Oct. 13, 1931. C. H. ROLLASON 1,827,544

APPARATUS FOR ATTACHING COVERS ON PAILS

Filed April 11, 1930

FIG 1

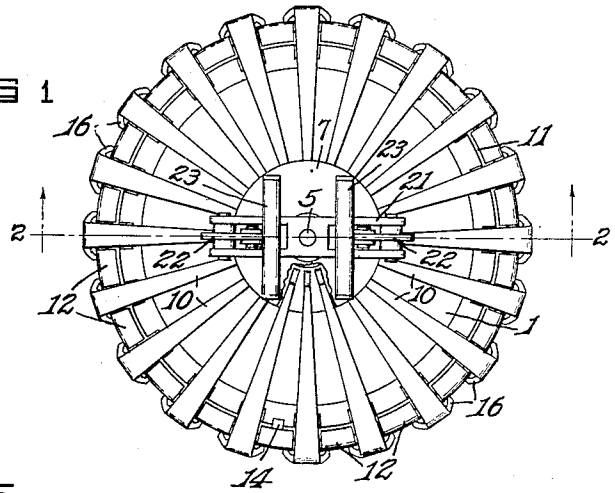


FIG 5

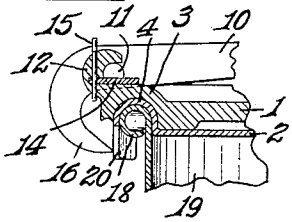


FIG 3

FIG 2

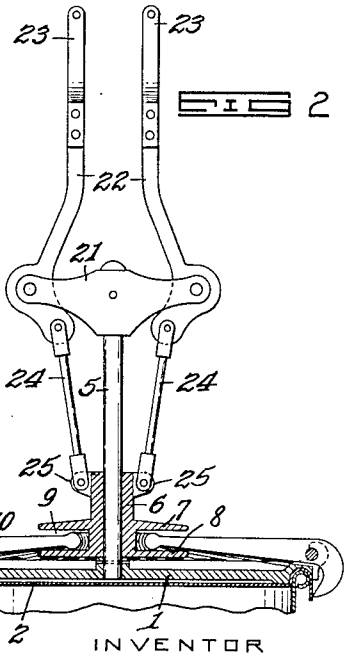
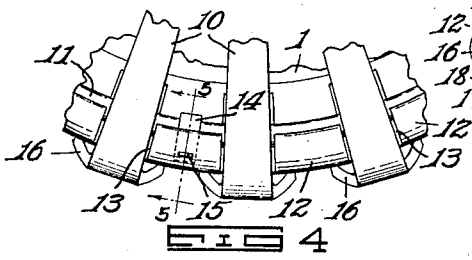


FIG 4



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APPARATUS FOR ATTACHING COVERS ON PAILS

Application filed April 11, 1930. Serial No. 443,463.

This invention relates broadly to pail heading apparatus, and more specifically to a hand operated mechanism for attaching heads or covers to sheet metal cans and pails.

The primary object of the invention is to provide a relatively simple, efficient and comparatively inexpensive hand tool whereby the annular terminal edges of covers may be turned into underlying sealing relation to the rims of pails.

A further object is to provide a device of the character mentioned by means of which may be turned into clinching relation to the rim-roll of the pail the terminal edge portion of the seated cover, whether such portion be provided in the form of a continuous depending flange or in the form of relatively spaced lugs.

In describing the invention in detail, reference is herein had to the accompanying drawings, in which—

Figure 1 is a top plan view of the invention applied in closing relation to a pail cover;

Figure 2 is a sectional elevation on line 2—2, Fig. 1;

Figure 3 is an enlarged detail section showing in full lines the parts occupying their initial seated positions and in dotted lines the same parts in their final closing positions;

Figure 4 is an enlarged fragmentary view in top plan showing the spreader for the pivot-ring; and

Figure 5 is a section on line 5—5, Fig. 4.

Referring to said drawings, 1 designates a circular base plate designed for mounting in seated relation to a pail cover 2 with an undercut rim portion 3 thereof resting upon the upwardly pressed annular rim 4 of said cover.

