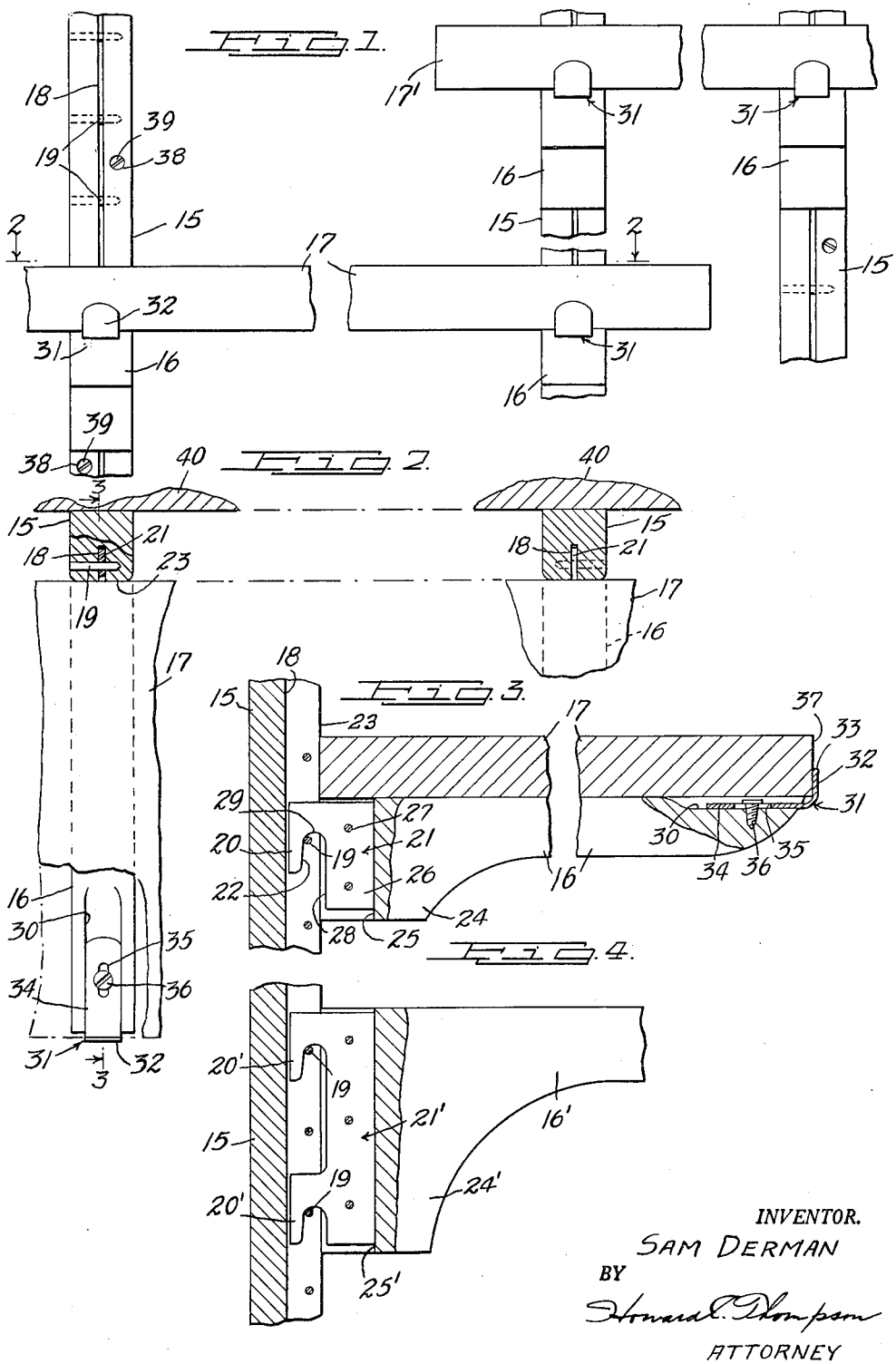
Oct. 9, 1962 S. DERMAN 3,057,483

STRIP AND BRACKET UNITS FOR SUPPORTING SHELVES AND OTHER ARTICLES

Filed Aug. 1, 1960 2 Sheets-Sheet 1



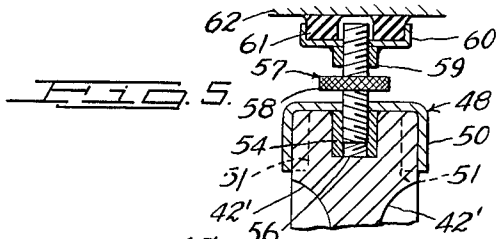
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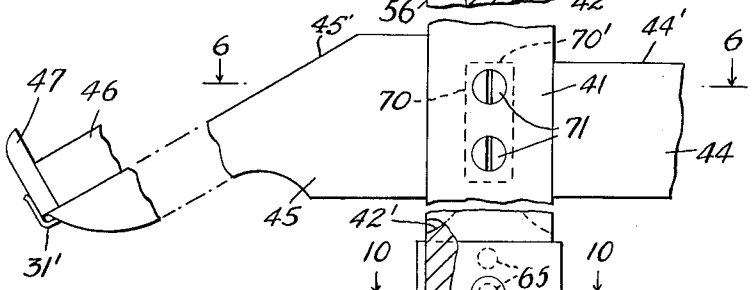
Oct. 9, 1962 S. DERMAN 3,057,483

