

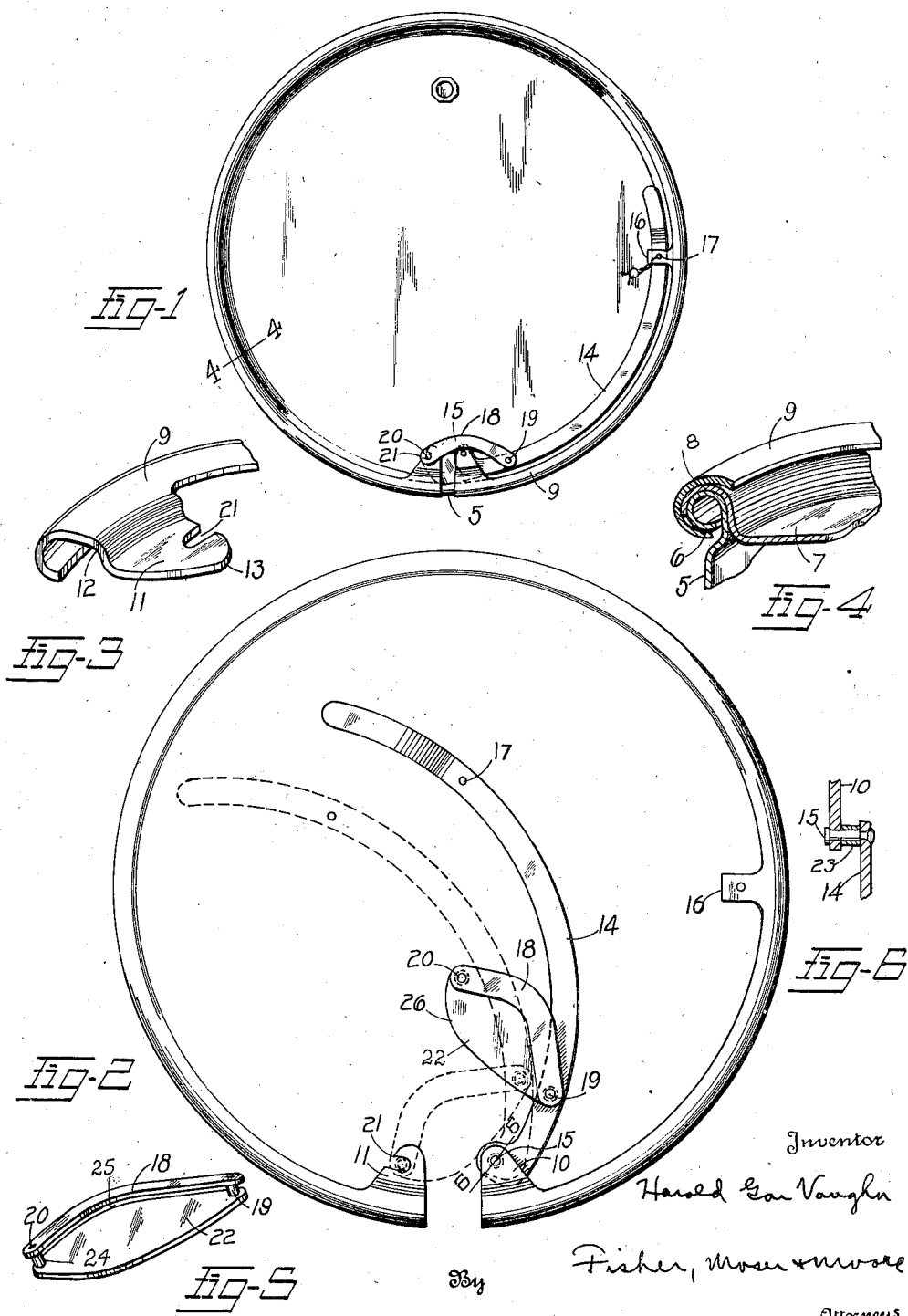
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H. G. VAUGHN

2,031,290

OPEN HEAD DRUM

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# UNITED STATES PATENT OFFICE

2,031,290

## OPEN HEAD DRUM

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mesne assignments, to Wilson & Bennett Man-  
ufacturing Company, Chicago, Ill.

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6 Claims. (Cl. 220—61)

My invention relates to metallic receptacles and closures therefor. The general object of the invention is to provide simple means for securely but detachably clamping the cover of a metallic receptacle or drum to the rim or circumferential bead with fluid tight effect.

