Oct. 6, 1964 L. W. PATTERSON 3,151,744

DISPLAY STAND

Original Filed June 19, 1959 2 Sheets-Sheet 1

Fig. 1.

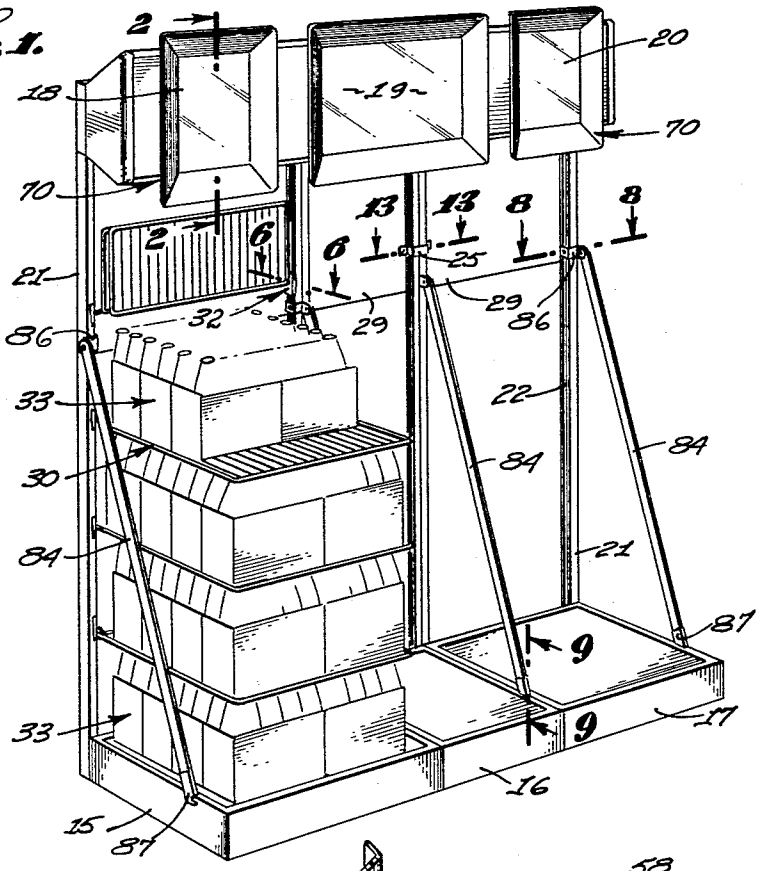


Fig. 2.

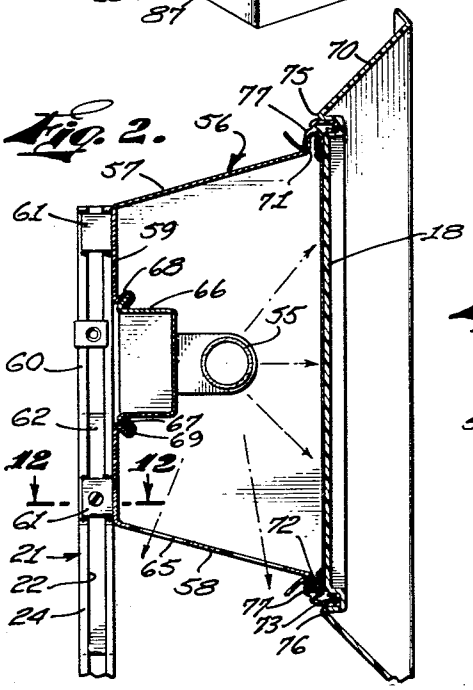


Fig. 3.

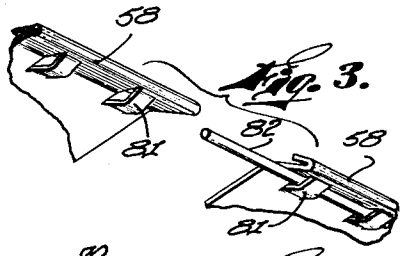


Fig. 4.

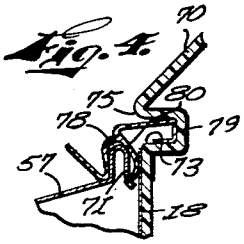
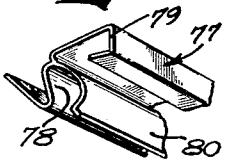


Fig. 5.



