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Bloch

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[54] **SUNGLASS DISPLAY STAND**

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[73] Assignee: **Foster Grant Co., Inc.**, Leominster, Mass.

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[52] **U.S. Cl.** **211/13**; 211/163

[51] **Int. Cl.** **A47f 5/02**; A47f 7/02

[58] **Field of Search** ..... 211/13, 163, 59, 58, 78, 211/70, 71, 49, 177, 131; 248/DIG. 2; 206/45.14, 78, 80; 24/217, 214; 85/5 R, DIG. 2

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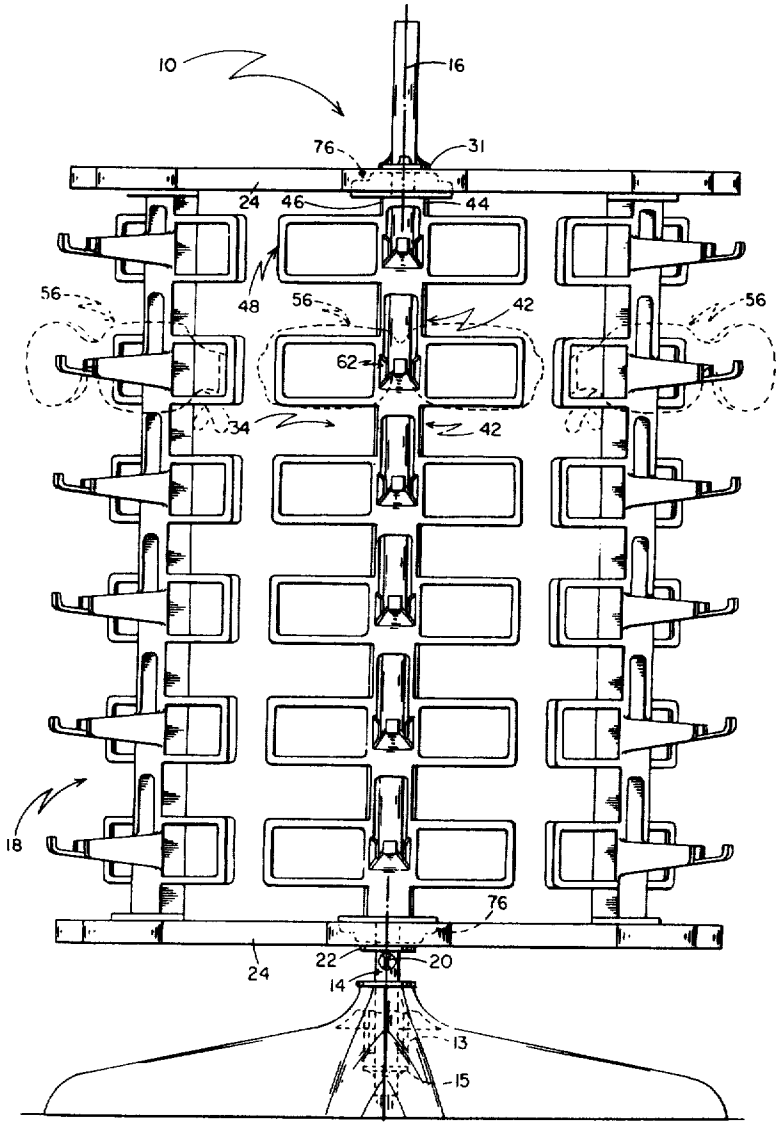
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[57] **ABSTRACT**

A sunglass display stand which may be assembled quickly and easily by utilizing display rack segments having attachment portion at each end thereof for manual insertion in a pair of aligned slots in a pair of opposing end members. The attachment portion include locking ledges which are locked in the slots by lip means formed in the slot walls. The display rack segments include temple engaging support members including cam means to cam the sunglass temples closed and front frame support members having abutment means and a flange to limit inward and outward movement, respectively, of the sunglasses when supported for display on the stand.

