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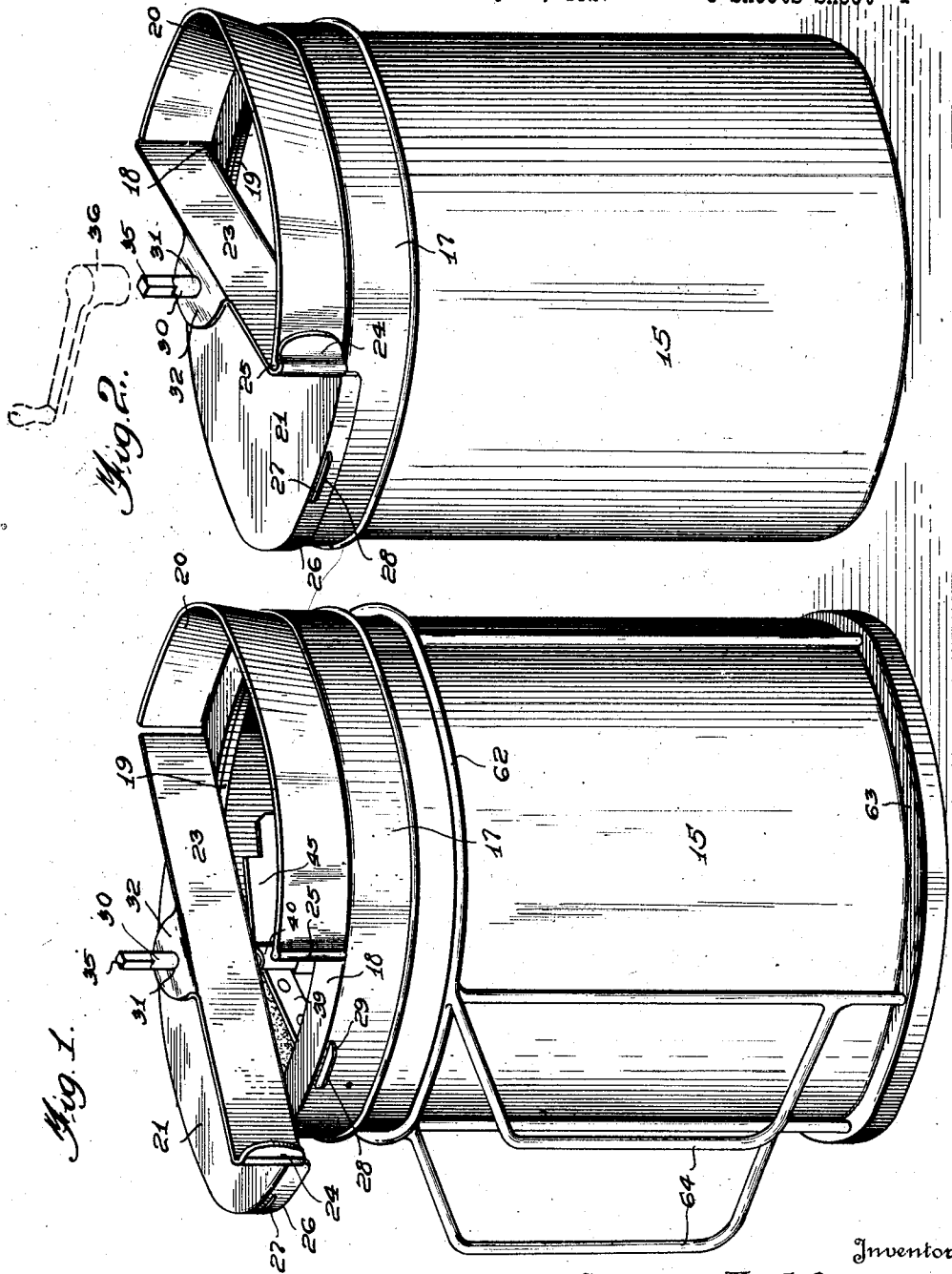
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G. A. HARRIS