INVENTOR.
LAWRENCE W. PATTERSON
BY Stedman B. Horan
AGENT

Oct. 6, 1964 L. W. PATTERSON 3,151,744

DISPLAY STAND

Original Filed June 19, 1959 2 Sheets-Sheet 2

Fig. 6.

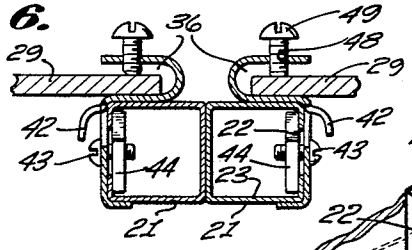


Fig. 8.

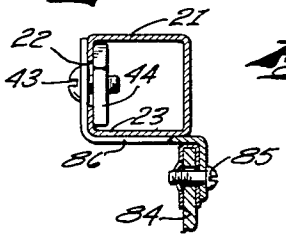


Fig. 7.

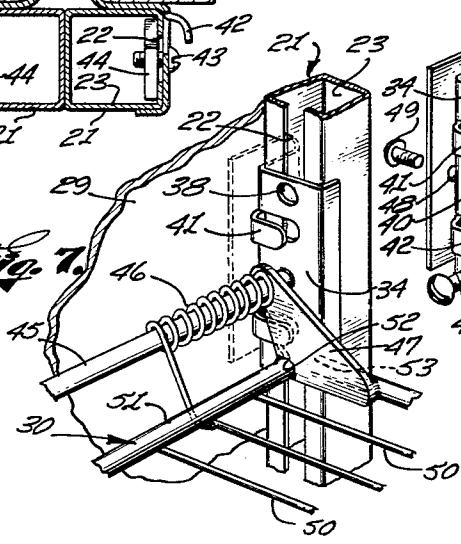


Fig. 7a.

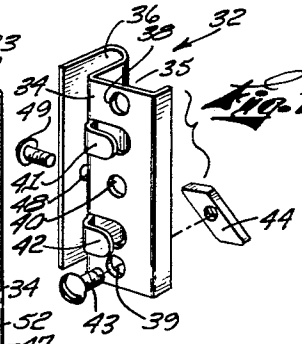


Fig. 9.

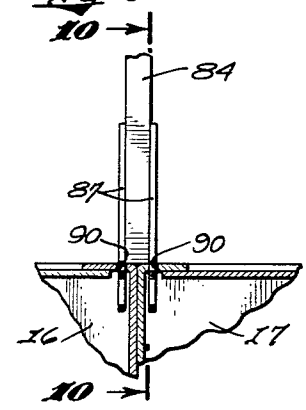


Fig. 10.

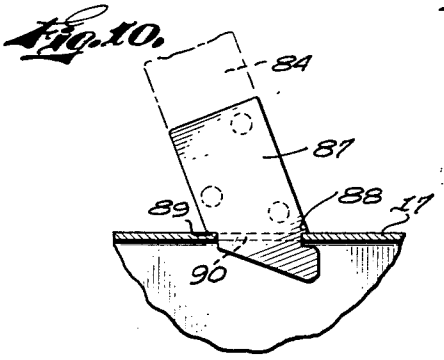


Fig. 11.

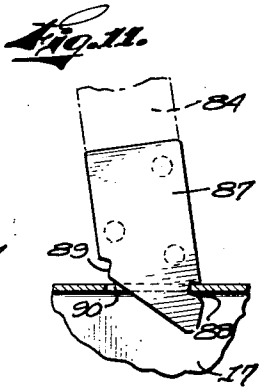


Fig. 13.

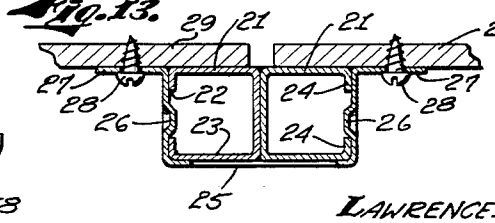
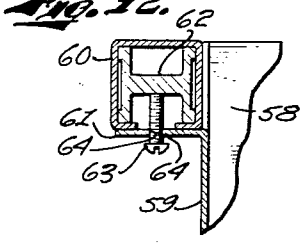


Fig. 12.



