Sept. 24, 1963 F. F. BRUNETTE 3,104,626

DISPLAY RACK

Filed Jan. 29, 1962

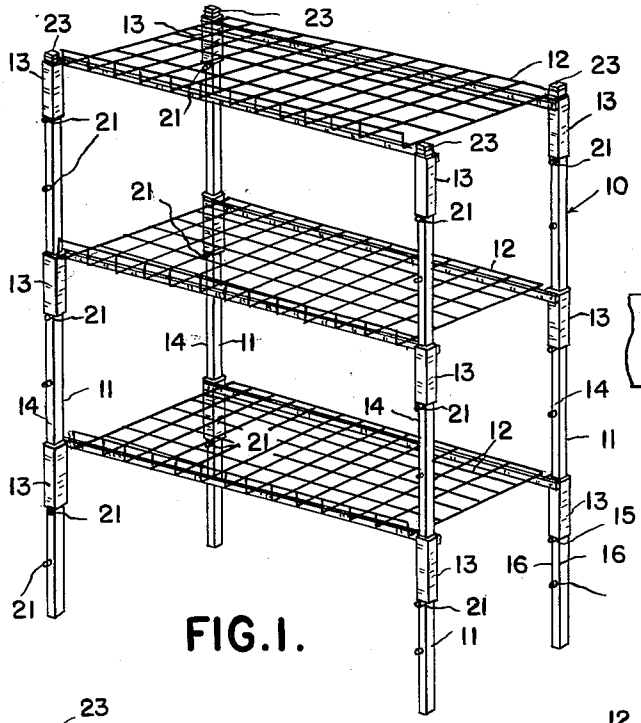


FIG. 1.

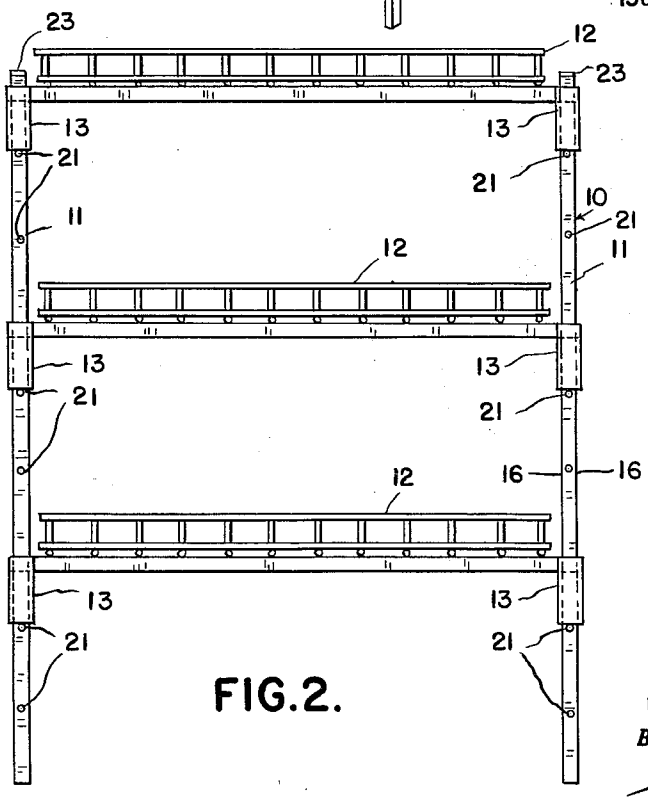


FIG. 2.

FIG. 3.

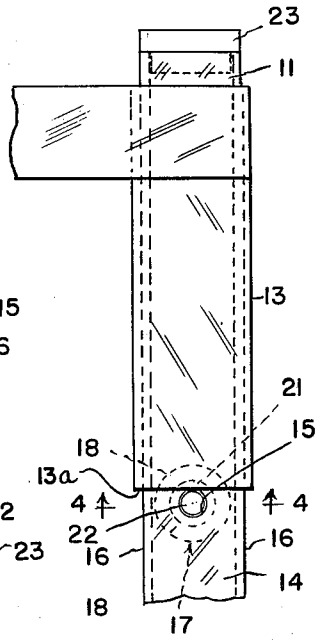
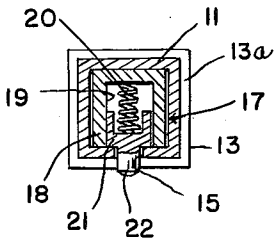


FIG. 4.



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DISPLAY RACK

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The present invention relates to a rack for displaying or storing merchandise and more particularly to such a rack having means permitting the shelves to be easily adjusted and in which the rack may be easily assembled and disassembled without the need of tools.