ROTATABLE AGITATOR AND SCRAPER

Filed May 25, 1927

3 Sheets-Sheet 1



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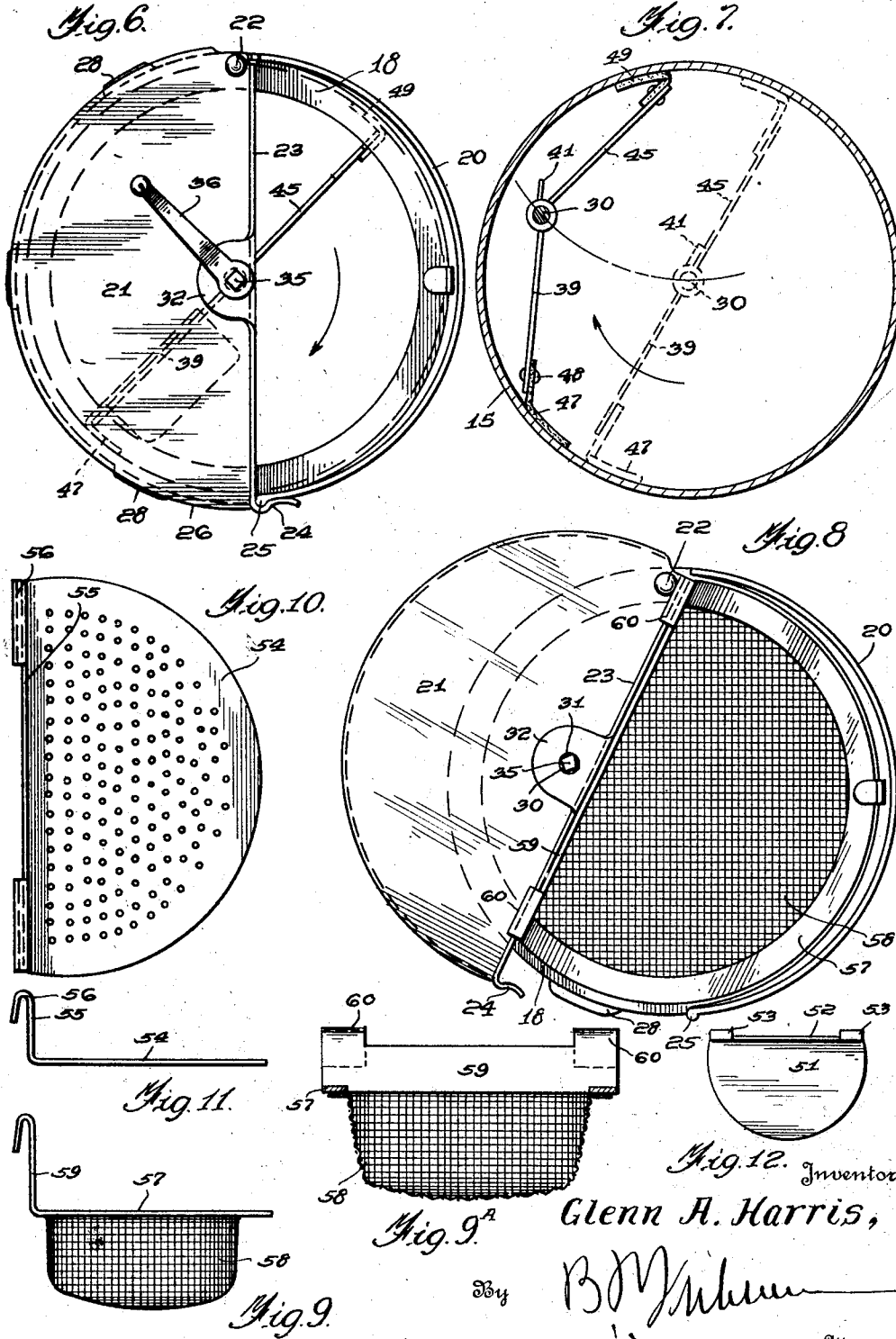
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3 Sheets-Sheet 2