4 Claims, 9 Drawing Figures



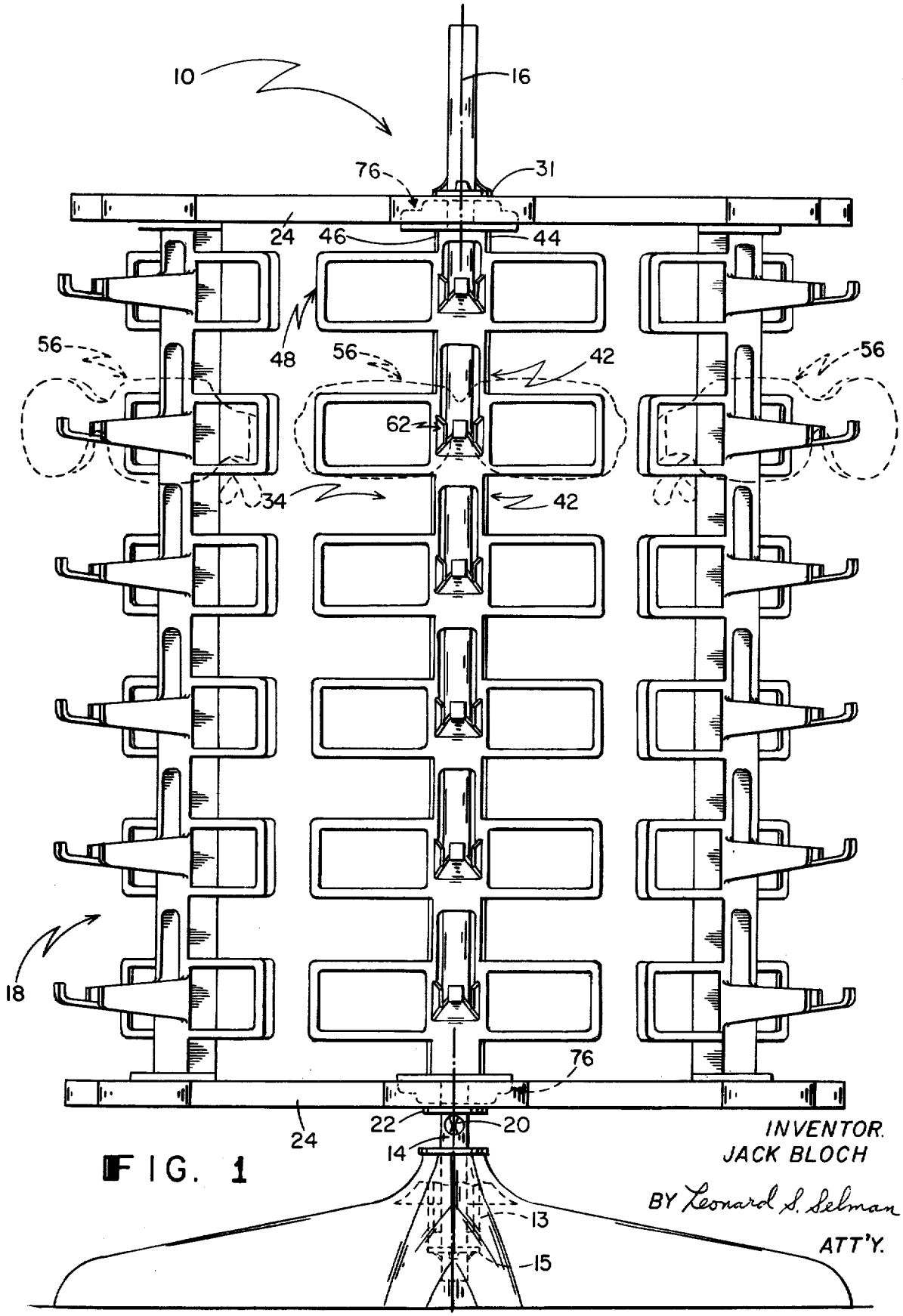


FIG. 1

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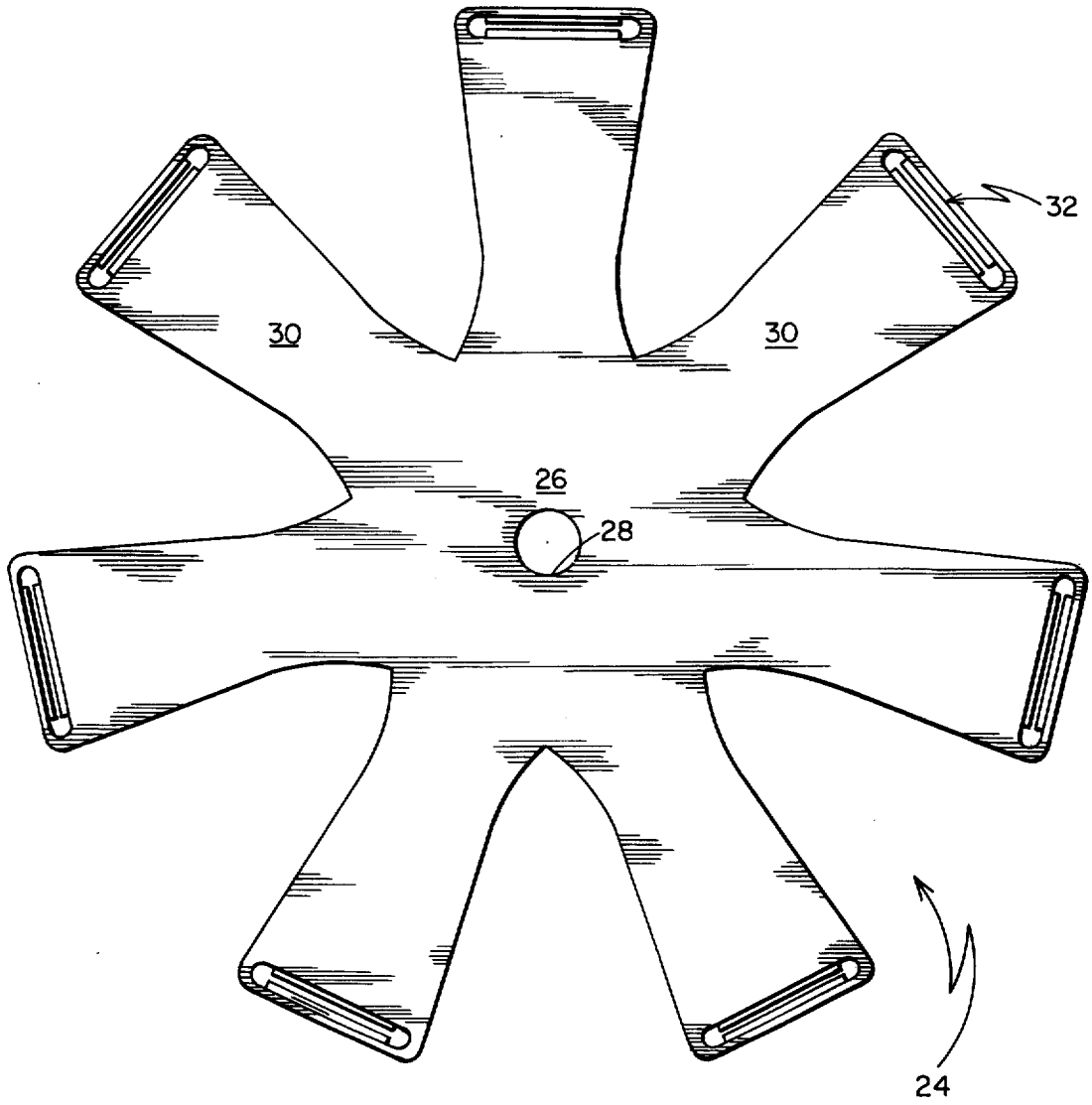


FIG. 2

