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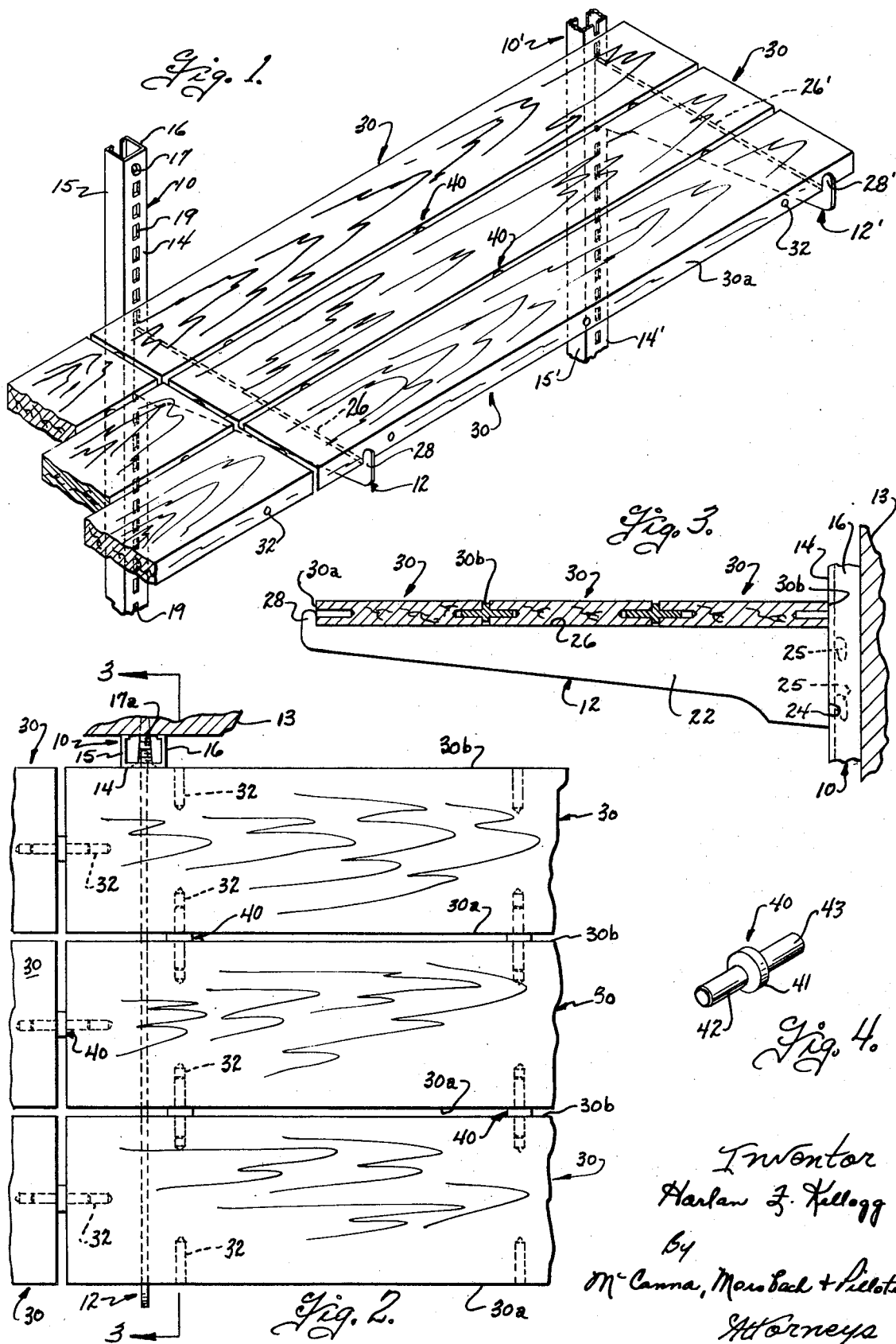
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3,513,786

MULTISECTION SHELF AND BRACKET ASSEMBLY

Filed July 3, 1967

2 Sheets-Sheet 1



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## MULTISECTION SHELF AND BRACKET ASSEMBLY

