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L. G. NELSON

1,761,271

TRANSPARENT DISPLAY RING

Filed Aug. 28, 1926

Fig. 1.

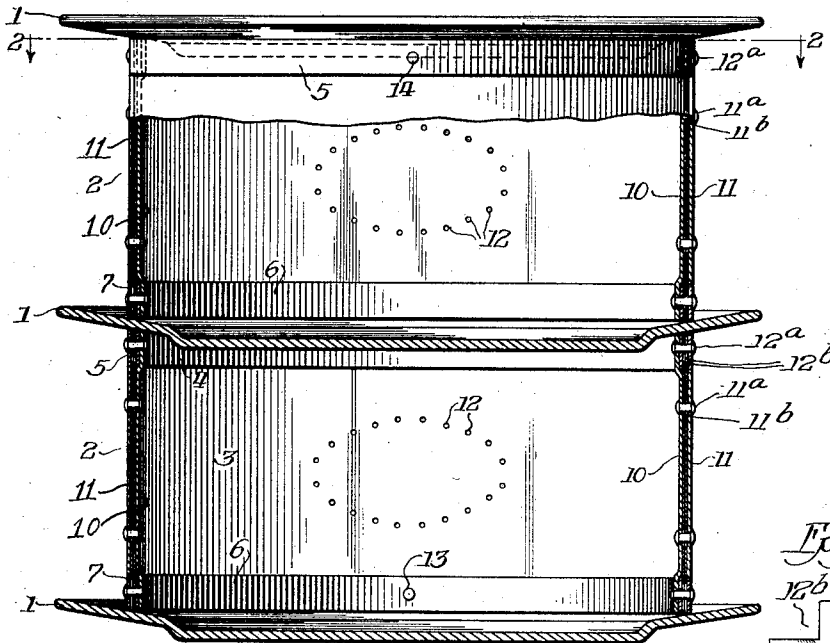


Fig. 2.

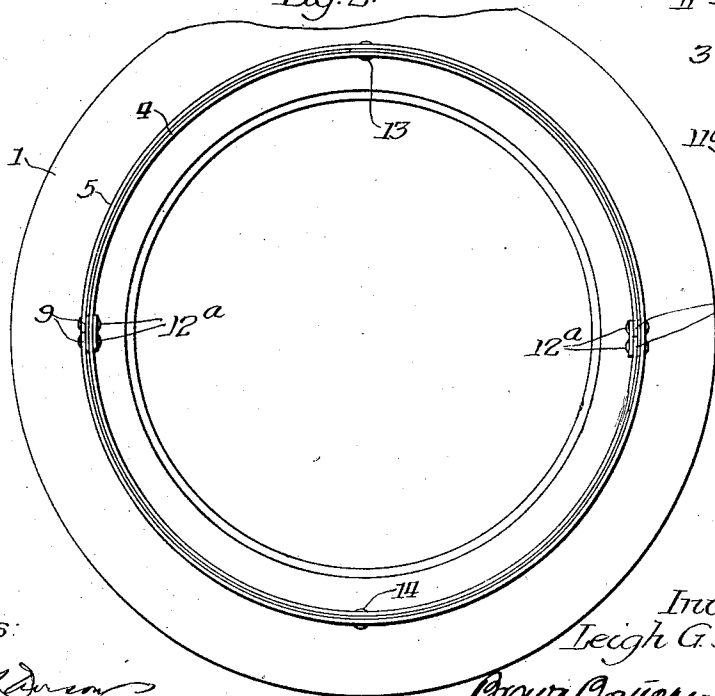
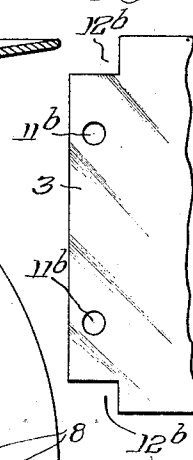


Fig. 3.



Witness:

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UNITED STATES PATENT OFFICE

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TRANSPARENT DISPLAY RING

Application filed August 28, 1926. Serial No. 132,270.

This invention relates to display rings for foodstuffs as, for instance, pies, salads, etc., which are frequently apportioned in individual orders and placed on plates, the plates with the orders thereon being arranged on top of each other with a ring between each plate to space the plates apart and prevent them from crushing the food thereon, the rings at the same time permitting inspection of the food and preventing the same from spoiling.

The rings of the above type which have been used heretofore have usually been of glass and have not been constructed to withstand rough usage.

In order to overcome the above difficulties and to provide a more efficient ring of the above type, I provide such a ring which is constructed of relatively thin, flexible material, such as celluloid, for the sake of clearness and lightness. The ring may be made of relatively thin material and still afford unusual rigidity, because in connection therewith I provide an aluminum frame consisting of both an inner and an outer rim at both the top and bottom of the ring, the top rims being spaced from the bottom rims by suitable struts. The foregoing elements of the frame are riveted to each other and hold the transparent material so as to permit relative expansion and contraction thereof, forming therewith a relatively light structure capable of withstanding rough usage and a large amount of axial pressure.

Other advantageous features of my invention will be apparent from the specification and claims when taken in conjunction with the accompanying drawing, wherein:—

Figure 1 is an elevational view partly in section showing a series of rings embodying this invention arranged alternately between plates;

Figure 2 is a plan view taken at the line 2—2 of Figure 1; and

Figure 3 is an enlarged detail of one end portion of one of the celluloid strips.