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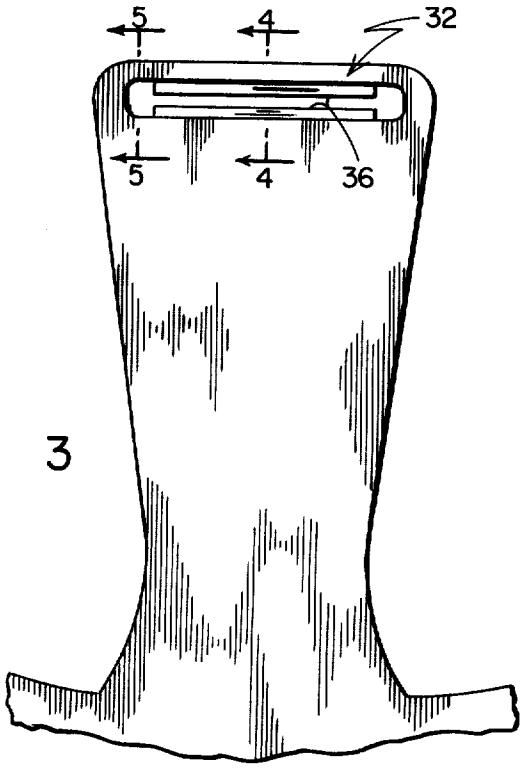


FIG. 3

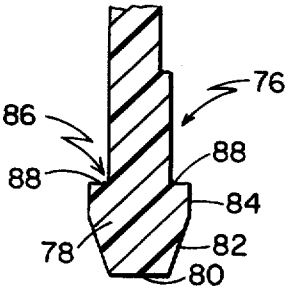


FIG. 8

FIG. 5

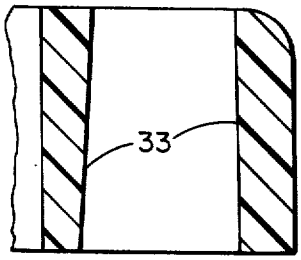
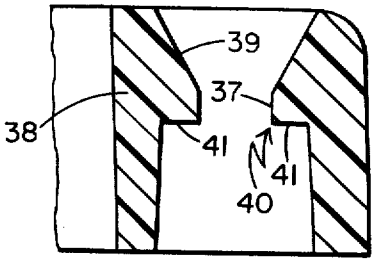