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2 Sheets-Sheet 2

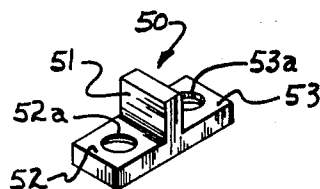
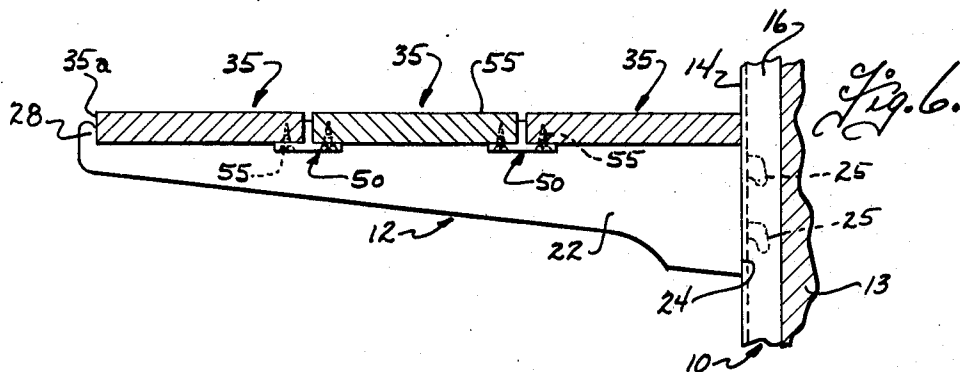
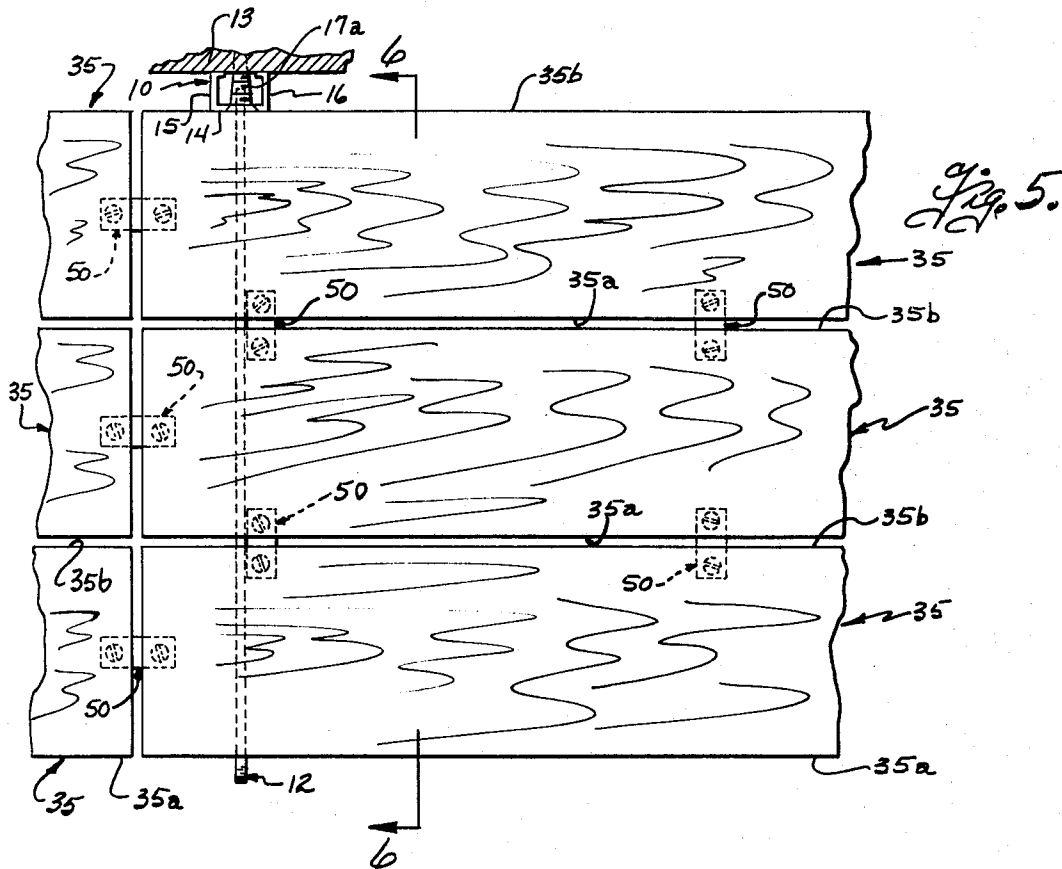


Fig. 7.

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## MULTISECTION SHELF AND BRACKET ASSEMBLY

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### ABSTRACT OF THE DISCLOSURE

A plurality of support members having brackets supported thereon. A plurality of shelf segments having devices secured thereto and joining the segments in spaced side-by-side and end-to-end relationship.