Other and further objects and advantages of the invention will be understood from the following description considered in connection with the accompanying drawing, in which:

Figure 1 is a top plan view of the invention, showing the cover on the receptacle tightly sealed;

Figure 2 is a top plan view showing in dotted lines the position assumed by the clamping link preliminary to clamping operations;

Figure 3 is a fragmentary view of the clamping ring;

Figure 4 is a section taken on line 4—4 of Figure 1;

Figure 5 is a detail view of the link and cam member; and

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 2.

Referring more particularly to the drawing 5 denotes a barrel or drum such as commonly employed for shipping grease, oils and the like. The upper open end of drum 5 is rolled outwardly and downwardly and thence inwardly to provide a reinforcing bead 6 for supporting a cover 7. This cover is centrally depressed or cupped to seat snugly within the open end of the drum, and is formed with an outwardly and downwardly curved peripheral flange portion 8 partially conforming to the curvature of and adapted to seat upon the upper portion of bead 6. If desirable any suitable form of packing ring, not shown, may be inserted between the bead 6 and flange 8 of the drum and cover respectively.

The cover 7, which is readily removable for filling or other purposes is clamped in place by means of a split contractible clamping ring 9 of substantially U-shaped cross section which embraces the bead 6 and flange 8 and exerts a uni-  
45 form clamping pressure thereagainst when contracted. The upper flange engaging wall and the lower bead engaging wall of the ring are substantially parallel at their inner edges. This split ring 9 is formed at opposite ends with inwardly extending lugs 10 and 11, either integrally  
50 formed with or riveted to the top wall of the ring. Lug 10 extends in a plane parallel to the planes of the inner edges of the walls of the clamping ring and coincident with the horizontal plane of the top wall of said ring, whereas lug 11 is bent

downwardly at 12 and thence inwardly as at 13 in a horizontal plane parallel to but approximately midway between the horizontal planes of the cover 7 and lug 10.

A lever 14 pivotally connected at its inner end 5 to lug 10 by means of pivot pin 15 is adapted to be sealed against accidental or unauthorized movement when swung to locked position beneath an apertured ear 16 projecting inwardly from the top wall of ring 9, the outer end of the 10 lever being apertured at 17 for this purpose. A collar 23 maintains the lever in slightly spaced relation with respect to the lug 10. A link 18 pivotally connected at one end to the top face of lever 14, adjacent the pivotal connection 15 of 15 the latter, by means of a pin 19, carries a pin 20 at its other end which pin 20 is adapted to engage within the recess or notch 21 of lug 11, when the said link is moved to Figure 2 dotted line position. When pin 20 is seated in the notch 20 21, and lever 14 is moved in a clockwise direction about pivot pin 15, to Figure 1 position, the ends of clamping ring 9 will be drawn towards each other and the ring will exert a substantially uniform pressure on the flange 8 and bead 6 in 25 a direction substantially parallel to the axis of the drum 5.

It will be noted that when the lever 14 is moved to force the pivot pins 15 and 20 toward each other, there will be a slight tendency to spring 30 the adjacent ends of the ring outwardly due to the leverage or spacing of these pins away from the ends of the ring. Such outward projection of the ends of the ring is somewhat objectionable and in order to draw these ends in more closely 35 to the cover, a cam member or plate 22 is provided for engagement with the inner face of the vertical wall of cover 7, during clamping or closure operations. This cam plate is pivotally mounted 40 at one end on the lower end of pivot pin 19 and at its other end is connected to link 18 by bolt or pin 20, a spacing collar 24 being employed to provide ample space 25 between the link 18 and plate 22 for reception and free relative movement of lever 14. 45

The notched end of lug 11 is offset as previously explained, to lie in the same horizontal plane occupied by the space 25 between the link and cam member 22 so that pin 20 of link 18 can be 50 hooked over said notched end and lodged in the notch 21, as indicated by dotted lines in Figure 2. When pin 20 has been completely seated in notch 21 by appropriate manipulation of lever 14, the outer end of curved edge 26 of member 22 contacts 55 the wall of cover 7 adjacent the lug 11, and as 55

the lever is moved to Figure 1 position the entire edge 26 is forced with cam effect against said wall, thus exerting considerable outward pressure against the cover and serving to draw the ends of the contracting clamping ring inwardly against the flange and bead. The cam member 22 which is approximately the same length as link 18, is of sufficient length to substantially span the entire area occupied by the two lugs 10 and 11 and also is of such size and shape as to exert considerable lateral pressure against the side wall of the cover, throughout this area, and to cause the ring to be tightly clamped about the bead and flange when lever 14 is moved in a clockwise direction to locked or sealing position.