INVENTOR.
LAWRENCE W. PATTERSON
BY Stedman B Hoar
AGENT

United States Patent Office 3,151,744 Patented Oct. 6, 1964

3,151,744

DISPLAY STAND

Lawrence W. Patterson, Santa Ana, Calif., assignor to Vita-Pakt Citrus Products Co., Covina, Calif., a corporation of California

Continuation of application Ser. No. 821,464, June 19, 1959. This application Jan. 30, 1961, Ser. No. 85,918
8 Claims. (Cl. 211—49)

My invention relates to display stands and more particularly relates to display stands provided with illumination for directing light upon advertising matter and/or upon merchandise displayed upon the stand.

It is an axiom of modern merchandising that the most effective mechanical salesmanship is that which places the goods at the finger-tips of the customer, ready to be picked up and carried away, and which tells the story of the goods by printed word or picture at eye-level, where the customer can hardly fail to see it. As a part of making goods accessible to the customer, it is important that the goods shall not be screened, that the buyer shall not be required to move any object in order to gain access to the goods. A display stand providing ready access to merchandise is shown in my Patent 2,637,445, which discloses separator trays which spring up when divested of merchandise and uncover the merchandise on the next lower tray.

It will be appreciated that a prime use of such display stands occurs in grocery stores, particularly in the modern development of grocery merchandising known as supermarkets. However, the goods on sale in a supermarket are often changed in location, from one section or one aisle to another aisle or section, according to the availability of space, the volume of expected sales, and the nature of the advertising. A market may possess quite a number of special display stands, some of them in reserve, some of them filled with merchandise, and some of them being moved to points in the market where special sales are about to be put on. It is accordingly highly desirable that display stands be made in units which may be combined, divided, added to, or subtracted from, and taken apart for compact storage when not in use.

In the display stand constituting the preferred embodiment of my present invention I have provided a stand made in separable sections, giving a wide choice in the amount of horizontal space devoted to any particular display. The shelves or trays are adjustable in height, so that a choice in vertical spacing is also available. Lighting fixtures are incorporated which also present a choice, which may be correlated with the horizontal spacing. The means for connecting and bracing these separable units in a stand of a selected size are believed novel in themselves and they also provide a novel and desirable selectivity without encroaching upon the principles set down hereinbefore for good merchandising.

It is an object of my invention to provide a display stand having trays capable of swinging up when devoid of merchandise which is so constructed as to be diminishable in size or to be enlarged to the limits of available space.

Another object is to provide a display stand unit with adjustable trays and with integral unit lights and advertising space, for displaying a single product on each unit, said units being easily combined to make either a larger display of the single product or a display of many products.

A further object of my invention is to provide a display stand separable into lesser units but so strongly put together that it may easily be transported as a large unit.

Still another object of my invention is to provide an illuminable display stand separable into small units each of which continues to have full facilities for illumination and for advertising.

Another object of my invention is to provide a display stand of separable units which when joined in one large stand render mutual support to one another.

In the accompanying drawing illustrative of one embodiment of my invention, but not intended as a limitation thereof, FIG. 1 is a perspective view showing my improved display stand as it might appear in process of being put together or taken apart, with some sections provided with folding shelves and others not so provided, and with various sizes of illuminable displays;

FIG. 2 is an enlarged vertical section on the line 2—2 of FIG. 1, showing details of one of the illuminable advertising displays;

FIG. 3 is a further enlarged fragmentary perspective view, showing how adjacent illuminable displays are aligned and connected;

FIG. 4 is an enlargement of details shown at the top of FIG. 2, illustrating the manner of connecting a frame to an illuminable transparency;

FIG. 5 is a perspective view of a part shown in FIG. 4;

FIG. 6 is an enlarged sectional view on the line 6—6 of FIG. 1, showing the adjustable mounting of a hinge bracket for a swinging tray;

FIG. 7 is a fragmentary perspective view of a corner of one of the swinging trays, showing its suspension on a hinge bracket;

FIG. 7A is a perspective view of the hinge bracket;

FIG. 8 is a horizontal sectional view on the line 8—8 of FIG. 1, illustrating the adjustable attachment of a diagonal brace to an upright member;

FIGS. 9, 10 and 11 are views partly in section illustrating the attachment of a diagonal brace to the gondola;

FIG. 12 is a sectional view on the line 12—12 of FIG. 2, showing a clamp for adjusting the height of an illuminating casement upon one of the upright members; and

FIG. 13 shows means for clamping two upright members to each other.

