Sept. 26, 1939. E. R. ERICKSON 2,174,104

DISPLAY RACK

Filed Nov. 15, 1937

Fig. 1.

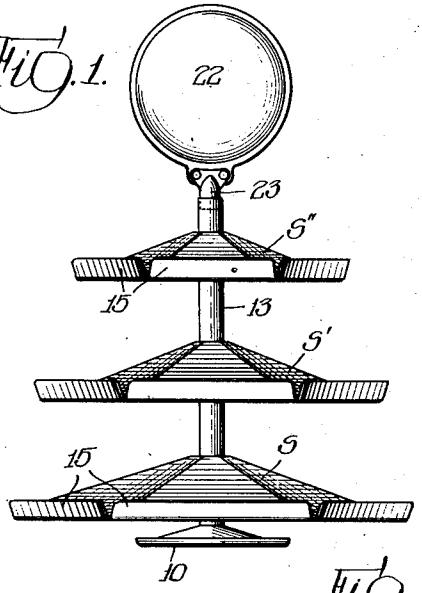


Fig. 2.

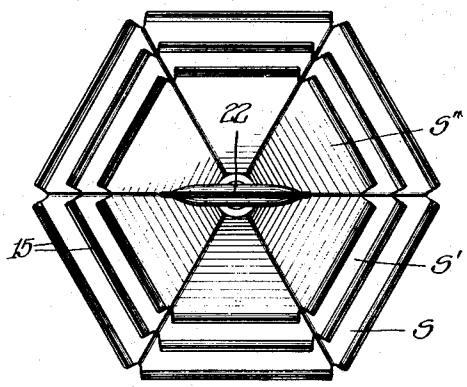


Fig. 4

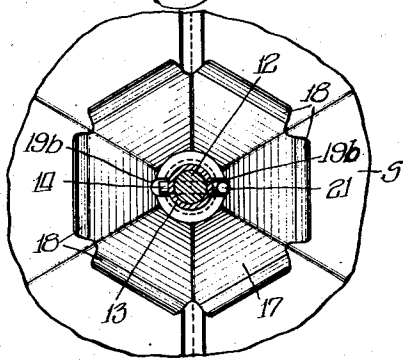


Fig. 3.

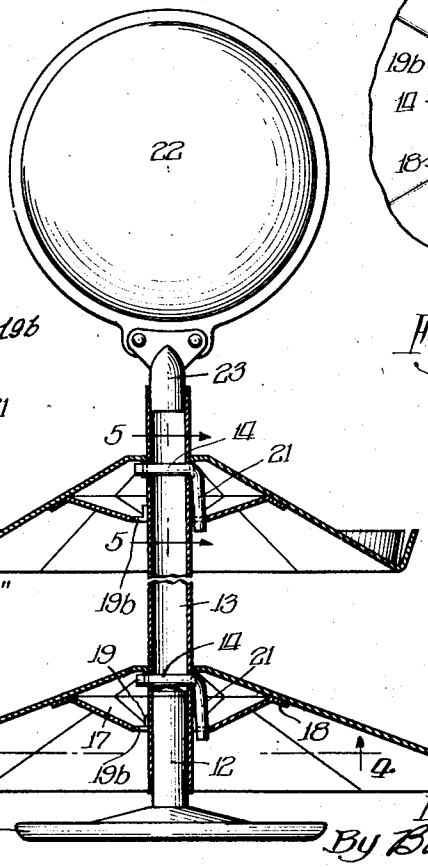


Fig. 6.

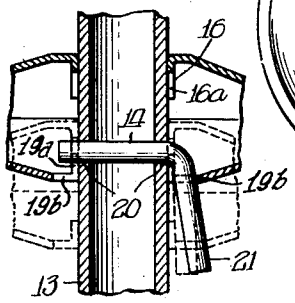
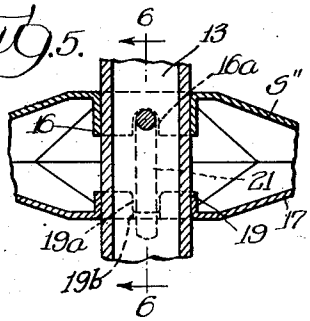


Fig. 5.