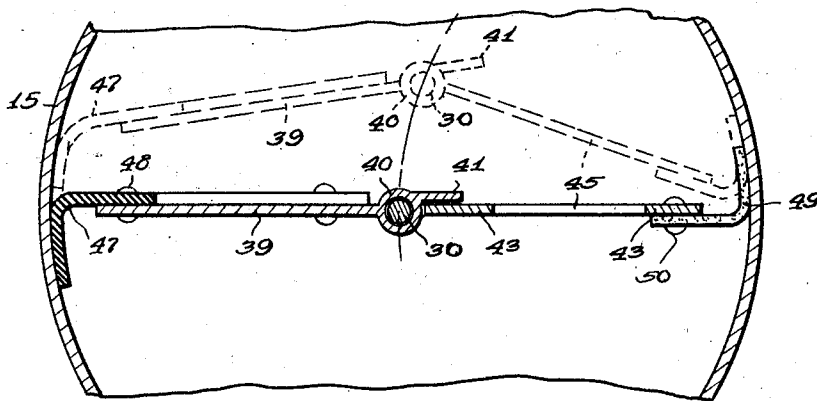
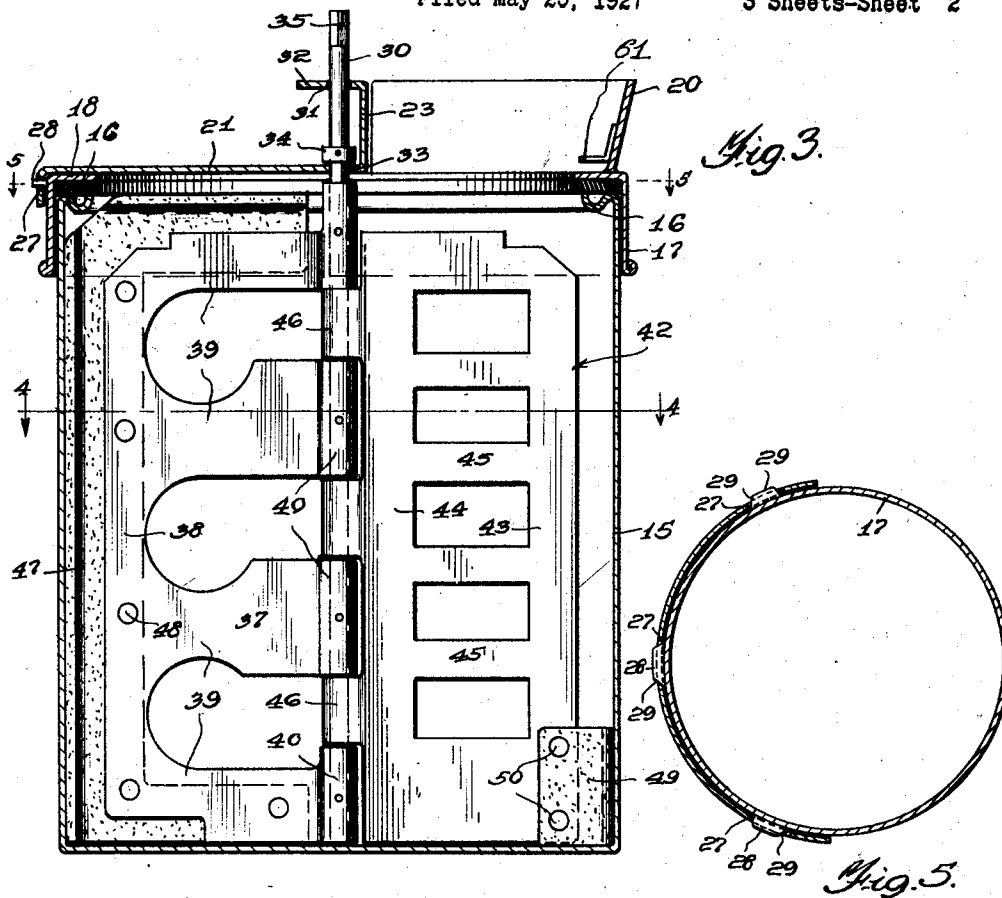


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## ROTATABLE AGITATOR AND SCRAPER.

