figures disclose square grid patterns, it should be understood that this is an exemplification of a shape of one pattern within the scope of the present invention. It would not seem appropriate to include in the figures combinations of ovals, triangles, S-shaped geometric figures and the infinity of shapes available.

Although such novel feature or features believed to be characteristic of the invention are pointed out in the claims, the invention and the manner in which it may be carried out may be further understood by reference to the description following and the accompanying drawings.

FIG. 1 is a sheet of the present invention as shown in a roll extending from a box.

FIG. 2 is a plan view of a typical grid of the present invention.

FIG. 3 is a section of FIG. 2 at lines 3—3.

FIG. 4 is a front elevation of a section of the grid of the present invention where the lattice is of a square configuration.

FIG. 5 is another embodiment of the present invention.

FIG. 6 is a typical application of one form of use of the present invention for the storage of glass.

Referring now to the figures in greater detail, where like reference numbers denote like parts in the various figures.

The grid **1** of the present invention may be of a suitable material such as a nonbrittle plastic or plastic covered metal or even a noncorrodable metal.

As shown in FIG. 2 the strands **2** form a network and are rounded and interconnected and provided with dimples **3**. As can be seen in FIG. 2, the dimples **3** may be omitted such as at the lattice junction **4** and the grid **1** either provided with one smooth surface or a wider space of dimples **3**.

The purpose of the dimple **3** is to provide a degree of nonskidability to the grid surface so that glasses **5** as shown in FIG. 6 are not likely to be accidentally brushed into each other by a careless hand movement. Other stored materials may have some tractional relationship with the upper surface of the grid when stored upon it.

More essential to the basic purpose of the present invention are the supports **6** which may be placed on one side of the grid **1** at the intersections of the latticed strands **2** as shown in FIGS. 1, 2, 3 and 4 or which may be proliferated along the lattice strands **2** as shown in FIG. 5, not at such intersections.

As can be seen in FIG. 3 an exemplary lattice **7** may be hollow in cross section.

For the purpose of cuttability or severability of the grid sheet **1** into desired shapes, it has been found convenient to provide indentations **8** which may be suitably used for tearing the grid sheet **1** or cutting where the desired strength required is such as to require cutting. The indentations **8** are guide markers for cutting as well as areas of easier cutting.

Where strength considerations have been properly met for a desired use, a grid sheet **1** as shown in FIG. 1 may be provided on a roll and may even be severable along a cutting edge **9** on the box **10**.

As shown in FIG. 5, no indentations **8** have been provided and cutting may be by conventional means.

In FIG. 5 the spacing of the supports **6** is not at the lattice **2** intersection, as another embodiment of the present invention. Usually cutting may be by use of an ordinary scissors where such cutting is required.

Heavier material to be stored may require heavier gauge lattice **2** and heavier shears for cutting.

A range of one half to one inch has been found suitable for the spacing of the geometric units **11** of the grid **1**.

A greater proliferation of supports **6** may be provided for greater support. It has been found that a quarter inch height of the support **6** has proven satisfactory for most purposes and their configuration is not critical. They may be conical, hemispherical, elliposoidal or even protruding loops of rod-like members of the grid **1**.

Having thus described certain forms of the invention in some detail, what is claimed is:

1. A grid sheet shelf liner comprising a flexible lattice including a network of integral strands, a plurality of integral spaced supports extending at right angles to one surface of said lattice, a plurality of dimples extending at right angles from the opposite surface of said lattice, said supports adapated to maintain said lattice raised above a surface upon which said grid sheet is placed.

2. The invention as claimed in claim **1** wherein said supports extend from the points of intersection of said integral strands.

3. The invention as claimed in claim **1** wherein each said strand includes at least one annular indentation.

4. The invention as claimed in claim 1 wherein each said strand is hollow.

References Cited

UNITED STATES PATENTS

80,110	7/1868	Arnold	34—237
2,190,065	2/1940	Griffin	211—71
2,966,913	1/1961	Lerner et al.	
2,399,259	4/1946	Taylor	161—178 X
2,668,786	2/1954	Perry	161—117 X
3,392,080	7/1968	Mercer.	

FOREIGN PATENTS

478,400	1/1938	Great Britain.

OTHER REFERENCES

J. B. Timberlake & Sons, Jackson, Michigan, Catalogue No. 29, page 11 (1957).

Nalle Plastics, Inc., Austin Tex., Naltex Plastic Netting Brochure, page headed by "Outstanding Achievement" (1962).

ROBERT F. BURNETT, *Primary Examiner.*

W. W. SCHWARZE, *Assistant Examiner.*

U.S. Cl. X.R.

34—192, 239; 161—69, 109; 211—74