STRIP AND BRACKET UNITS FOR SUPPORTING SHELVES AND OTHER ARTICLES

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FIG. 5.





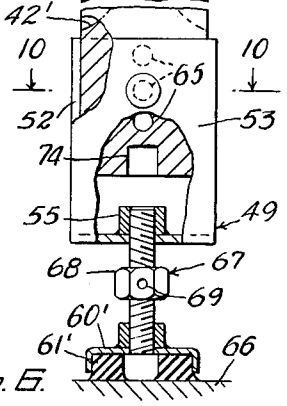


FIG. 10.

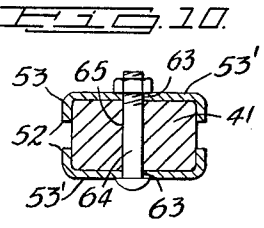


FIG. 6.

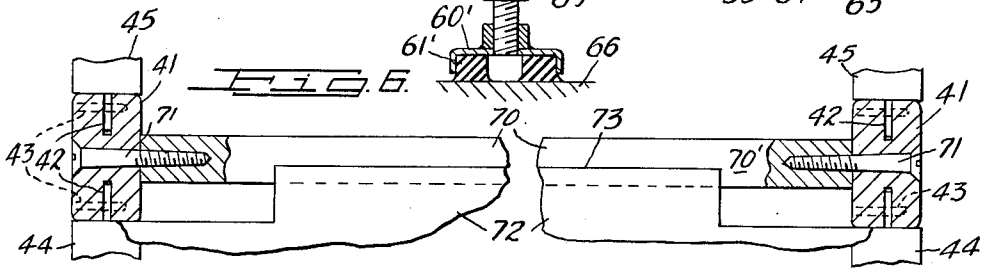


FIG. 7.

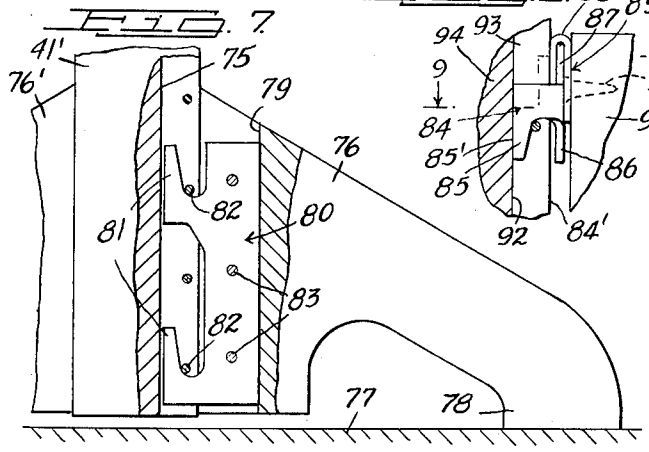
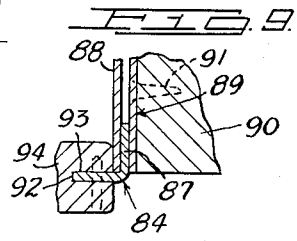


FIG. 8.