It will be noted that the link 18 and cam member 22 are connected through the lever 14, with but one end of the ring 9 and that the ring can, therefore be readily applied to and as easily removed from the drum, without disturbing the lever connection with the ring.

Having thus described my invention, what I claim is:

1. The combination with a metallic receptacle having a bead rolled about its open end, and a removable cover for said receptacle having a marginal flange fitting over the said bead, of a split contractible channeled clamping ring having walls engageable with the flange and bead for pressing the same together when the ring is contracted, inwardly extending lugs adjacent the ends of said ring, a lever for contracting said ring pivoted to one of said lugs, the other of said lugs having a notch therein, a link pivoted to the lever and carrying a pin at its other end for engagement with said notch, and means carried by said link which engages with the adjacent surface of the side wall of the cover for exerting a lateral pressure outwardly against the side wall of the cover when the ring is contracted.

2. In a clamping device for metallic receptacles having a bead rolled about its open end and a cover having a flange fitting over the bead, a contractible channeled split clamping ring to press the bead and cover flange together, means for contracting the ring including a lever pivoted to one end of the ring, and a link pivotally connected at one end to said lever, said link which engages with the adjacent surface of the side wall of the cover having means at its free end for engagement with the other end of said ring and cam means carried by said link for exerting outward pressure against the side wall of the cover.

3. In a clamping device for metallic receptacles having a bead rolled about its open end and a cover having a flange fitting over the bead, a contractible channeled split clamping ring to press the bead and cover flange together, means for

contracting the ring including a lever pivoted to one end of the ring, means pivoted to the lever at one end and having means at its other end means for detachable engagement with the other end of said ring and cam means carried by and movable with the means pivoted to the lever which engages the side wall of the cover for exerting outward pressure against the side wall of the cover.

4. The combination with a receptacle having a bead at its open end, and a cover having a flange fitting over the bead, of a contractible channeled clamping ring having walls engageable with the flange and bead for pressing the same together, a lug adjacent one end of the ring extending inwardly on a plane coincident with the horizontal plane of the top wall of said ring, a lug adjacent the opposite end of the ring and bent downwardly and then inwardly in a plane parallel to but approximately midway between the horizontal planes of the upper and lower walls of the ring and having a notch at the inner end thereof, a lever for contracting said ring pivoted to the under side of the first named lug, a link comprising parallel members pivoted to said lever and positioned on opposite sides thereof and having a pin at its other end for engagement with said notch, the lower of said link members having an outwardly projecting portion adapted to engage with the cover to assist in drawing the ends of the ring inwardly when the ring is contracted to closing position.

5. A split closing ring for containers, having a lever pivoted at one end of the ring and a link having a pivotal connection with the other end of the ring and with the lever and adapted to draw the ends of the ring toward each other when the lever is swung to closing position, and means on the link intermediate the ends thereof adapted to engage with a portion of the cover of the container for drawing both ends of the ring inwardly when the ring is drawn to closed position.

6. The combination with a receptacle having a bead at its open end and a removable cover having a flange fitting over the bead, of a split contractible clamping ring having walls engageable with the flange and bead for pressing the same together when the ring is contracted, inwardly extending projections adjacent the ends of the ring, a lever pivoted to one of said projections, a link having a pivotal connection with the lever and with the other projection, and means on the link intermediate its ends for exerting a lateral pressure outwardly against the cover when the ring is contracted whereby both ends of the ring will be drawn inwardly.

HAROLD GAR VAUGHN.

CERTIFICATE OF CORRECTION.

Patent No. 2,031,290

February 18, 1936.

HAROLD GAR VAUGHN.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, first column, lines 48, 49 and 50, claim 2, strike out the words "which engages with the adjacent surface of the side wall of the cover" and insert the same after "link" in line 52, same claim; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 31st day of May, A. D. 1938.

(Seal)

Henry Van Arsdale,  
Acting Commissioner of Patents.