FIG. 4



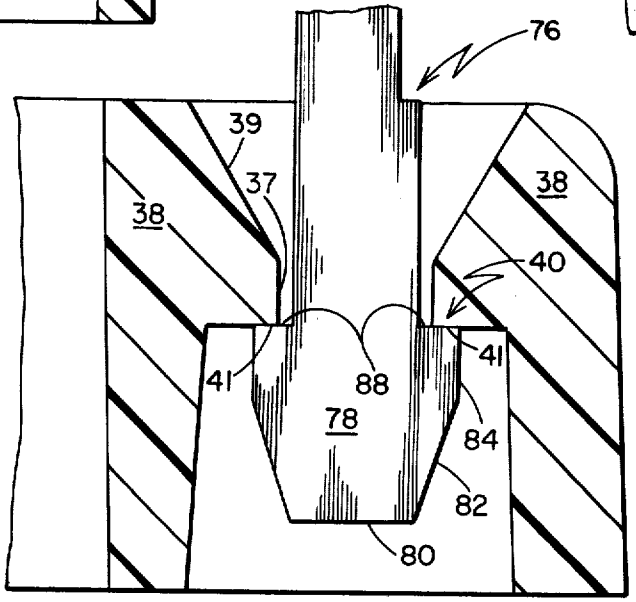


FIG. 9

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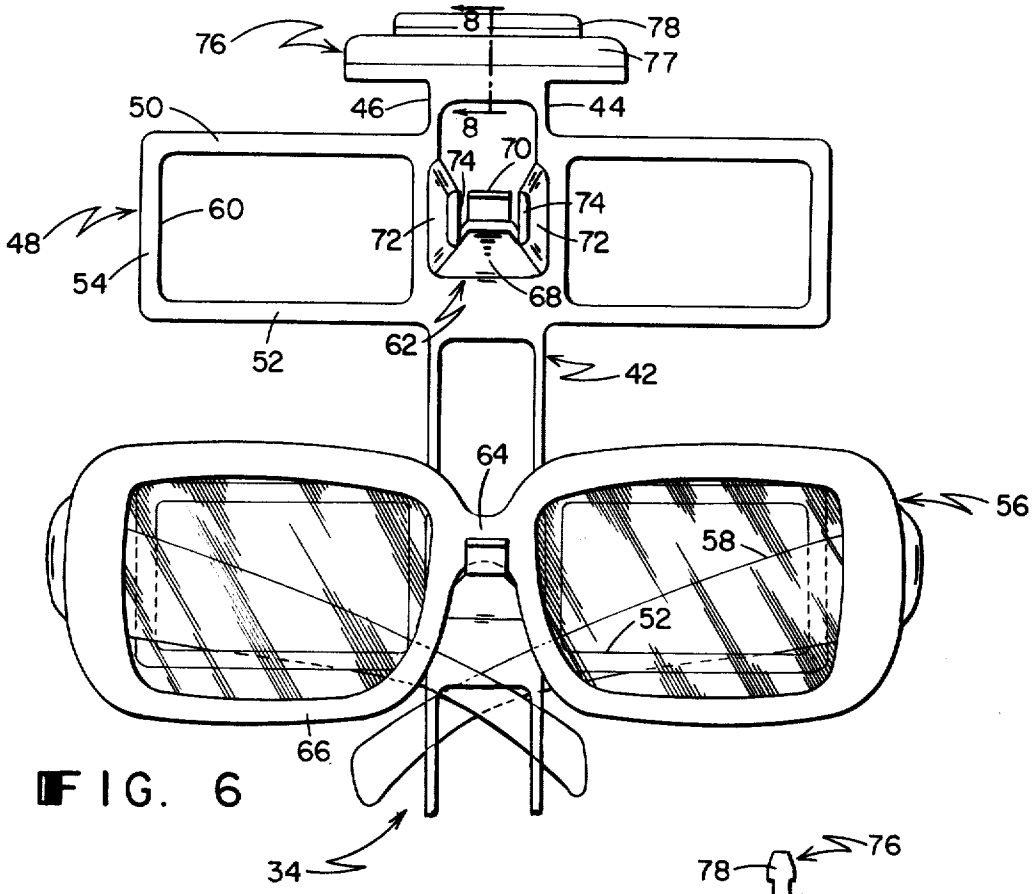