FIG. 9.



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STRIP AND BRACKET UNITS FOR SUPPORTING SHELVES AND OTHER ARTICLES

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3 Claims. (Cl. 211—148)

This invention relates to what I term units consisting of channelled or slitted strips, including means exposed to the channels or slits for detachable and adjustable mounting of brackets thereon for positioning shelves or other articles of any type or kind in varied positions longitudinally of the strips in producing unlimited types and kinds of wall or room divider displays for domestic and/or commercial uses.

More particularly, the invention deals with a structure of the character described, wherein the strips and brackets of the units can be sold in collective groups, and/or individually, and, in creating predetermined and laid out displays, the units can be sold in conjunction with shelves and, in such instances, the dimensions of the brackets will be consistent with the width of the shelves.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a front view of broken portions of strips, brackets and shelving, as would be applied to a wall or other vertical support, the background wall being omitted in this figure.

FIG. 2 is a diagrammatic section on the line 2—2 of FIG. 1, indicating in sections portions of a wall or other support and with parts of the construction broken away and parts omitted.

FIG. 3 is a section on the line 3—3 of FIG. 2, part of the construction being shown in elevation.

FIG. 4 is a view similar to FIG. 3 showing only part of the construction and showing a modified form of bracket.

FIG. 5 is an end and broken sectional view of a room divider, illustrating engagement with a floor and ceiling structure and diagrammatically illustrating portions of two brackets, one of the brackets being of a modified construction.

FIG. 6 is a sectional view substantially on the line 6—6 of FIG. 5, illustrating portion of the brackets in elevation and further illustrating part of a shelf or other article and its support upon a spacing member, to the ends of which the rails are fixed, part of the construction being broken away and part shown in elevation.

FIG. 7 is an end view of the lower portion of a room divider, diagrammatically illustrating a modified form of floor support, one bracket of the support being fully illustrated partly in section and part of a similar associated bracket being shown.

FIG. 8 is a sectional detailed view through the channel or slit of a rail, such as shown in FIGS. 1 to 6, inclusive, illustrating a modified form of rail coupling member and method of engagement of an article with said member.

FIG. 9 is a section on the broken line 9—9 of FIG. 8; and

FIG. 10 is a section on the line 10—10 of FIG. 5.

The purpose of my invention is to provide simple and economical means in the form of what I term strip and bracket units for producing a substantially unlimited number of arrangements of shelving or articles on a wall or on a room divider in producing displays suitable for the desired usage of the shelving and for support of articles of various types and kinds in the complete ensemble of the display.

In FIGS. 1 to 4, inclusive, I have illustrated adaptations

of the strip and bracket units in support of shelving in different arrangements. In these figures, 15 represents the strips of the units and 16 represents the brackets of the units. In the diagrammatic showing in FIG. 1 of the drawing, three of the strips 15 are illustrated as being arranged in spaced relationship to each other, with a low shelving 17 supported on the lefthand and central strips 15 and at 17' I have indicated a higher shelving supported on the central strip and the righthand strip 15. From this standpoint, it will be apparent that the staggered arrangement of unlimited numbers of shelves extending longitudinally of a wall, as well as vertically on a wall, can be provided.

Each strip 15 is provided on its outer face with a slit or channel 18 of predetermined depth. Transversing the strip or channel at predetermined spaced intervals are coupling pins 19, the spacing of which is such as to receive cam end portions 20 of strip engaging members 21, one of which is clearly illustrated in FIG. 3 of the drawing. The surface 22 of the end 20 is bevelled and, in operatively engaging one of the pins 19, the bracket 16 will be drawn inwardly to forcibly engage the outer surface 23 of the strip 15.