Having reference now to the details of the drawing, I have shown in FIG. 1 a display stand comprising a plurality of units contiguously united in one larger unit, three bases 15, 16 and 17 being shown, and three overhead advertising transparencies 18, 19 and 20. It will be observed at once that the bases 15, 16 and 17 are of different sizes, the central base 16 being the smallest, while the transparencies 18, 19 and 20 are also of different sizes, the central transparency 19 being the largest. It is to be understood that the varying sizes depicted in FIG. 1 are for illustrative purposes only; the bases may all be the same size or of different sizes in a different order; and likewise the transparencies. The object is to effect combinations most suitable to the merchandise; and merchandise, of course, has infinite variations.

From the back of the bases 15, 16 and 17 there arise upright support members 21, 21, 21, preferably of channel form as shown, for example, in FIGS. 6, 7 and 13, and having the openings 22 of their channels 23 partly restricted by opposed flanges 24. The support members 21 are placed at the rearward corners of the bases 15, 16, 17 with the channel openings 22 of the support members of a given base opening toward one another. Thus the support members 21 at contiguous rearward corners of the bases 15 and 16 are shown in FIG. 6 as having their openings 22 turned away from one another, they being on different bases, and the same is true of the channels 21 shown in FIG. 13. When two or more units are to be combined the adjacent corner support members 21 are held together by a clip 25 (FIG. 13). The clip 25 has indentations 26 which fit into the channel openings 22 and has end tabs 27 which may be attached by screws 28 to back-boards 29.

Swinging trays 30 are suspended from the upright supports 21 by hinge brackets 32. In FIG. 1 only the left-

hand unit is shown provided with trays **30**, and those are shown filled with merchandise, such as packaged bottles **33**. The uppermost tray **302** may be hinged across its center so that when swung upward it will fold so as not to interfere with lights and advertising matter at the top of the unit. The hinge brackets **32** are more particularly shown in FIGS. 6 and 7, and are of a reversible form so that they may serve equally well at either the right or the left of a tray **30**. They are also adjustable in height, and are easily removable, so that if it is desired to display bulk goods not suited for display on trays, the trays may be omitted as shown by way of example in the center and right units of FIG. 1.

Each of the hinge brackets **32** comprises a plate **34** bent to form a wide shallow channel **35** and a narrow deeper channel **36**, the two channels being faced oppositely and having one wall in common. The portion of the plate **34** forming the channel **35** is adapted to bridge across an upright support **21**. The plate **34** contains three holes **38**, **39** and **40**, and also has two ears **41** and **42** punched in it. The holes **38** and **39** may selectively be used to receive a single bolt **43** which engages an elongated nut **44** within the channel **23**. The nut **44** is longer than the width of the channel **23** and so can not turn in the channel, but clamps against the flanges **24** and holds the bracket **32** adjustably on the support **21**. The hole **40** receives the hinge rod **45** of the tray **30**, the rod **45** extending through the hole and into the channel **23**. The channel opening **22** permits either end of the rod to be lifted and removed, if it be desired to remove a tray.

The ears **41** and **42** of each bracket **32** are dual so that in either left or right hand position of a hinge bracket **32**, one of the ears will be below the respective hinge rod **45** and thus be in position to retain one end of a spring **46** respective to each tray **30**. The spring **46** is coiled upon the hinge rod **45** and its other end is extended under a margin of the tray **30**, for causing the tray to swing upwardly when imposed weight has been removed. The other of the ears **41** and **42** will be above the hinge rod **45** and will form a pocket into which an arm **47**, connecting the hinge rod **45** and the tray **30**, may be swung upwardly. Thus the dual ears **41** and **42** reverse their functions of spring purchase point and arm stop when a bracket **32** is shifted from left to right.

The outer walls of the narrow channels **36** have holes **48** threaded to receive bolts **49** by which back board panels **29** may be clamped. This arrangement permits simultaneous adjustment in height of a tray **30** and an associated back board panel **29** which may carry advertising matter concerning the merchandise on the tray, or if two panels **29** are secured by screws **28** to a clip **25**, both may be moved at the same time as a tray.