An upright post or standard 5 has its lower end rigidly mounted centrally of said base plate 1, and vertically movable upon said standard is a sleeve 6 which has formed on its lower end portion a pair of annularly disposed fins or collars 7 and 8. Said collars are relatively spaced, providing an intermediate channel 9 within which are received loosely the inner ends of a plurality of radially extending levers 10 which are pivotally mounted adjacent to their outer ends upon a split ring 11. Formed integral with the plate 1 and occupying positions on the top of the plate rim 3 are a plurality of inwardly facing hooks 12 with which said pivot ring 11 is engaged and which are relatively spaced to provide intermediate spaces 13 for the reception and operation of said levers 10.

The rings 11 having said levers 10 mounted thereon is adapted to be expanded into closely held relation to said hooks 12 and to be maintained in such relation by means of a suitable spreading wedge or key 14 introduced between its ends and suitably held in place, as by means of a cotter pin 15 directed through alined holes provided therefor in the hook and the key, as shown in Figs. 4 and 5.

The levers 10 carry, or have formed integrally therewith, at their outer ends downwardly and inwardly directed jaws 16 which are designed, in elevating movements of the inner ends of said levers, to be actuated to thrust the depending flange 17 of the cover rim 4 into inwardly tucked underlying relation to the outwardly curled rim-roll 18 of the pail 19; or, when spaced attaching lugs 20 are employed on the cover, as shown in Fig. 5, said jaws engage and turn said lugs into cover-securing relation to said rim-roll.

A cross-arm or yoke 21 which is fixed on the standard 5 has pivotally mounted on the opposite ends thereof operating levers 22 having stirrup-like handles 23 whereto hand power may be applied, as will hereinafter be explained. The pivotal attachment of said levers 22 with the yoke 21 is had intermediate the ends of said levers—that is, at points located above the lower ends of said levers, as shown in Fig. 2, and the said lower ends of said levers have pivotally attached thereto the upper ends of toggle links 24 which have their lower ends similarly attached to outwardly directed lugs 25 formed on the upper end of the sleeve 6.

In practice, to clinch the flange 17 of the cover rim 4 beneath the rim-roll 18 of the pail, the apparatus hereinbefore described is first seated upon the cover 2, as shown in Figs. 2 and 3, employing the handles of the then upright operating levers 22 for transporting

the apparatus to its place on the cover. Then, said levers are manually swung outward in opposite directions to effect vertical elevation of the sleeve 6 with respect to the yoke 21, as shown in dotted lines in Fig. 3. Such movement of said sleeve simultaneously actuates all of the jaw-carrying levers 10 to swing, or partially to rotate, on the pivot-ring 11 for gradually and forcibly turning, or tucking, the cover flange 17 into underlying seated relation to the rim-roll of the pail.

As shown, the flange-engaging portions of the jaws 16 formed on the levers 10 are preferably made of relatively great width in order that the flange will be engaged throughout approximately its entire circumference, thus to effect a neat and substantially uniform closing of the entire flange upon the rim-roll of the pail.

What is claimed is—

1. Apparatus for attaching covers to pails, comprising a base plate having a portion for seating upon the rim of the cover, radially disposed levers having pivotal connection intermediate their ends with said plate and having jaws at their outer ends, an upright standard carried centrally by said plate, a yoke of cross-arm form rigidly mounted on the upper end of said standard, a member shiftable on said standard, said member having the inner ends of said levers operatively engaged therewith whereby the latter are actuated in shifting movements of the former to move said jaws to and from bending relation to the attaching flange of said cover, and means for manually effecting shifting of said member, said means comprising operating levers pivoted intermediate their ends on the opposite ends of said yoke, and links connecting the lower ends of said operating levers to the upper end of said shiftable member.