### BACKGROUND

This invention relates generally to supports and more particularly to a multisection shelf and bracket assembly.

In the past, shelf bracket assemblies have included support members adapted for mounting on a wall, and brackets selectively engageable in any of various spaced openings in the support members. A shelf is then supported on the brackets. Ideally, the shelf is planar, as is the supporting surface of the brackets for each shelf. Practically speaking, however, this ideal situation does not usually exist. If the wall is not perfectly planar, or if there is a slight bump thereon, the support members will not be mounted in the same plane, thus causing the brackets to be canted. A slight burr on the mounting end of the bracket, or slight wear at the joining parts of the bracket and support member, can have the same result. Additionally, a wide shelf is frequently warped. Any of these results in a situation where the shelf and its supporting brackets are not coplanar and the shelf can "rock" on the bracket.

Also, in the past, an erected shelf and bracket assembly was substantially invariable as to size. It could not, for example, be lengthened or widened without discarding the old shelf and replacing it with a new one of the desired size.

### SUMMARY

The present invention relates to a multisection shelf and bracket assembly which comprises support members, brackets, a multisection shelf including spaced segments, and means for holding the segments in spaced relationship.

It is a general object of the present invention to provide a multisection shelf and bracket assembly which obviates the above noted problems in the prior art, which is attractive, and which is easily assembled.

Another object is to provide an assembly in which the shelf will engage the brackets even if the shelf is warped or the brackets canted slightly.

Still another object is to provide an assembly which is versatile and can be erected in various widths and/or lengths and which can easily be changed in size.

Yet another object is to provide a multisection shelf and bracket assembly wherein the shelf includes segments arranged in spaced relationship.

It is another object to provide a multisection shelf and bracket assembly wherein the shelf includes segments which are held from longitudinal and lateral movement relative to each other.

These, and other objects and advantages of the present invention, will become apparent as the same becomes better understood from the following detailed description when taken in conjunction with the accompanying drawings.

### DRAWINGS

FIG. 1 is a perspective view of an embodiment of the present invention;

FIG. 2 is a top view of the embodiment shown in FIG. 1;

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a perspective view of a device for joining the shelf segments;

FIG. 5 is a top view of a modified form of the invention;

FIG. 6 is a sectional view taken along line 6—6 of FIG. 5; and

FIG. 7 is a perspective view of a device for joining the shelf segments in the modified form.

### DESCRIPTION

Referring to FIG. 1, there is illustrated a support member, generally designated by the numeral 10, and a bracket, generally designated by the numeral 12, engaged thereto. A second support member 10' and a second bracket 12' are similarly arranged. It is contemplated that additional support members and brackets may be utilized, if desired. The support members are adapted for mounting on a supporting surface 13 in a generally vertical position. As illustrated, support member 10 has a front wall 14 and side walls 15 and 16. A plurality of openings 17 are provided in the support member for passage of fasteners 17a to mount the member on the supporting surface 13. Front wall 14 has a plurality of equally spaced openings in the form of slots 19 for mounting the bracket 12 thereon in any convenient manner well known in the art.

Bracket 12 has a body 22 having a rear end 24 disposed adjacent support member 10. End 24 has projections 25 for interfitting with slots 19 in the support member to mount the bracket thereon in a cantilevered fashion. When so mounted, the bracket has a generally horizontal supporting surface 26 extending outwardly from the support member for supporting a shelf in the usual manner. At the outer end of the bracket is provided a projection 28 extending above the level of the supporting surface 26.

Support member 10' and bracket 12' are similarly arranged, and similar parts are illustrated in the drawing by the same numeral followed by the postscript prime ('), and further description is deemed unnecessary.

A multisection shelf is supported on the surfaces 26, 26' of the brackets 12 and 12', respectively. In the embodiment of FIGS. 1—4, the multisection shelf includes a plurality of identical longitudinally extending segments 30 which span the brackets 12 and 12'. Each segment has a front edge 30a and a rear edge 30b, and the edges of adjacent segments are spaced apart a preselected distance. Each segment is provided with a plurality of generally cylindrical openings 32 in each longitudinally extending edge thereof for a purpose which will hereinafter become apparent. Identical openings 32 are also provided in the ends of each segment. These end openings 32 are centrally located at each segment and serve a function hereafter explained.