The inner wide end portion 24 of the bracket 16 has a vertical recess 25 therein, in which the attaching plate portion 26 of the member 21 is arranged and this attaching plate portion is fixed to the bracket by suitable fastening means, as indicated at 27. It will be noted, from a consideration of FIG. 3, that the edge 28 of the member 21 terminates inwardly of the end surface of the bracket 16 to positively insure the firm engagement of the bracket with the surface 23. It will also appear from this figure that the edge 28 joins the bevelled surface 22 in a rounded portion 29. It will be understood that the width of the brackets will carry to accommodate shelves of different widths and, in other uses of the invention where articles are supported on the bracket rather than on the shelving, the same will be true. In this latter instance, where the articles are quite heavy, it is desirable to provide a modified form of bracket, as illustrated at 16' in FIG. 4 of the drawing, where the inner end 24' will have a deeper recess 25' and a modified form of member 21' is employed, in other words, a member having two ends 20', similar to the end portion 20 and operatively engaging spaced pins 19 on the rail 15, as illustrated.

Turning now to the showing in FIGS. 2 and 3 of the drawing, it will appear that the outer end of each bracket has, on its upper surface, a recess 30 opening through the outer end and in which a shelf or article retaining element 31 is adjustably mounted. The element, in the construction shown, is in the form of an L-shaped sheet metal strip having an upturned outer end 32 slightly flared at its terminal end, as indicated at 33. The attaching plate 34 of the element 31 has an elongated aperture 35, in which a screw or other mounting member 36 operates in adjustably fixing the position of the element 31 to positively engage the outer edge 37 of a shelf or article supported upon the bracket. While shelving will be produced in predetermined designated widths, there are always slight variances in these widths and, by adjusting the elements 31, positive engagement with the edges 37 of the shelves can be established.

Considering FIG. 1 of the drawing, it will appear that the strips 15 have spaced longitudinally of opposed sides thereof countersunk apertures 38 for reception of screws or other fastening devices, as seen as 39, for attachment of the strips to a wall or other vertical support such, for example, as the support illustrated in partial sections at 40 in FIG. 2 of the drawing. It will be understood that the spacing of one strip with respect to its adjacent strip, or strips, will be consistent with the length of shelving or the corresponding dimension of an article to be sup-

ported in conjunction with said strips. Here, it will be understood that the spacing between the lefthand and center strips of FIG. 1 and the center strip and the right-hand strip of said figure can be drastically different.

It might also be well to point out at this time that a single shelf or article may have support on three or more of the strips; whereas, other shelves or articles in a display may have support on only part of said three or more strips, thereby producing staggered or stepped arrangement of the shelving or articles in the display. It will also be apparent that, by virtue of the multiplicity of coupling pins **19** provided on each strip and the alinement of the pins of one strip with those of an adjacent strip, or strips, this will enable the user to change vertical spacing between shelves on an ensemble or to adjust the ensemble to adapt the strips and brackets for support of some new article to be included in or substituted in an ensemble.

Turning now to the showing in FIGS. 5 to 7 and 10, I have here illustrated a modified adaptation of the strip and bracket units for constructing what are generally referred to as room dividers, in other words, where shelves or articles can be arranged on opposed sides of the ensemble.

In these figures, I have shown at **41** a modified form of strip, two of which are illustrated in cross-section in FIG. 6. The strips **41** differ from the strips **15** in being of greater width and having channels or slits **42** on opposed sides thereof and pins **43**, similar to the pins **19**, transversing the channels for coupling engagement of the brackets therewith in a manner similar to the showing in FIGS. 1 to 4, inclusive. From this standpoint, no further detail showing of the members **21** is deemed to be necessary. However, considering FIG. 5 of the drawing, I have shown at **44** a bracket, similar to the bracket **16** at the right of said figure, and at the left of the figure is shown a modified form of bracket **45** which will have the same coupling member **20** thereon. However, the bracket **45**, instead of having a flat upper surface as with the bracket shown in FIG. 3, or the surface **44'** of the bracket **44**, has a downwardly inclined surface **45'**, upon which a shelf or plate **46** is arranged, part only of this shelf being shown. The lower edge of the shelf has an upwardly extending flange strip **47** to prevent displacement of articles from the shelf or plate **46**. At **31'** I have shown one of the elements **31** for support of **46**, **47** against displacement from the surface **45'**.