Modern merchandisers emphasize that a great portion of the buying dollar is presently being spent on so-called "impulse" items. To take advantage of this trend many supermarkets and the like are turning more and more to displaying such items on temporary display racks located at various points throughout the store. Since the location selected is usually a temporary one and the quantity of items to be displayed will vary, it is important that such racks are capable of being easily assembled and disassembled with a minimum of time and effort. Retail stores are generally limited with respect to mechanically skilled helpers and thus a rack to be suitable for use in such places must be capable of being set up with little or no mechanical operations or tools. Storage of such racks is also a problem and when disassembled, they should occupy a minimum amount of space. Parts should also be interchangeable and the number of different parts kept at a minimum so that many racks may be stored in disassembled form without creating problems caused by losing parts and without it being necessary to keep all the parts from a single rack together. At the same time it is desirable to provide such a rack with means permitting the shelves a range of adjustability so as to enable the shelves to accommodate different quantities and sizes of items. Racks now being used to display items for sale in supermarkets or the like lack some if not all of these features.

It is an object of the present invention to produce an improved display rack by providing means which enable such a rack to be assembled and disassembled in a minimum of time and without use of special tools or skills.

It is another object of the present invention to produce a display rack which is capable of displaying a variety of quantities and sizes of goods by providing means for vertically adjusting the shelves comprising such a rack.

It is still another object of the present invention to produce an easily-stored display rack for supermarkets and the like by providing means for disassembling such a rack into two different kinds of standardized component parts, the members of each set of component parts each being completely interchangeable with other members of the set.

It is still another object of the present invention to reduce manufacturing and freight costs for display racks and the like by providing a construction for such a rack which permits it to be manufactured by producing two different component parts and which can then be shipped to the point of use to be assembled by the purchaser.

Yet other objects and advantages of the present invention will readily occur to one skilled in the art upon reference to the following description and drawings in which like reference characters refer to like parts throughout the several views and in which

FIG. 1 is a perspective view of a display rack embodying the present invention.

FIG. 2 is a front elevational view of the rack shown in FIG. 1.

FIG. 3 is an enlarged fragmentary view of the structure shown in FIG. 2 with sections removed for purposes of clarity, and

FIG. 4 is a cross-sectional view taken substantially on line 4—4 of FIG. 3 illustrating the plunger assembly of the present invention.

Now referring to the drawings for a more detailed description of the present invention a display rack **10** is shown in its assembled form as comprising spaced, parallel uprights **11** preferably constructed of square tubing or similar material. A plurality of shelves **12** are each provided with tubular corner members **13** disposed at and secured to, preferably by welding, the corners of the shelves **12**. Each of the corner members **13** is preferably constructed of square tubing or other similar material having inside dimensions sufficiently large to permit the uprights **11** to slidably extend therethrough as can best be seen in FIG. 3. The corner members **13** are provided with a lower edge **13***a* and are secured to the shelves **12** having their longitudinal axes parallel to each other and preferably substantially normal to the planes containing the shelves **12**.

The uprights **11** are each provided with a face portion **14**. A plurality of preferably uniformly spaced perforations **15** are provided in the face portion **14** each being centered with respect to the longitudinal edges **16** of the face portion **14**. Each of the perforations **15** carries a plunger assembly **17**, as can best be seen in FIG. 4, preferably comprising a cylindrical base **18** having a diameter slightly less than the inside dimensions of the tubular uprights **11**. The cylindrical base **18** is provided with a recessed portion **19** at one end which provides the seat for a spring **20**. A plunger or stop member **21** has a reduced end portion **22** which registers with the perforation **15** and is urged outwardly through the perforation **15** by the spring **20**. End caps **23** are preferably carried at the ends of the uprights **11**.

The display rack **10** is produced by manufacturing the uprights **11** from a suitable tubing material. The plunger assemblies **17** are inserted in the uprights **11**. The plunger assemblies **17** are constructed so that the perforations **15** and the reduced end portion **22** of the plunger **21** are self-aligning and the plunger **21** will snap into place as the plunger assembly **17** is urged through the uprights **11**. The shelves **12** are manufactured by constructing the wire shelves and welding the tubes **13** at the corners to depend therefrom as shown. The proper quantity of shelves **12** and uprights **11** are then shipped to the purchaser at reduced shipping costs because of the reduced space requirements and the racks **10** are easily assembled from the stock of parts sent. The racks may be stored in this form until needed. Assembling does not require tools or special skills. The racks **10** may be easily disassembled when no longer needed and the parts returned to the storing area. There are no parts such as clamps, bolts and screws to delay assembly time and to become lost rendering the rack useless.

To assemble the display rack **10** the uprights **11** are inserted in the corner members **13** of a shelf **12**. The shelf **12** is then moved into position along the uprights **11** by depressing the plungers **21** until the lower edge **13***a* of the tubular members **13** rest against the desired set of plungers **21**. The process is repeated until all the desired shelves **12** have been placed on the uprights **11**. When assembled, the shelves **12** become a part of the supporting framework for the display rack **10** as a whole by holding the uprights **11** in fixed upright parallel positions. Each shelf **12** then can be individually adjusted to several positions by depressing the appropriate plungers **21** and moving the shelf **12** along the uprights **11** until the lower edges **13***a* of the corner members **13** rest against another set of plungers **21**. During this adjustment the other shelves **12** maintain the rigidity of the display rack **10**.

It will be noted that screws, bolts and clamps have been completely eliminated thereby producing a rack which can be completely assembled and disassembled in a short time without the need of special skills or tools.