Means is provided for holding the segments in said spaced relationship. In the embodiment illustrated in FIGS. 1—4, this is in the form of a plurality of devices, generally designated 40. As best seen in FIG. 4, the device 40 includes a head portion 41 and leg portions 42 and 43 extending in opposite lateral directions from the head portion. In the embodiment illustrated, the leg portions and head portions are generally cylindrical in cross section. The leg portions are sized for a frictional fit into the openings 32. The head portion 41 has a size larger than the leg portions but not greater than the thickness of the

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segments to leave the upper surface of the shelf unobstructed when the devices 40 are inserted into openings 32.

As explained above, the segments 30 are generally identical; thus, when the ends thereof are aligned, the openings 32 in the edges of adjacent segments are generally aligned. Thus, the aligned legs 42 and 43 of the device 40 may be inserted into the aligned openings 32 to join the segments and hold them from movement relative to each other in a longitudinal direction. The head portion 41 has a width equal to said preselected distance, and the sides of the head engage the edges 30a and 30b of adjacent segments and maintain said preselected distance. For each two adjacent segments so joined, two devices 40 are required. However, it is preferable to use three of the devices since this provides more ideal load transfer when the multisection shelf is loaded. When the desired width of the multisection shelf has been accomplished by assembling the segments together, the shelf may be supported on the brackets as illustrated in FIG. 1. If desired, a decorative button (not shown) may be inserted into the openings 32 in the front edge 30a of the front segment.

Preferably, the back edge 30b of the back segment engages the front wall 14 of support member 10 while the front edge 30a of the front segment engages the back edge of the projection 28 (see FIG. 3). In this manner, the multisection shelf is securely held between the projection 28 and the wall 14 of the support member to prevent lateral movement of the segments. Preferably, then, the length of the supporting surface 26 of each bracket is defined by the formula:  $Wn + S(n-1)$  wherein W is the width of the segments, S is the width of the head 41, and n is the number of segments in the multisection shelf. Obviously, brackets of different lengths may be provided to accommodate different widths of the multisection shelf. Additional widths can be provided merely by adding or subtracting segments in the manner described above.

Another embodiment is illustrated in FIGS. 5-7. In this embodiment, the segments, generally designated 35, each has a front edge 35a and a rear edge 35b. The edges, however, have no openings as do the edges of segments 30. Thus, the front edge 35a of the front segment provide an unencumbered surface to the viewer. Means is provided for holding the segments in spaced relationship, and this means is in the form of a device, generally designated 50, advantageously formed of moderately resilient plastic. As best seen in FIG. 7, the device includes a head portion 51 and leg portions 52 and 53 extending laterally in opposite directions from the head portion. In this embodiment, the leg portions are adapted to underlie their respective segments, and the head portion extends upwardly therefrom to a level not higher than the top of the adjacent segments. The legs 52 and 53 are provided with openings 52a and 53a, respectively, for passage of fasteners 55 to secure each leg to its respective segment. Preferably, at least one device 50 is located closely adjacent the bracket 12 and engages the side of the body 22. In a similar manner, another device 50 is located closely adjacent the other bracket 12'. The devices closely adjacent the sides of the two brackets engage the brackets to hold the multisection shelf from longitudinal movement with respect to the brackets.

As many segments 35 as desired may be secured in side-by-side relationship by the devices 50 to make a multisection shelf of various desired widths. For each width, a different size bracket must be used. The bracket has a supporting surface 26 defined by the aforementioned formula.

Two or more assemblies of support members 10, 10'; brackets 12, 12'; and multisection shelves may be arranged with the multisection shelves in end-to-end relationship (see FIG. 1). The segments 30 of the adjacent multisection shelves are held with their ends in spaced relationship by the aforescribed devices. As described above, segments 30 have openings 32 in their ends and devices 40 are provided to secure the ends as shown in FIG. 2. Similarly,

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FIG. 5 illustrates devices 50 securing segments 35 in spaced end-to-end relationship. The devices 40 or 50 provide a load transferring joint at the ends of the multisection shelf.

By supplying a plurality of segments 30 or 35 and their respective devices 40 or 50, multisection shelves of many different widths can be assembled as indicated above. Additionally, when the segments are furnished in two and three feet lengths, any length shelf two feet or more in length can be assembled. However, since four feet is a popular length, it is preferable to furnish that length also. In this manner, a number of segments can be utilized to make a large variety of shelf widths and lengths.