2. Apparatus for attaching covers to pails, comprising a base plate having an undercut rim portion for seating upon the rim of the cover, radially disposed levers having pivotal connection intermediate their ends with said rim portion of said plate, said levers having rigid jaws at their outer ends, an upright standard carried centrally by said plate, a yoke fixed on the upper end of said standard, a sleeve shiftable on said standard and carrying relatively spaced collars providing an intermediate channel, said levers having their inner ends permanently received in said channel and movable with said sleeve for actuating pivotal rocking movements of said levers whereby said jaws are carried into and out of bending relation to the attaching flange of the cover, and means for actuating shifting movements of said sleeve, said means including operating levers pivotally mounted on opposite ends of said yoke, and links connecting said operating levers to said sleeve.

3. Apparatus for attaching covers to pails, comprising a base plate having a portion for seating upon the rim of the cover, radially disposed levers having pivotal connection intermediate their ends with said plate, said levers having rigid jaws at their outer ends, an upright standard carried centrally by said plate, a sleeve shiftable on said standard and carrying relatively spaced collars providing an intermediate channel, said levers having their inner ends permanently received in said channel and movable with said sleeve for actuating pivotal rocking movements of said levers whereby said jaws are carried into and out of bending relation to the attaching flange of the cover, a yoke rigidly carried by said standard, and means pivotally mounted on said yoke and having connection with said sleeve whereby manually applied force is communicated to said sleeve for shifting the latter.

4. Apparatus for attaching covers to pails, comprising a base plate having a portion for seating upon the rim of the cover, radially disposed levers having pivotal connection intermediate their ends with said plate, said levers having rigid jaws at their outer ends, an upright standard carried centrally by said plate, a sleeve shiftable on said standard and carrying relatively spaced collars providing an intermediate channel, said levers having their inner ends permanently received in said channel and movable with said sleeve for actuating pivotal rocking movements of said levers whereby said jaws are carried into and out of bending relation to the attaching flange of the cover, a yoke rigidly mounted on said standard, and link and lever mechanism carried by said yoke for actuating shifting movements of said sleeve.

5. In apparatus for attaching covers on pails, the combination with a base plate for seating upon the cover, of levers pivoted on said plate, said levers having bending jaws at the outer ends thereof and normally occupying positions wherein said jaws are retracted with respect to the attaching flange of the cover, a vertical standard carried by said plate, a member shiftable on said standard and having the inner ends of said levers operatively associated therewith whereby in elevating movements thereof said levers are rocked forward to actuate said jaws to assume bending relation to said flange, a yoke fixed on said standard, operating levers pivoted on the opposite ends of said yoke and links connecting said operating levers to said shiftable member.

6. In apparatus for attaching covers on pails, a base plate for seating upon the cover, said plate having hooks on the rim portion thereof, a ring removably mounted in engagement with said hooks and contractible out of such engagement, radially disposed levers pivoted on said ring between said hooks, said levers having jaws on their outer

ends, and manually operated means whereby said levers are rocked on said ring for actuating said jaws into bending relation to said flange.

7. In apparatus for attaching covers on pails, a base plate for seating upon the cover, said plate having hooks on the rim portion thereof, an expansible and contractible ring occupying expanded engaged relation with said hooks, a plurality of radially disposed levers pivotally carried by said ring and having jaws on their outer ends engageable with the attaching flange of the cover, a vertical standard carried by said plate, means shiftable on said standard whereby said levers are actuated to swing for presenting their jaws in bending relation to said flange, and means borne wholly by said standard whereby actuation of said shiftable means is effected.

8. Apparatus for attaching covers to pails, comprising a base plate for seating upon the cover, radially disposed levers having pivotal connection intermediate their ends with said plate, said levers having jaws at their outer ends, a standard mounted centrally of said plate, a member carried by and vertical shiftable on said standard and having the inner ends of said levers associated and movable therewith for actuating said levers to and from positions wherein their jaws occupy bending relation to the flange of the cover, and means mounted on said standard and having connection with said member whereby the latter is elevated and lowered, said means including handles whereby the apparatus may be carried and which, when employed to support the apparatus, maintain said levers in their normal inoperative positions.

In testimony whereof, I affix my signature.

CHARLES H. ROLLASON.