The trays **30** are preferably of spaced wires **50** welded to heavy rim wire **51**. The rim wires pass through notches **52** in the arms **47** to the outside of the arms **47**, to which they are welded. The arms **47** are at angles to the rim wires **51**, inclining downward from the hinge rods **45** when the trays **30** are horizontal. The rear corners **53** of the rim wires **51** outside the arms **47** are swung arcuately, when the trays **30** swing downwardly, so that they come in contact with the upper and lower ends of the hinge brackets **32** and thus become shoulders limiting the downward swing of the trays. Bearing against the notches **52**, the rim wires **51** transmit the shock of stopping directly to the arms **47**.

As the weight on the trays may be considerable and as the trays may swing up with some force, it is preferable to have the corners swing against the reinforcement afforded by the brackets **32**, rather than against the bare upright supports **21**. Due to their position below the hinge rods **45**, the corners **53** may swing about 45 degrees below and 45 degrees above the horizontal, causing the trays to swing between limits at the horizontal and the vertical. The elevated hinge rods **45** (with reference to the horizontal trays) also provide back-bars to prevent articles of merchandise from being pushed back against the back-boards **29**. It will be realized that an article pushed against a back-board **29** would exert practically no leverage to hold the tray horizontal, and the tray might easily swing up while still occupied by merchandise, thereby damaging either the merchandise or the display stand.

As noted hereinabove the weight on the trays **30** may be considerable and hence there will be appreciable downward force applied by the trays to the brackets **32**. It is desirable to have the weight of each tray and the articles thereon effect canting of the brackets **32** relative to their respective support members **21** to thereby assist the bolts **43** and nuts **44** in restraining downward movement of the brackets with respect to their support members. This is accomplished by the attachment of the hinge rods at the intermediate portion of the brackets **32** and the positioning of the trays **30** below the hinge rods, with the tray rear corners **53** abutting the lower portion of the brackets, as indicated in FIG. 7. Referring to this figure, it will be apparent that the aforedescribed arrangement cants the lower portion of the brackets **32** rearwardly relative to the support members **21**.

At the top of the upright supports **21** are lights **55** which provide illumination for the transparencies **18**, **19**, **20** and also shine a portion of their light downward upon the merchandise below and upon advertising matter placed upon the backboards **29**. The lights **55** are preferably tubular fluorescent lamps and are carried in encasements **56**. The encasements **56** are three-sided members, with upwardly and downwardly diverging top walls **57** and bottom walls **58** and with back walls **59** to which are welded channel members **60** shaped like the upright support members **21**, of which the members **60** are, in fact, continuations. Angle braces **61**, punched from the back wall **59**, are welded to the channel members **60**, covering the opening of the channels in the members **60**. I-bars **62** inserted in the channel members **60** are clamped therein by bolts **63** threaded in holes **64** in the angle braces **61**. Thus the encasements **56** can be adjusted upon the I-bars, with the I-bars extending below the channel members **60** into the upright support members **21**. Any set screw or other like obstruction (not shown) in the support members **21** can limit the penetration of the channel members **60** into the support members. The bottom walls **58** have a plurality of holes **65** through which illumination from the lights **55** shines downward upon the trays **30** and rearwardly upon the backboard **29**.

The lights **55** are mounted on supports **66** which have flanges **67**. The back walls **59** are divided into top and bottom sections, each section having a marginal channel **68** or **69** which slidably engages the flanges **67**. Thus the lights **55** may be quickly removed and replaced in the encasements **56**, for instance if it be desired to use a light of a particular color.

On the front of the encasements **56** are picture frames **70**, for holding the transparencies **18**, **19** and **20**. The top wall **57** and bottom wall **58** of each encasement **56** have outwardly flaring flanges **71** and **72**, recurvate to provide a certain amount of springiness in their walls. The frames **70** also have rearwardly opening channels **73** and **74** on their upper and lower inner margins **75** and **76**. The wall flanges **71** and **72** are interlocked with the frame channels **73** and **74** by means of fittings **77** shown in FIGS. 4 and 5. The fittings **77** have channels **78** into which the flanges **71** and **72** fit, and have recurvate flanges **79** which fit into the channels **73** and **74**. The walls **80** of the channels **78**, which are pressed outwardly by the wall flanges **71** and **72**, press the transparencies **18**, **19** and **20** against the inner margins of the frames **70**. Because of the springiness of the encasements **56**, the frames **70**, and especially of the fittings **77**, the frames **70** may be snapped on and off the interlocking fittings **77**, and the

pressure-held transparencies may be changed in an instant.