FIG. 6

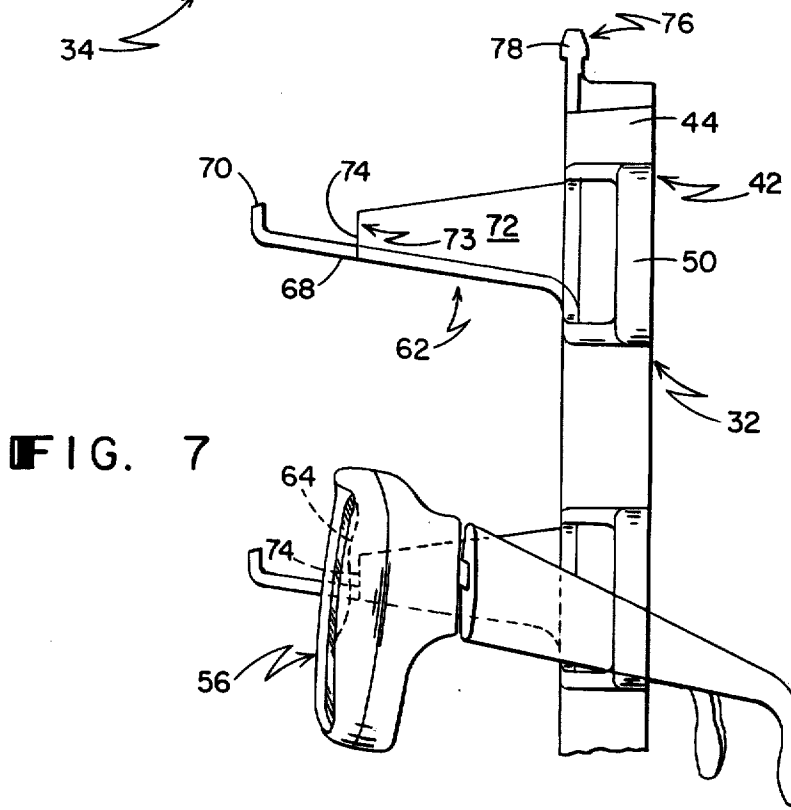


FIG. 7

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SUNGLASS DISPLAY STAND

BACKGROUND AND OBJECTS OF THE INVENTION

One of the prime requisites for the successful merchandising of sunglasses on the retail level is an attractive display of the glasses allowing the purchaser to easily see and select the frame design of his choosing. For this purpose display stands have been utilized over the years of many different designs and materials. The most common type of these stands in use today are those of the vertical rotary type which stand on the floor or on counters. A substantial portion of these stands have been made of metal and the assembly of the stands, usually done by the sunglass manufacturer before shipment, have required time consuming use of tools for assembling the various parts. The cost of materials for the metal parts as well as the cost of labor for assembling them have provided an incentive for the present invention which reduces both of these expenses.

Another problem encountered by the older types of sunglass display stands is the limited number of sunglasses that can be displayed on the stands. The stands of course can only take a minimum of floor or counter space in a store where the overall display space must be carefully apportioned between the various items the store is merchandising. Thus many of the older stands display sunglasses with their temples open, and the like, failing to use the limited space available most efficiently. Since these stands can only hold a limited number of sunglasses, it is necessary to store extra glasses for back-up when the glasses on the stands are sold. The present invention provides, among other things, for the sunglasses displayed to have their temples automatically partly closed upon insertion of the sunglasses into the stand supported racks by either the loader in the factory or the customer after he has tried on the glasses and wishes to return them to the rack. This feature allows more sunglasses to be displayed in a given space and alleviates greatly the need for storage of back-up stock.

It is therefore an object of this invention to provide a sunglass display stand utilizing more recently developed materials such as plastics of high strength and excellent appearance for substantially all the components thereof. The components may then be molded reducing manufacturing costs. The high flexural strength of the plastic material is also utilized in certain unique manners for interlocking the components of the stand during assembly.

Another object of the invention is to provide a sunglass display stand which may be assembled quickly and almost entirely by hand without the use of tools.

A further object of this invention is to provide a display stand having structure to display a large number of sunglasses in a minimum of space.

SUMMARY OF THE INVENTION

The foregoing and other objects are achieved in a sunglass display stand of the vertical rotary type. The stand has a standard pedestal base which may stand on the floor or on a counter depending upon the size of the display. A shaft extends upwardly from the pedestal providing an axis for rotation for the actual sunglass holding portions. These rotatable portions each consist of a display rack including a pair of end members called spiders because they preferably consist of a central hub portion having an opening for the shaft to pass through the center thereof and a plurality of legs extend outwardly from the hub. At the end of each leg is a specially designed slot for receiving the end portion of a one piece molded vertical rack column. The rack columns have attachment portions which snap into the slots in two aligned legs of the opposing spiders at each end of the rotatable display frames portions. These rack columns can be snapped into their receiving slots in the spider legs by manual pressure without tools and once snapped in place cannot be removed for all intent and purposes. Both the aforementioned spiders and vertical rack columns are preferably integrally molded elements of plastic materials chosen for appearance relatively low cost and high flexural strength required in such areas as the receiving slots on the spiders.