Application filed May 25, 1927. Serial No. 194,004.

My invention relates to a device to be installed upon or within a can of paint or the like, to properly stir or mix the contents of the same.

5 In accordance with my invention, I provide a mixing or stirring element, adapted to be turned or rotated, and which is collapsible, so that it may be conveniently inserted within the can. The device may also be partly or  
10 wholly collapsed, within the can, to assume a position out of the way, when it is desired to dip a paint brush into the can. The device may thus be applied to a can of paint and will not interfere with the insertion of the brush  
15 into the can, during the ordinary painting operation. The device also embodies a cover member, carrying or supporting the rotatable stirring element or agitator. This cover member is preferably provided with a spout  
20 so that after the paint has been thoroughly stirred or mixed in the can, it may be poured or transferred into another can, without liability of spilling the paint. The cover member is so constructed that it is adapted to have  
25 engagement with strainer element or elements, so that paint from a partly used can of paint may be poured back into the can carrying the stirrer or agitator and all grit or solid material will be removed from the paint.  
30 The device is adapted to be applied to the standard paint can, upon the market, and may be made in any suitable size, depending upon the size of the can for which it is to be used.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts  
40 throughout the same,

Figure 1 is a perspective view of a device embodying my invention, showing the same applied to a paint can, with the cover member opened,

45 Figure 2 is a similar view with the cover member closed,

Figure 3 is a central vertical section through the device,

50 Figure 4 is a horizontal section taken on line 4—4 of Figure 3,

Figure 5 is a similar view taken on line 5—5 of Figure 3,

Figure 6 is a plan view of the device,

55 Figure 7 is a view similar to Figure 4, showing the collapsing of the rotary agitator or mixer,

Figure 8 is a plan view of the device with the cover member opened, and a strainer arranged therein,

Figure 9 is a side elevation of the strainer, 60

Figure 10 is a plan view of a modified form of strainer,

Figure 11 is an edge elevation of the same, and,

Figure 12 is a plan view of a closure ele- 65 ment.

In the drawings, wherein for the purpose of illustration, is shown a preferred embodiment of my invention, the numeral 15 designates a paint can, of the standard type, now 70 upon the market. This can is provided at its top with the usual inwardly projecting flange or rib 16. The can 15 may be of any selected size, such as a gallon, quart, pint or 75 half pint.

My stirring or agitating device embodies a cover member, including a continuous annular body portion 17, of the proper size to engage snugly over the top of the can 15. While it is preferred to construct the annular body 80 portion 17 of the proper size to fit the can, yet, I contemplate having the member 17 circumferentially adjustable. The annular body portion is provided at its upper edge with an inwardly projecting horizontal flange 18, 85 arranged above and overlapping the flange 16. A packing element or washer 19, formed of rubber or the like, is cemented or otherwise suitably attached to the bottom of the flange 90 18, and is arranged to engage with the flange 16 of the can, for effecting an air-tight joint. Rigidly attached to the horizontal flange 18 of the cover member is an upwardly projecting spout 20, preferably formed integral therewith. This spout extends for less than 95 one-half of the circumference of the flange 18. The spout is employed in pouring the contents of the can 15, into another can, as will be more fully explained.