Referring to the drawings more particularly, numeral 1 represents plates which are arranged vertically, one above the other, with rings 2 of this invention alternately placed

between them. In actual practice each of the plates 1 would probably have an individual order of food thereon, which may be inspected from without the ring and which is preserved and protected by said ring.

Each of the rings 2 comprises a cylindrical transparent ring 3, at the top and bottom edges of which are secured inner and outer rings 4 and 5 and inner and outer rings 6 and 7, respectively. The inner and outer rings act to hold their respective edges of the material 3. The rings are preferably formed from flat strips of metal, the ends 8 of which, in the case of each inner ring, are brought together at a diametrically opposed position with respect to the ends 9 of the corresponding outer ring.

A pair of vertical struts are provided, each consisting of an inner and outer strip 10 and 11, respectively. The aforementioned struts are diametrically disposed with respect to the transparent display rings, and the strips 10 and 11 are secured together by rivets 11^a and 12^a, or in any other suitable or preferred manner, holding the adjacent portion of the transparent material 3 therebetween, the strip 10 extending above and below the outer strip 11 and being riveted to the binding rings for spacing the latter and taking any stress off of the transparent material. As clearly illustrated in Figure 1, the end portions of strip 10 are offset inwardly providing shoulders which contact the edges of rings 4 and 6. These shoulders serve to transmit a considerable part of the imposed load directly to the struts thus relieving the rivets which secure the struts to the rings of undesirable stresses. The ends of one of the strips 10 overlap the ends 8 of the inner rings 4 and 6, giving the device added rigidity.

The cylindrical transparent material 3 may be made in two semi-cylindrical sections with the ends of said sections overlapping between the strips 10 and 11.

Each of the devices is provided with a plurality of apertures 12 in the transparent material for the circulation of air. Without the apertures 12 the inside of the material 3

would steam up when hot foods were placed on the plates.

Additional rivets 13 and 14 are provided to more securely hold the upper and lower rings 4, 5, 6 and 7 together and to give the device added rigidity, these rivets being disposed midway between the struts.

Each of the strips 3 is cut out at each corner to provide a notch 12^b of substantially rectangular shape, and is provided, between these notches, with rivet receiving openings 11^b (Figs. 1 and 3). The notches 12^b are of greater length and height than the space occupied by the two rivets 12^a at each end of the struts, and the openings 11^b are somewhat more than twice the diameter of rivets 11^a. In assembling, the sheets 3 are placed with their ends in overlapping relation with openings 11^b and 12^b in register, after which the strip 11 is positioned, the rivets being then inserted and headed. As the openings 11^b and notches 12^b are of much greater area than the spaces occupied by the rivets, as above noted, ample allowance is thus made for any inaccuracies and assembling can be quickly and easily accomplished, which is always an important consideration in devices of this character.

As will be noted more clearly from Figure 1, there is a very appreciable clearance between the body of rivet 11^a and the surrounding wall of opening 11^b, as well as between the walls defining notches 12^b and rivets 12^a. In securing strips 10 and 11 together, the rivets are not drawn up tight and these strips do not actually exert a binding or clamping effect on the lapped end portions of the celluloid sheets or strips. In practice strips 10 and 11 fit snugly against sheets 3 so as to hold or confine the same while permitting expansion and contraction of sheets 3 without tearing or breaking thereof. I consider this feature of importance from a practical standpoint, as devices of this sort are frequently subjected to great variations of temperature in use. As the rate of expansion and contraction of celluloid under temperature changes is different from that of aluminum or other metals, it is desirable to allow for this difference as otherwise the celluloid would buckle and eventually break and tear, due to uneven expansion and contraction. Proper provision to meet this difficulty is made by having relatively great clearance between the rivets 11^a and 12^a and openings 11^b and notches 12^b, as previously pointed out. This clearance permits expansion and contraction of the celluloid sheets 3 independently of the supporting frame work. It will thus be seen that the provision of this clearance performs an additional function to that of facilitating assembling of the device, above referred to.

Rivets 13 and 14 are punched through sheets 3 and are drawn up tight to secure the rings together and secure the celluloid sheets at their central portions. This serves to effec-

tually anchor the sheets in position while not materially interfering with contraction and expansion thereof.

While I have illustrated and described the preferred form of the device, changes can be resorted to without departing from the field and scope of the same, and I intend to include in this application all such variations as fall within the scope of the appended claims.

I am aware that many changes may be made without departing from the principles of this invention, and I do not wish to be limited to the details shown or described.

I claim:—

1. In a device of the character described, a thin and readily flexible transparent enclosing wall member having its ends disposed in overlapping relation and provided with registering openings, open inner and outer rings enclosing the ends of said member, a strip riveted at its ends to the ring, a second strip riveted to the first strip and spaced therefrom to permit relative movement between the strips and the ends of the wall member, the second strip being disposed at the opposite side of the wall member from the first strip and the rivets securing said strips and the rings together passing through and of less cross area than said openings.

2. As a new article of manufacture, a display device adapted to support a load, said device comprising an open lower frame, an open upper frame spaced an appreciable distance above the lower frame, a transparent wall member connecting the frames, and struts connecting the frames and having shoulder elements contacting the lower edge of the upper frame and the upper edge of the lower frame for transmitting the load from the upper frame to the lower frame.

In witness whereof, I hereunto subscribe my name this 26th day of August, 1926.

LEIGH G. NELSON.