It is apparent from the foregoing description that other changes and modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A rack for displaying or storing articles comprising
(*a*) a plurality of shelves,
(*b*) a plurality of hollow upright members each having a longitudinally extending hollow portion substantially square in cross section,
(*c*) tubular members secured to each of said shelves and telescopically fitting over said upright members to fix said upright members in a position such that each of their longitudinal axes is substantially normal to the planes of said shelves,
(*d*) a plurality of longitudinally spaced perforations provided in said upright members, and
(*e*) a plurality of plunger means carried in said upright members and each of said plunger means comprising a cylindrical base having a diameter slightly smaller than the sides of said cross-sectional square, said base having a recessed portion, a stop member carried in said recessed portion and being provided with a reduced end portion extending through one of said perforations and means carried in said recessed portions and resiliently urging said reduced end portion through said perforation whereby said reduced end portion selectively engages one of said tubular members of one of said shelves and prevents same from moving longitudinally along one of said upright members.

2. A rack for displaying or storing articles comprising
(*a*) a plurality of shelves,
(*b*) a plurality of hollow upright members each having a longitudinally extending hollow portion substantially rectangular in cross section,
(*c*) tubular members secured to each of said shelves and telescopically fitting over said upright members to fix said upright members in a position such that each of their longitudinal axes is substantially normal to the planes of said shelves,
(*d*) a plurality of longitudinally spaced perforations provided in said upright members, and
(*e*) a plurality of plunger means carried in said upright members and each of said plunger means comprising a cylindrical base having a diameter slightly smaller than a pair of opposite sides of said cross sectional rectangle, said base having a recessed portion, a stop member carried in said recessed portion and being provided with a reduced end portion extending through one of said perforations and means carried in said recessed portion and resiliently urging said reduced end portion through said perforation whereby said reduced end portion selectively engages one of said tubular members of one of said shelves and prevents same from moving longitudinally along one of said upright members.

3. A rack for displaying or storing articles comprising
(*a*) a shelf,
(*b*) a plurality of hollow upright members each having a longitudinally extending hollow portion substantially square in cross section,
(*c*) tubular members secured to said shelf and telescopically fitting over said upright members in a position such that each of their longitudinal axes is substantially normal to the plane of said shelf,
(*d*) a plurality of longitudinally spaced perforations provided in said upright members,
(*e*) a plurality of plunger means carried in said upright members and each of said plunger means comprising a cylindrical base having a diameter slightly smaller than the sides of said cross-sectional square, said base having a recessed portion, a stop member carried in said recessed portion and being provided with a reduced end portion extending through one of said perforations and means carried in said recessed portion and resiliently urging said reduced end portion through said perforation whereby said reduced end portions selectively engage said tubular members to position said shelf longitudinally along said upright members.

4. A rack for displaying or storing articles comprising
(*a*) a shelf,
(*b*) a plurality of hollow upright members each having a longitudinally extending hollow portion substantially rectangular in cross section,
(*c*) tubular members secured to said shelf and telescopically fitting over said upright members in a position such that each of their longitudinal axes is substantially normal to the plane of said shelf,
(*d*) a plurality of longitudinally spaced perforations provided in said upright members,
(*e*) a plurality of plunger means carried in said upright members and each of said plunger means comprising a cylindrical base having a diameter slightly smaller than a pair of the sides of said cross sectional rectangle, said base having a recessed portion, a stop member carried in said recessed portion and being provided with a reduced end portion extending through one of said perforations and means carried in said recessed portion and resiliently urging said reduced end portion through said perforation whereby said reduced end portions selectively engage said tubular members to position said shelf longitudinally along said upright members.

5. A rack for displaying or storing articles and the like comprising,
(*a*) a shelf,
(*b*) a plurality of substantially identical tubular upright members each having a longitudinally extending hollow portion of uniform cross section,
(*c*) tubular members secured to said shelf and telescopically fitting over said upright members in a position such that each of their longitudinal axes is substantially normal to the plane of said shelf,
(*d*) a plurality of longitudinally spaced perforations provided in each of said upright members,
(*e*) a plurality of plunger means carried in each of said upright members and each of said plunger means comprising a base, said base being dimensioned to frictionally engage at least two opposite inner wall portions of said upright member, said base having a recessed portion, a stop member carried in said recessed portion and being provided with a reduced end portion extending through one of said perforations and means carried in said recessed portion and resiliently urging said reduced end portion through said perforation whereby said reduced end portions selectively engage said tubular members to position said shelf longitudinally along said upright members.

References Cited in the file of this patent

UNITED STATES PATENTS

898,970	Cook	Sept. 15, 1908
1,043,432	Hyde	Nov. 5, 1912
2,033,792	Sywert	Mar. 10, 1936
2,229,473	Redmer	Jan. 21, 1941
2,604,334	Schultz	July 22, 1952
2,719,688	Seifert	Oct. 4, 1955
2,763,024	Simmons	Sept. 18, 1956
2,892,547	Whitaker	June 30, 1959