The forwardly overhanging encasements **56** and frames **70** provide a burden on the upright support members **21** which could easily force the transparencies **18**, **19** and **20** out of alignment, and because of the illumination provided by the lamps **55**, such misalignment might be very noticeable. The walls **57** and **58** are therefore provided with punched-out guides **81**. Rods **82**, sliding in the guides **81** of adjacent stand units or sections, connect the units or sections which thus render mutual support to one another and maintain the optical illusion of one large unit.

However, because of the weight of loaded trays **30**, and to connect together the lower parts of adjacent units or sections of the display stand, it is also desirable to provide diagonal braces **84** connecting the bases or gondolas **15**, **16**, **17** to the upright support members **21**. The connection to the members **21** is preferably made just below the back-boards **29**, so that the back-boards remain fully visible. As the back-boards **29** are secured to the hinge brackets **32** and are adjustable with the trays **30**, it becomes desirable to have the braces **84** adjustably secured to the upright members **21**, or at least quickly detachable therefrom. Accordingly, the braces **84** are pivotally secured at their upper end by bolts **85** to Z-fittings **86** which in turn are secured to the upright members **21** by the same type of elongated nut **44** and bolt **43** described herein in connection with the adjustment of the hinge-brackets **32**, the nuts **44** being slidable within the channels **23**. At the bottom of the braces **84** are double tongues **87**, having notches **88** and **89** on their forward and rearward edges. The double tongues **87** may be inserted in adjacent slots **90** in the bases **15**, **16**, **17**, as shown in FIG. 9, to hold the bases together, or one tongue may be inserted in such a slot in an end base, and the other tongue may overhang the side of the base. Inserting the tongue **87** nearly upright as shown in FIG. 11, and then tilting the brace **84** as shown in FIG. 10 locks the brace **84** in the base. The upper end of the brace **84** may then be secured to the upright **21** as shown in FIG. 8.

It will be seen from the foregoing that my improved stand is capable of being made larger or smaller and also of being constructed of mixed sections of different sizes. Furthermore, the individual trays and the back-boards for advertising are adjustable in height to accommodate many varieties of merchandise and to keep the advertising matter where it will be most effective. The lighting system is likewise adjustable, to shine on advertising and merchandise. And the whole structure, of a plurality of units, is so braced and steadied that it gives the appearance of a single sturdy unit.

This is a continuation of my patent application Serial No. 821,464, filed June 19, 1959 for Illuminated Display Stand, now abandoned.

The disclosed embodiment is not to be construed as a limitation upon my invention, the scope of which is deemed to include any desirable constructive modification within the spirit and breadth of the appended claims.

I claim:

1. In a display stand having a tray maintainable generally horizontally by the weight of articles upon said tray and biased to swing upwardly when the weight of said articles has been removed, the combination of: a pair of generally upright support members; a horizontal hinge rod upon which said tray is pivoted, said rod being above said tray when the latter is in a generally horizontal position; bracket means vertically slidably carried by said support members, the intermediate portion of said bracket means receiving the ends of said hinge rod; clamp means carried by each said bracket means and engageable with said support members to adjust the vertical position of said bracket means relative to said support members; and abutment means on said tray below said hinge rod to transfer the weight of said tray and articles thereon to said support members and maintain said tray in its generally horizontal position, with the weight of said tray and articles thereon effecting canting of said brackets upon said support members to assist said clamp means in restraining downward movement of said brackets relative to said support members.

2. The combination of claim 1 wherein said clamp means includes a bolt threadedly carried by said bracket means and a nut engaged by said bolt to move said nut into frictional abutment with said support member.