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UNITED STATES PATENT OFFICE

2,174,104

DISPLAY RACK

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Application November 15, 1937, Serial No. 174,674

6 Claims. (Cl. 211—128)

An object of my present invention is to provide a display rack particularly adapted for breads, pastries and the like, the rack being comparatively simple to manufacture and inexpensive to form and assemble.

Another object is to provide a display rack which may be set on a display counter or the like and which will display articles on shelves thereof, the shelves being arranged so that they can rotate and thereby the customer may manipulate the rack whereby to conveniently observe all the articles thereon.

Another object is to provide for display of articles to best advantage from the standpoint of the purchaser due to a peculiar construction of the supporting shelves of the rack. These shelves may be flat but are preferably relatively low and pyramid shaped and have flanges at their peripheries whereby the articles may be placed thereon and will assume a slight slant as distinguished from lying on a horizontal surface, thus enhancing the display appeal. The flanges serve to retain the articles against undesired falling off the shelves.

Still another object is to provide a display rack wherein the shelves are rotatably mounted in a very simple manner and a sign element is associated with the shelves so that it rotates with them.

A further object is to provide a novel means for retaining the shelves supported rigidly relative to the supporting post of the rack whereby they are retained against rotation relative to the supporting post and at the same time against rattling relative to the post.

Still a further object is to provide display shelves surrounding a post, which shelves, though they may be made of any desired material, are preferably made of inexpensive material such as sheet metal but so formed that they have sufficient strength for supporting purposes even when made of very thin sheet metal. A conical reinforcing element is provided for each shelf which is located under the shelf and therefore inconspicuous.

With the foregoing and other objects in view, my rack structure consists in an arrangement and combination of the various parts thereof, whereby the objects contemplated and others as well are attained, as will appear in my specification and my claims and as illustrated in the accompanying drawing wherein:

Figure 1 is a side elevation of a display rack embodying my invention.

Figure 2 is a plan view thereof.

Figure 3 is a vertical sectional view through the rack with the center shelf omitted, the parts being shown on an enlarged scale and a portion of the supporting post of the rack being broken and also omitted.

Figure 4 is a bottom plan view of the central portion of one shelf of the rack as taken on the line 4—4 of Figure 3.

Figure 5 is an enlarged sectional view on the line 5—5 of Figure 3; and

Figure 6 is a sectional view on the line 6—6 of Figure 5.

In the accompanying drawing I have used the reference numeral 10 to indicate a base member. Extending rigidly upward from the base member 10 is a supporting post 12. A tubular supporting post 13 telescopically receives the post 12 whereby the tubular post is rotatably mounted relative to the base 10. The tubular post is limited against downward movement relative to the post 12 by a pin 14 which engages the upper end of the post 12.

Surrounding the tubular post 13 is a plurality of shelves S, S′ and S″. Each of the shelves is quite similarly constructed as to proportions. Preferably, the lower shelf S is largest and the shelves are progressively smaller in diameter toward the top of the display rack. Each of the shelves may be flat but is preferably relatively low and pyramid shaped. Around its periphery it is provided with an upturned flange 15. The shelves may be made cone-shaped or in the shape of pyramids with any desired number of sides, six sides being shown merely by way of illustration in the drawing.

Adjacent the apex of each shelf a downturned flange 16 is provided which closely surrounds the tubular supporting post 13. Beneath the shelf a cone-shaped or pyramid shaped reinforcing disk 17 is provided. Its periphery terminates in flanges 18 which are secured to the bottom of the shelf as by spot-welding or the like. The member 17 is inverted relative to the shelf and has an upstanding flange 19 similar to the depending flange 16 of the shelf. The flanges 16 and 19, when the shelf is positioned on the tubular post 13, engage the post with considerable contact area and serve to effectively retain the plane of the shelf at substantially right angles to the supporting post.