Each rack column is specially designed to receive a plurality of sunglasses one above the other and members are provided to receive the temple portions and support them and to support the glasses also at the bridge portion. These are cam members on the temple receiving portions to engage the temples and cam them closed as the sunglasses are inserted into the rack columns. By insuring that the temples are cammed closed more pairs of sunglasses can be displayed for a given diameter of the circular rack which is an advantage since back-up stock does not have to be stored separately. The bridge supporting members are also provided with structure including abutment means to limit the inward movement of the sunglasses and a flange to prevent them from slipping too far outwardly so the glasses are always supported properly and fixed in the position most advantageous for display.

Other objects and features of the invention will become apparent by reference to the following specification and drawings of the presently preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a view in elevation of a rotary display stand embodying the invention.

FIG. **2** is a top plan view of one of the end members or spiders.

FIG. **3** is an enlarged fragmentary view of one of the spider legs showing the rack column attachment slot.

FIG. **4** is an enlarged sectional view taken on line **4—4** of FIG. **3.**

FIG. **5** is an enlarged sectional view taken on line **5—5** of FIG. **3.**

FIG. **6** is a fragmentary front view in elevation of one of the display rack columns of the stand.

FIG. **7** is a fragmentary side view in elevation of the rack segment.

FIG. **8** is an enlarged sectional view taken on a line such as **8—8** of FIG. **6** but through the attachment portion at the bottom of one of the rack columns.

FIG. **9** is an enlarged view partially in section depicting the locking engagement of the display rack column and the spider attachment portions.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings and in particular to FIG. **1** there is shown a rotary sunglass display stand **10** including a pedestal **12.** Extending upwardly from the pedestal is a shaft **14** which provides an axis of rotation **16** through the center thereof for the rotatable sunglass

display racks **18**. Deformed portion **20** of shaft **14** and washer **22** support the frame **18** at the desired height on the shaft **14**. The shaft **14** extends through an opening in the pedestal **12** and held in place by collar member **13** and end cap **15**.

The illustration in FIG. **1** shows only one display rack **18** rotatably mounted on shaft **14**, which is used, for example, for a sunglass display stand which rests on a counter. Such a rack might also be supported on a wall using a special fixture including a vertical shaft such as shaft **14**. For a floor display, a larger pedestal **12** and longer shaft **14** are provided and as many as three of the display racks **18** are rotatably supported on the longer shaft one atop another. The racks may be connected together by clips or any known means for mutual rotation or could conceivably rotate separately in spaced relation on the shaft **14**.

The display racks **18** each include a pair of spaced identical end members **24** which are referred to as spiders because they consist of a central hub portion **26**, as shown in FIG. **2**, having an opening **28** through which shaft **14** passes through, and a plurality of legs **30** which extend outwardly from the hub. A cap **31** is slipped over shaft **14** to hold the upper end member in place. The end members or spiders are preferably integrally molded one-piece members formed of a synthetic plastic material. For the preferred embodiment high impact polystyrene has been chosen for its cost advantages, attractive appearance and high flexural strength. Other plastic materials fulfilling these minimum requirements may obviously be substituted.

The use of such plastic end members has many advantages including their ease of manufacture, light weight for shipment purpose, and visual attractiveness. In addition, the flexural strength of the high impact polystyrene plastic material is utilized in the unique attachment portions **32** provided at the end of each spider leg. A plurality of sunglass holding rack columns **34** are connected between the spiders **24** by means of these attachment portions which, as clearly shown in FIGS. **5 – 7**, comprise a slot **36** formed at the end of each spider leg **30** and extending substantially the entire depth of the leg. The interior walls **38** of said spiders which form the slots are symmetrical on either side of the slot and shaped in cross-section as shown in FIGS. **6** and **7** to form an opening wider at the top and narrowing by means of converging walls **39** which lead into two small parallel vertical wall sections **37** at the narrowest portion of the slots and then widen abruptly to form a lip means **40** including a pair of substantially horizontal lips **41**. The locking lip means cooperates with the attachment portions located at each end of the rack columns **34** in a manner described hereafter. The slots at each extremity thereof have substantially straight walls **33** as shown in FIG. **5**. This allows for some needed play or freedom of movement upon insertion of the attachment portions of the rack segment into the slot. Further, the provision of ending the converging walls **39** short of the end of slots **36**, as shown in FIG. **3**, allows the walls **39** to flex more easily, as required when the attachment portion are inserted into the slot.