The strips **41** further differ from the strips **15** in that upper and lower ends of the channels **42** terminate short of the ends of the strips in rounded portions, as indicated at **42'** in FIG. 5 of the drawing, thus leaving solid end portions on the strips to adapt the same for ceiling and floor engaging devices, generally identified by the reference characters **48** and **49**, respectively.

The device **48** comprises a channelled member **50** embracing the upper end of the strip **41** and include side flanges **51**, similar to the flanges **52** on a generally similar member **53** embracing the lower end portion of the strip **41**. The crossheads of each of the members **50**, **53** have welded or otherwise fixed to the inner surfaces thereof threaded bearing sleeves, as at **54** on **50** and **55** on **53**.

It will appear from a consideration of FIG. 5 that **54** is disposed in a recess **56** in the top of the strip **41**. Adjustably coupled with the bearing sleeve **54** is a turnbuckle **57** having an enlarged milled disc **58** for manual operation thereof, one end of the turnbuckle operatively engaging the sleeve **54**. The other end engages a threaded sleeve **59** welded or otherwise fixed to a dish-shaped member **60**, in which is supported a suitable ceiling engaging element which, in the construction shown, is illustrated as a rubber ring **61**, the ceiling being indicated, in part, at **62**.

The member **53** differs from the member **50** in being considerably longer and having the side walls **53'** thereof disposed on the wide surfaces of the strip **41** rather than on the narrow surfaces thereof, as with the member **50**. The walls **53** are also of greater length to provide a much deeper member and the walls **53'** have opposed apertures **63** therein for reception of a bolt or other clamping member **64**. This bolt is adapted to engage one of a number of vertically spaced apertures **65** in the strip **41** and three of such apertures are indicated in FIG. 5 of the drawing. At this time, it will be pointed out that the spacing of the apertures will compensate for slight variances in the spacing between the ceiling **62** and the floor, part of which is illustrated at **66** in FIG. 5 of the drawing. This adjustment is also compensated for by the turnbuckle **57** and a turnbuckle **67** operatively engaging the sleeve **55**. The turnbuckle **67** also preferably has centrally thereof a nut **68**, in which is a transverse aperture **69** to provide a more forcible mounting of the room divider by the use of tools, either engaging the nut **68** or the aperture **69**. The turnbuckle **67** also operatively engages a dish-shaped member **60'**, similar in all respects to the member **60**, and supporting a rubber ring **61'**, similar to the ring **61**. At this time, it is pointed out that the ceiling and floor engaging elements can be varied to provide a more positive and fixed mounting, particularly where the positioning of the divider is to be definite. However, by using elements, such as **61**, **61'**, it will be apparent that the positioning of the divider can be changed from time to time.

Considering FIG. 6 of the drawing, here I have indicated at **70** the spacing or bridging member of the divider ensemble which can be of any desired length and two screws or other fastening devices **71** secure **70** to the strips **41**, as will appear from a consideration of FIGS. 5 and 6. It will also be noted, in FIG. 5 of the drawing, that the upper surface **70'** of the strip **70** is in alinement with the surface **44'** of the brackets **44**, so that a shelf or other article, illustrated in part at **72** in FIG. 6 of the drawing, can include a projecting rear portion **73** resting upon the surface **70'** to provide added reinforced support of the shelf or article **72**, particularly when the strips **41** are widely spaced with respect to each other.

Considering FIG. 5 of the drawing, it will be apparent that the lower ends of the strips **41** are preferably provided with a recess **74** for reception of the upper portion of the turnbuckle **67**, particularly when the lower end of the strips are brought into close proximity to the threaded sleeve **55**.