Several pins 14 are provided which extend through opposed openings 20 in the tubular supporting post 13. The flanges 16 are notched as indicated at 16a to receive the portions of the pins 14 adjacent the post, as shown in Figure 3

and by dotted lines in Figures 5 and 6. The flanges 19 are likewise notched as indicated at 19a and additionally notched at 19b. The notches 19b extend outwardly from the post 13 and into the disks 17. The notches 19b permit passage of the disk past the pins 14, this position being shown by solid lines in Figure 6. The pins 14 have depending portions 21. These, it will be noted, depend substantially axially of the post 13 and are inclined slightly outwardly. The inclination is shown somewhat exaggerated in Figure 6.

During assembly, as the shelf is forced down from the solid line position of Figure 6 to the dotted line position, the bottom of the right-hand notch 19b engages the outer surface of the depending portion 21 of the pin 14 and springs it inwardly to the dotted position. This places the extension under sufficient tension to take out play between the parts and thus avoid any rattling of the shelves relative to the supporting post. The tension also provides the necessary friction to eliminate any accidental lifting of the shelf relative to the post when the shelf is in use as a display rack.

In connection with my display rack I provide a sign element 22 having a mounting extension 23. The extension 23 is adapted to telescope into the upper end of the tubular post 13 to be retained frictionally therein, the sign element being thereby rotatable with the shelves as they are rotated by the customer when examining the articles displayed on the shelves.

I have provided a display rack which has considerable capacity and which displays the various articles to good advantage. Being rotatable, the rack permits the display of a great many articles from one point of view as distinguished from a stationary rack around which the customer would have to go in order to see all the articles on display.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. In a display rack, a supporting post, a rack shelf surrounding said supporting post and means to support said rack shelf relative to said supporting post comprising a key extended diametrically through said post and having a depending portion, said shelf resting on and being supported by the portions of said key adjacent said post and having a notched portion engaging said depending portion of said key to retain the key in position on the supporting post.

2. In a display rack, a supporting post, a rack shelf surrounding said supporting post and means to support said rack shelf relative to said supporting post comprising a key extended diametrically through said post and having a portion extending downwardly and inclined outwardly, said shelf resting on and being supported by the portions of said key adjacent said post and having a portion engaging said depending portion of said key and springing it toward the post to retain the key in position on the post and to retain the shelf against movement relative to the post.

3. In a display rack, a supporting post, a shelf having a flange surrounding said supporting post, a key extended transversely through said supporting post, said flange having a pair of notches to receive the portions of said key adjacent the periphery of said supporting post and a conical disk surrounding said post and having its periphery attached to said shelf, said key having a part extending along the side of said supporting post and said disk having a notch to engage said part.

4. In a display rack, a supporting post, a rack shelf surrounding said supporting post and means to support said rack relative to said supporting post comprising a key extended diametrically through said post and having a depending portion, said shelf resting on and being supported by the portions of said key adjacent said post, said shelf having a portion engaging and flexing said depending portion of said key to retain the key in position on the supporting post when the shelf and its said portion is mounted thereon with the shelf supported by the key.

5. In a display rack, a supporting post, a shelf having an opening receiving said supporting post, a key extended transversely through said supporting post and supporting said shelf on both sides of said supporting post and means including a portion of said key tensioned by the action of a portion of said shelf in pressing against the key and deforming it as the shelf is pushed down into engagement with the key, said key being thereby retained against rattling on said post by such deforming of said portion of said key.

6. In a display rack, a supporting post, a shelf having a flange surrounding said supporting post, a key extended transversely through said supporting post, said flange resting on said key whereby the key supports said shelf on both sides of said supporting post, and means comprising a portion of said shelf engaging said key to retain said key against displacement from said supporting post by flexion of said portion of said key when said shelf is in position supported by said key.

ERNEST R. ERICKSON.