The vertical rack columns **32**, as shown in FIGS. **2** and **3**, are all identical and each include an elongated stem portion **42** including a pair of side-wall members **44** and **46** extending substantially the entire length of the stem portion. Extending outwardly from the side-wall members **44** and **46** from opposite sides of the stem portion **42** at equal heights are a plurality of identical sunglass temple engaging support portions **48**. The support portions **48** are symmetrical on each side of the stem member and each include a pair of laterally extending upper and bottom substantially horizontal members **50** and **52** joined by substantially vertically extending member **54**. A pair of sunglasses **56** are supported for display with the temple portions **58** thereof in engagement with and supported by members **52**, as shown in FIGS. **6** and **7**. The inner surfaces **60** of member **54** are spaced a predetermined distance apart in order to serve as cam means to cam the sunglass temples into their closed position as they are inserted through the openings of the support portions **48**. When the sunglasses are removed from the display stand by a customer, for example, while trying on a pair, the stem side wall members **44** and **46** serve as a cam means to cam the temples open enough to allow removal from the rack.

Extending forwardly from stem portion **42** are a plurality of front frame support members **62** each of which are located at a selected height with respect to the sunglass temple engaging support portions so that they can engage and support the bridge **64** on the front frame **66** of the pair of displayed sunglasses. Each front frame support member **62** includes a forwardly projecting elongated ledge **68** having a slight upward incline. The end of ledge **62** turns upwardly to form flange **70**. The ledge **68** is further connected to stem portion **42** by a pair of side members **72** each extending only a portion of the length of ledge **68** and forming abutment means **73** including aligned shoulders **74** at the end of each member **72**. As shown in FIG. **7** in particular, once the sunglasses are placed in position for display flange **70** limits outward movement of the sunglass and bridge portion thereof while the abutment means **73** limits the inward movement thereof.

At the opposite ends of the stem portions **42** of each rack column **32** is an attachment portion **76** identical at both ends. Portion **76** includes an elongated member **77** which has a width closely conforming to the width of slot **34**. Another member **78** extends from member **76**, which as shown in detail in FIGS. **8** and **9**, has a symmetrical configuration which is narrow at its outermost extremity **80** and then widens by means of diverging walls **82**. Two parallel vertical walls **84** lead to a locking ledge means **86** including a pair of horizontal ledges **88**.

In order to assemble the rack columns in position between a pair of opposed spiders legs **30** the portions **78** at each end of each column are inserted into the wide top portion of each slot **36** and then manual pressure is applied forcing the portion **78** inward until the horizontal ledges **88** are forced past the horizontal lips **41** in the slot walls. The flexural strength of the high impact polystyrene of which the slot walls are composed allow the slot walls to deform enough without breaking to allow the wider ledges **88** to slip through the narrowest portion of the slot. The resilience of the high impact polystyrene material then causes the material to return to its original position wherein the lips **41** are in locked position with the ledges **88** as shown in FIG. **8**. Once in the locked position shown in FIG. **8** the two parts cannot be separated for all intent and purposes since it would require a force to shear off ledges **88** which would never be encountered under normal conditions.

Thus all the attachment portions may be locked within the slots on the opposing aligned spider legs as described above in the space of a minute or less in the hands of a skilled assembler and the frame **18** is then ready to be slipped onto the shaft **14** extending upwardly from pedestal **12** to complete the stand.

The number of legs on the spiders and number of rack columns extending between them depend of course on the allowable overall circumference of the display rack. For example, a counter stand may utilize seven-legged spiders while a floor stand which is of greater diameter may have as many as nine legs on each spider. On the larger floor stands the spiders may also be spaced further apart and the rack columns provided with a greater number of vertically spaced temple and frame support members than the smaller counter stands.

The end members which in the preferred embodiment are shown as spiders **24** may obviously omit the plurality of legs and instead be in the form of large diameter discs, for example, so long as they are provided with the appropriate number of slots spaced from the central openings therefrom so that they may be aligned for attachment of the vertical rack columns between them.

In a non-rotary version of a sunglass display stand the end members might take many forms, for example, there could be two opposing elongated strips having a plurality of opposing slots spaced along the lengths thereof with a pair of slots aligned on the top and bottom strips for receiving the attachment portions of the display rack segments. A suitable support means would be provided for supporting the assembled display racks on a counter, for example.

Since the end member and alike are interchangeable and since the vertical rack columns are all identical, a minimum number of molds or dies and only a few operations are required to manufacture and assemble the parts of the display stand.

The terms horizontal and vertical as used with regard to the above description refer to the orientation of the stands as they stand on the floor or counters in common use.

Thus it is clear from the above description that the sunglass display stand as described will fulfill the objects of the invention as stated and includes many features and advantages not heretofore available in such items.