In FIG. 7 of the drawing, I have shown a modified support of a divider, generally similar to the divider shown in FIGS. 5 and 6, and in said figure **41'** shows the modified form of divider, wherein the opposed sides of the strip **41'** have channels **75** which open through the lower ends of the strips **41'** to adapt this type of construction for the mounting of leg brackets **76** in connection with the lower ends of the strips **41'**. In FIG. 7, **77** diagrammatically illustrates a floor or other support and **78** illustrates the leg portion of the bracket **76** engaging the floor. It will be understood that an identical bracket is also arranged on the opposed side of the strip **41'** and part of this bracket is indicated at **76'** in FIG. 7. The inner end of the bracket **76** has a vertical channel **79**, in which is supported a member **80**, generally of the structure of the member **21'**, with the exception that the cam end portions **81** of the member **80** are directed upwardly, rather than downwardly. It will, thus, be apparent that the thrust of the pins **82** on the ends is downward in sustaining the load of the downward thrust of the strips **41'** with the various brackets, shelving and articles coupled therewith. The fastening of the member **80** with the leg bracket **76** is indicated by suitable fastener devices, as at **83**.

In FIGS. 8 and 9 of the drawing, I have shown at **84** a modified form of bracket and strip engaging member. This member has a cam end portion **85**, identical with the cam end portion **20** of FIG. 3. However, the attaching plate **86** of the member **84** includes an upwardly extended portion **87** adapted to be engaged by the upper hook-shaped portion **88** of an article supporting strip **89**. This strip is fixed in any desired manner to an article **90**, indi-

cated, in part, in FIGS. 8 and 9 of the drawing. In the present diagrammatic showing, screws are employed and one of which is indicated at **91** in said figures. However, it will be noted that the attaching plate portion **86**, including its upward extension **87**, is disposed outwardly of the surface **84'** of the strip **84**, so that the hook-shaped end **88** will bear directly upon the surface **84'** in establishing the coupling engagement. With this construction, it is also preferable that the surface **85'** of the end **85** bears upon the wall **92** of the channel **93** in the supporting strip illustrated, in part, at **94**.

This type of construction, while providing a detachable support for a shelf, will also provide a suitable detachable mounting for articles of any type or kind.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In supporting units of the character described, said units comprising channelled strips and brackets detachably and adjustably supported on said strips, the strips having bracket supporting means within and spaced longitudinally of the channels thereof, said brackets having at one end thereof projecting strip engaging members extending into said channels and operatively engaging said means in fixedly supporting the brackets on the strips, said strip engaging members having cam surfaces operatively engaging the means in said strips to draw the brackets into and support the same in forcible engagement with the strips, means for coupling and spacing a pair of said strips, said pairs of strips having means for mounting the same in connection with suitable supports, said last named means comprising legs, and inverted strip engaging members having upwardly extending cam surfaces operatively engaging the means on said strips to draw the legs into forcible engagement with said strips.

2. In supporting units of the character described, said units comprising channelled strips and brackets detachably and adjustably supported on said strips, the strips having bracket supporting means within and spaced longitudinally of the channels thereof, said brackets having at one end thereof projecting strip engaging members extending into said channels and operatively engaging said means in fixedly supporting the bracket on the strips, said strip engaging members having cam surfaces operatively engaging the means in said strips to draw the brackets into and support the same in forcible engagement with the strips, the channels of said strips being arranged on two surfaces of the strips, means for coupling and spacing a pair of strips, said pair of strips having means for mounting the same in connection with suitable supports, said last named means comprising legs, and inverted strip engaging members having upwardly extending cam surfaces operatively engaging the means on said strips to draw the legs into forcible engagement with said strips.

3. In supporting units of the character described, said units comprising channeled strips and brackets detachably and adjustably supported on said strips, the strips having brackets supporting means within and spaced longitudinally of the channels thereof, said brackets having at one end thereof projecting strip engaging members extending into said channels and operatively engaging said means in fixedly supporting the brackets on the strips, said strip engaging members having cam surfaces operatively engaging the means in said strips to draw the brackets into and support the same in forcible engagement with the strips, the other outer end portion of said brackets having projecting article engaging elements, each of said elements comprising an L-shaped sheet metal strip having an upstanding outer end and an attaching plate materially shorter than the length of the bracket, said attaching plate having an elongated aperture, and a screw mounted in said outer end of the bracket and in said elongated aperture in adjustably supporting the element in a recessed, upper surface of said outer end of each bracket.

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