As explained above, the ideal situation of brackets having supporting surfaces lying in the same plane and a perfectly planar shelf does not usually exist. A multisection shelf, formed in the manner described above, is particularly advantageous in such a non-planar situation. For example, the devices 40 and 50 permit a limited amount of twisting of each segment relative to the adjacent segment. Should the supporting faces of the bracket not be planar, or should the segments be slightly warped, the segments will more readily conform to the supporting surfaces. This is because the segments, when loaded, will twist slightly, as described, and conform to the supporting surface somewhat independently of the adjacent segments. This result cannot be accomplished by a one-piece shelf. It is deemed obvious that holding the segments in spaced relationship aids in this advantageous result. Additionally, the spaced relationship minimizes any slight misalignment of the segments and provides a pleasing appearance without an exacting, perfect fit.

While preferred embodiments of the present invention have herein been illustrated and described, this has been done by way of illustration and not limitation, and it is to be understood that various modifications in structure will occur to a person skilled in the art.

What is claimed is:

1. A multisection shelf and bracket assembly comprising, in combination:

at least two upwardly extending wall mountable support members having means for mounting the same on a supporting wall;

first and second shelf brackets each having means for engaging a respective support member to support the bracket thereon, each shelf bracket having a bearing surface extending outwardly from the support member and an upwardly extending projection at the outer end thereof;

a multisection shelf supported on the bearing surface of the first and second brackets and including a plurality of elongate flat shelf segments spanning said brackets and extending in sidewise aligned relation generally parallel to each other, said shelf segments each having front and rear side edges and at least two openings in each side edge located so that the openings in adjacent segments are aligned when the segments are coextensive; and

means for holding the shelf segments in spaced relationship and including at least two pin connectors associated with the space between adjacent ones of the shelf segments, each pin connector having a central head portion and reduced leg portions extending in opposite directions from the head portion, said head portion having a size less than the thickness of said shelf segments but greater than the size of said openings and disposed in the space and engaged with the side edges of adjacent shelf segments for holding the segments in said spaced relationship, said leg portions being dimensioned to be frictionally received in said openings and extending laterally in opposite directions from the head portion into aligned openings in adjacent segments for holding the shelf segments in relative longitudinal position.

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2. The combination of claim 1 and including a second multisection shelf and bracket assembly constructed in accordance with claim 1, said assemblies having their support members generally in a vertical plane, the bearing surfaces of their brackets generally in the same plane, and their multisection shelves adjacent each other and with the segments in end-to-end relationship; the bracket of each assembly being spaced from the adjacent ends of the multisection shelves; and including means for holding the adjacent ends in spaced relationship and for providing a load-transferring connection between the multisection shelves, said last-mentioned means including end openings in the ends of said segments and a plurality of pin connectors each constructed in accordance with claim 1, there being a pin connector for each pair of segments in end-to-end relationship.

3. A multisection shelf and bracket assembly comprising, in combination:

a plurality of upwardly extending support members; at least one shelf bracket mounted on each support member and having a bearing surface extending outwardly therefrom;

a multisection shelf supported on the bearing surfaces of said brackets and including first and second sets of elongate flat shelf segments, the shelf segments in each set being disposed in sidewise aligned relation with each other and the shelf segments of one set being disposed in endwise aligned relation with respective ones of the shelf segments of the other set, the shelf segments having at least two openings in each side edge thereof and at least one opening in the end edges thereof;

a plurality of pin connectors each having a central head portion and reduced leg portions extending in opposite directions from the head portion, said head portion having a size less than the thickness of said shelf segments but greater than the size of said openings in the side and end edges of the shelf segments,

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and said leg portions being dimensioned to be frictionally received in said openings, a first set of said pin connectors having the leg portions thereof extending into the openings in the adjacent side edges of the first set of shelf segments with the heads on the first set of pin connectors engaging said adjacent side edges of the first set of shelf segments to laterally space the same, a second set of said pin connectors having the leg portions thereof extending into the openings in the adjacent side edges of the second set of shelf segments with the heads on the second set of pin connectors engaging said adjacent side edges of the second set of shelf segments to laterally space the same, and a third set of said pin connectors extending into the openings in the adjacent end edges of the shelf segments of the first and second sets with the head portions disposed between said adjacent ends to space the same.

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U.S. Cl. X.R.

52—585; 108—152, 153; 211—153

UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 3,513,786 Dated May 26, 1970

Inventor(s) Harlan F. Kellogg

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

☐ Claim 3, column 6, line 18, "ends" should be -- end edges --.☐

SIGNED AND  
SEALED  
NOV 3 1970

(SEAL)

Attest:

Edward M. Fletcher, Jr.  
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Commissioner of Patents