3. A display stand for supporting articles adapted to be removed therefrom, comprising: a support including a pair of generally upright support members; a tray disposable in a generally horizontal position for holding said articles; a horizontal hinge rod upon which said tray is pivoted, said rod being above said tray when the latter is in a generally horizontal position; spring means on said hinge rod and connected to said tray to urge the free end of said tray upwardly when the weight of said articles has been removed therefrom; bracket means vertically slidably carried by said support members, the intermediate portion of said bracket means receiving the ends of said hinge rod; clamp means carried by said bracket means and engageable with said support members to adjust the vertical position of said bracket means relative to said support members; and abutment means on said tray below said hinge rod to transfer the weight of said tray and articles thereon to said support members and maintain said tray in its generally horizontal position, with the weight of said tray and articles thereon effecting canting of said brackets upon said support members to assist said clamp means in restraining downward movement of said brackets relative to said support members.

4. The combination of claim 3 wherein said clamp means includes a bolt threadedly carried by said bracket means and a nut engaged by said bolt to move said nut into frictional abutment with said support member.

5. In a display stand having a tray maintainable generally horizontally by the weight of articles upon said tray and biased to swing upwardly when the weight of said articles has been removed, the combination of: a pair of generally upright support members each having a vertical channel opening and opposed flanges restrictive of the opening of said channel; a horizontal hinge rod upon which said tray is pivoted, said rod being above said tray when the latter is in a generally horizontal position; a pair of brackets each vertically slidably carried by one of said support members, the intermediate portion of said brackets supporting the ends of said hinge rod; clamp means carried by said brackets and extending through said flange into said channels for adjusting the vertical position of said brackets relative to said support members; and abutment means on said tray below said hinge rod to transfer the weight of said tray and articles thereon to said support members and maintain said tray in its generally horizontal position, with the weight of said tray and articles thereon effecting canting of said brackets upon said support members to assist said clamp means in restraining downward movement of said brackets relative to said support members.

6. The combination of claim 5 wherein each said clamp includes a bolt threadedly secured to its bracket and extending through the opening in its respective support member, said bolt engaging a nut member disposed within said support member to urge said nut member into frictional abutment with said support member.

7. A display stand for supporting articles adapted to be removed therefrom, comprising: a pair of generally upright support members each having a vertical channel opening and opposed flanges restrictive of the opening of said channel; a tray disposable in a generally horizontal position for holding said articles; a horizontal hinge rod upon which said tray is pivoted, said rod being above said tray when the latter is in a generally

horizontal position; spring means on said hinge rod and connected to said tray to urge the free end of said tray upwardly when the weight of said articles has been removed therefrom; a pair of brackets each vertically slidably carried by one of said support members, the intermediate portion of said brackets supporting the ends of said hinge rod; clamp means carried by said brackets and extending through said flange into said channels for adjusting the vertical position of said brackets relative to said support members; and abutment means on said tray below said hinge rod to transfer the weight of said tray and articles thereon to said support members and maintain said tray in its generally horizontal position, with the weight of said tray and articles thereon effecting canting of said brackets upon said support members to assist said clamp means in restraining downward movement of said brackets relative to said support members.

8. The combination of claim 7 wherein each said clamp includes a bolt threadedly secured to its bracket and extending through the opening in its respective support member, said bolt engaging a nut member disposed within said support member to urge said nut member into frictional abutment with said support member.

References Cited in the file of this patent

UNITED STATES PATENTS

1,795,060	Vance	Mar. 3, 1931
2,232,237	Hopkins	Feb. 18, 1941
2,314,490	Goldman	Mar. 23, 1943
2,569,934	Kurtzon	Oct. 2, 1951
2,637,445	Patterson	May 5, 1953
2,674,431	Attwood	Apr. 6, 1954
2,716,495	Prevette	Aug. 30, 1955
2,735,552	Shnitzler	Feb. 21, 1956
2,744,714	Parke	May 8, 1956
2,838,355	Crowther	June 10, 1958
2,907,537	Mapson	Oct. 6, 1959
2,908,395	Patterson	Oct. 13, 1959
2,908,397	Patterson	Oct. 13, 1959
2,928,551	Abrams	Mar. 15, 1960
2,971,805	Weiss	Feb. 14, 1961
2,982,419	Shiels	May 2, 1961
2,992,742	Pendergrast	July 18, 1961

FOREIGN PATENTS

135,368	Australia	of 1949
151,870	Australia	of 1953