I claim:

1. A rotary display stand for sunglasses or spectacles having temples comprising:

a. a pedestal;

b. an axial shaft extending substantially vertically upwardly from said pedestal;

c. a rotatable sunglass display rack for supporting a plurality of sunglasses and being mounted upon said axial shaft for rotation thereon;

d. said rack comprising a pair of end members, each having an opening for said axial shaft to pass through, and portions extending outwardly from said opening;

e. said end members having a plurality of slots therein spaced about the periphery thereof each at a predetermined minimum distance from said opening, each of said slots formed by interior walls of said end members and having a wide entrance portion which progressively narrows for a distance and then widens abruptly from its narrowest portion to form lip means which include a pair of substantially horizontal lips on said interior walls on either side of said slots;

f. a plurality of display rack segments each having an attachment portion at each end thereof, each attachment portion being shaped for manual insertion in one of said slots opposing each other in a pair of aligned end members, each of said attachment portions comprising a narrow outermost portion which progressively widens for a distance and then narrows abruptly from its widest portion to form locking ledge means which include a pair of substantially horizontal locking ledges, said attachment portion being a unitary solid element so that a section taken through any part thereof will show a continuous solid cross-section of material, the pair of substantially horizontal locking ledges being engaged by the pair of substantially horizontal lip means formed in the walls of said slots for permanently attaching said rack segments to said end members;

g. said rack segments each having portions for supporting a plurality of sunglasses thereon for display comprising;

h. an elongated vertically oriented stem member;

i. a plurality of sunglass temple engaging supporting members extending outwardly from opposite sides of said stem member, each of said temple engaging support members including a pair of spaced substantially horizontal members including an upper and lower member extending from each side of said stem member and a substantially vertically extending member connecting the pairs of substantially horizontal members, a substantially large four-sided opening enclosed by said substantially horizontal and vertical members and a portion of said stem members, the opening being of considerably greater area than the ends of the temple portions to be inserted therethrough, said lower substantially horizontal members on each side of said stem member supporting the sunglass temples and the substantially vertical members serving as cam means to cam the sunglass temples into their substantially, space saving, at least partially closed position as the sunglasses are inserted into said temple engaging support members for display on said stand;

j. a plurality of sunglass front frame supporting members extending forwardly from said stem member, each of said front frame supporting members comprising an elongated forward extending ledge and abutment means comprising a pair of spaced side members extending upwardly on either side of said ledge and extending only a portion of the length thereof and forming a shoulder at each end of said spaced side members which engage spaced portions of the sunglass front frame portions on either side of a bridge portion of said front frame portions for limiting the inward motion of said sunglasses on said display stand.

2. The rotary display stand as described in claim **1** wherein each of said front frame support members include an upturned flange on said elongated forward extending ledge spaced forwardly of said abutment means to limit the outward motion of said sunglasses when supported for display on said stand.

3. A sunglass display rack for supporting a plurality of sunglasses comprising:

a. a pair of end members, each having a plurality of slots therein, each of said slots formed by interior walls of said end members and having a wider entrance portion which progressively narrows for a distance and then widens abruptly from its narrowest portion to form lip means which include a pair of substantially horizontal lips on said interior walls on either side of said slots;

b. a plurality of display rack segments each having an attachment portion at each end thereof, each attachment portion being shaped for manual insertion in one of said slots opposing each other in a pair of aligned end members, each of said attachment portions comprising a narrow outermost portion which progressively widens for a distance and then narrows abruptly from its widest portion to form locking ledge means which include a pair of substantially horizontal locking ledges, said attachment portion being a unitary solid element so that a section taken through any part thereof will show a continuous solid cross-section of material, the pair of substantially horizontal locking ledges being engaged by the pair of substantially horizontal lip means formed in the walls of said slots for permanently attaching said rack segments to said end members;

c. said rack segments each having portions for supporting a plurality of sunglasses thereon for display comprising;

d. an elongated vertically oriented stem member;

e. a plurality of sunglass temple engaging supporting members extending outwardly from opposite sides of said stem member, each of said temple engaging support members including a pair of spaced substantially horizontal members including an upper and lower member extending from each side of said stem member and a substantially vertically extending member connecting the pairs of substantially horizontal members, a substantially large four-sided opening enclosed by said substantially horizontal and vertical members and a portion of said stem member, the opening being of considerably greater area than the ends of the temple portions to be inserted therethrough, said lower substantially horizontal members on each side of said stem member supporting the sunglass temples and the substantially vertical members serving as cam means to cam the sunglass temple into their substantially, space saving, at least partially closed positions as the sunglasses are inserted into said temple engaging support members for display on said stand.

f. a plurality of sunglass front frame supporting members extending forwardly from said stem member, each of said front frame supporting members comprising an elongated forward extending ledge and abutment means comprising a pair of spaced side members extending upwardly on either side of said ledge and extending only a portion of the length thereof and forming a shoulder at each end of said spaced side members which engage spaced portions of the sunglass front frame portions on either side of a bridge portion of said front frame portions for limiting the inward motion of said sunglasses on said display stand.

4. The display rack as described in claim 3 wherein said front frame support members include an upturned flange on said elongated forward extending ledge spaced forwardly of said abutment means to limit the outward motion of said sunglasses when supported for display on said stand.

* * * * *