The numeral 21 designates a cover element 100 or plate, included in the cover member. This cover element or plate is segmental and covers more than one-half of the area of the flange 18. The segmental cover element is flat and is pivoted at one end, by means of a pivot 105 element 22 with the flange 18. The cover element is, therefore, adapted to swing horizontally in sliding contact with the top of the flange 18. The segmental cover element 21 is provided upon its inner straight edge, with 110 a vertical flange 23, preferably integral therewith, and this vertical flange has one end

thereof positioned adjacent to and inwardly of the spout or flange 20, while its opposite end is provided with a resilient catch 24, to engage over a bead 25, formed upon the opposite end of the spout 20. The flange 23, therefore, constitutes the inner side of the spout, as shown. The flat segmental cover element 21 is provided with a down-turned flange 26 having a plurality of horizontal slots 27, which are adapted to receive horizontal stationary bolts 28, rigidly attached to the annular body portion 17. These bolts have their edges beveled at 29, so that they will readily enter the slots 27, upon the horizontal movement of the segmental cover element 21. The bolts and slotted flange 29 serve as means to lock the segmental cover element 21 to the annular body portion 17, against vertical movement, thus holding 20 these parts in close relation, for effecting a substantially air-tight joint.

The device embodies a stirring or agitating member, comprising a vertical rotatable shaft 30, projecting into the can, and having its upper portion extending exteriorly of the cover member and rotatable within an opening 31 formed in a bracket 32, carried by the top edge of the flange 23. The shaft 30 is also rotatable within an opening 33, formed in the segmental cover element 21. The shaft 30 carries a stop collar 34, rigidly detachably attached thereto. The upper end 35 of the shaft 30 is formed polygonal in cross section for detachable engagement with a crank or handle 36 to turn the shaft.

The agitating member embodies an agitating element or plate 37, which may be formed of metal or the like, and stamped to provide a longitudinal strip 38, and radial arms 39. These arms are provided at their inner ends with sleeves or hubs 40, which are rigidly attached to the shaft 30, for rotation therewith. The hubs 40 are provided upon their sides remote from the arms 39 with generally radial shifting flanges 41, rigidly secured thereto. These shifting flanges are thus arranged upon the leading sides of the hubs or sleeves 40. The agitating member further embodies an agitating element 42, formed of metal or the like, stamped to provide outer and inner longitudinal strips 43 and 44, connected by radial portions 45. Secured to the longitudinal strips 44 and alternately arranged upon the shaft 30, with respect to the hubs 40, are knuckles 46, pivoted upon this shaft. The strip 44 is arranged in advance of the shifting elements or flanges 41, as shown. It is thus seen that when the shaft 30 is turned clockwise, that the shifting elements 41 will engage with the agitating element 42, holding the same at a straight angle with relation to the mixing element 37, and causing the mixing element 42 to rotate therewith. However, when the shaft 31 is shifted laterally, in the direction of the side of the can, Figures 4

and 7, the mixing member may be partly collapsed.

The agitating element 37 embodies a flexible member or wiper 47, formed of rubber or the like, which is attached to the strip 38 and upper and lower arms 39, by rivets 48 or the like. The wiper 47 is preferably formed of rubber, fabric or any other suitable material and extends radially beyond the strip 38, and above and below it. The agitating element 42 embodies a wiper 49, formed of flexible material, such as rubber, fabric or the like. This wiper 49 is attached to the strip 43 at the lower end thereof, by rivets 50, or the like, and projects radially beyond the strip.

The numeral 51 designates a segmental closure element or plate, which is imperforate, and is adapted to be inserted within the spout 20, when the cover member is closed. The closure element 51 is provided upon its straight edge with an upstanding flange 52, provided at its upper edge with depending resilient clips 53, to engage over the flange 23. This closure element, co-operating with the closed segmental cover element 21, is adapted to completely close or cover the can 15.

When the cover member is closed, I contemplate removing the closure element 51, and substituting therefor a strainer element 54, which may be formed of perforated sheet metal. This strainer member is segmental to fit within the spout 20, and is provided at its straight edge with a vertical flange 55 carrying down-turned resilient clips 56, to engage over the flange 23. This strainer element is used when paint is poured back into the can 15, from another can or the like.

When the cover member is in the open position, as shown in Figure 8, I may employ a much larger strainer element, including a segmental frame 57, adapted to be inserted within the spout 20, and carrying a foraminous bottom 58, formed of wire gauze or the like. The frame 58 carries an upstanding flange 59 to engage with the flange 23, when it is in the open position, and the flange 59 is provided with down-turned resilient clips 60, to engage over the flange 23.

When these various elements are thus inserted within the spout 20 their free edge is adapted to be passed beneath a bracket 61, which is rigidly mounted upon the interior of the spout 20.

The numeral 62 designates a skeleton frame, surrounding the can, and attached to a base 63. This skeleton frame is equipped with a suitable handle 64.

When the device is applied to a can, used in painting, by dipping the brush into the can, or when it is otherwise desired to conveniently transport the can from one place to another, such can may be equipped with the skeleton frame 62. However, the invention is in no sense restricted to the use of this frame.

To apply the device within or upon the can, the agitating or stirring member is partly or wholly collapsed, so that the same may properly clear the flange 16. The member having thus been inserted within the can, the cover member is applied to the top of the can. When the cover member is in the closed condition, the shaft 30 is concentric with respect to the can. By rotating this shaft, the mixing or agitating elements 38 and 42 are turned. The element 42 serves principally to stir the paint, while the wiper 47 of the element 38 serves to wipe the paint from the bottom and side walls of the can, thus thoroughly mixing the deposits that usually accumulate at these points. With the cover member in place upon the can, the thoroughly mixed paint, may be poured through the spout 20, into another can, which is used in painting. The cover member prevents the spilling of the paint upon the floor or the like. Should it be desired to completely seal the top of the can 15, without removing the stirring or agitating device, the closure element is placed within the bottom of the spout 20, as explained.

When it is desired to use the can with the stirring or agitating device applied thereto, for painting purposes, as by dipping the brush into the can, the segmental cover element 21 is swung to the open position, Figure 1, the agitating member being first rotated to the position shown in Figure 4, so that it will fold or collapse, upon shifting the shaft 30 laterally. The swinging of the segmental cover element 21, to the open position, greatly increases the size of the opening at the spout 20 and the rotatable agitating or mixing element is arranged adjacent to that side of the can remote from the spout, and hence out of the way.

If it is desired to introduce paint from other cans, into the can 15, for proper stirring or agitation, the cover member may assume the closed position, and the strainer 54 placed within the spout. Further, the segmental cover element 21 may be shifted to the open position, Figure 1, and the strainer element embodying the frame 57 inserted within the spout. This provides a strainer of greater capacity.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a device of the character described, a can cover member to be mounted upon the top of a can, and including a pivoted cover element adapted to be shifted laterally with

relation to the can to an open position, and a mixing or agitating member carried by the pivoted cover element for arrangement within said can, said mixing or agitating member embodying elements which are rotatable as a unit in one direction and adapted to be folded when shifted laterally with the cover element whereby said mixing or agitating member is arranged adjacent to one side of the can.

2. In a device of the character described, a can, a can cover member incanted upon the top of the can and adapted to be shifted laterally with relation thereto, a mixing or agitating member carried by the cover member for arrangement within said can, said mixing or agitating member embodying elements which are rotatable as a unit in one direction and are adapted to be folded when rotated in the opposite direction said mixing or agitating member when folded being adapted for lateral movement with the cover member to assume a position adjacent to one side of the can.

3. In a device of the character described, a can, a can cover element mounted upon the top of the can and adapted to be shifted laterally with relation thereto, a shaft rotatably mounted upon the cover element and extending into the can, a mixing element mounted upon the shaft for rotation therewith and extending radially with relation thereto, a co-acting mixing element pivotally mounted upon the shaft and extending radially with relation thereto, and means carried by the shaft to rotate therewith and engaging one side of the second named mixing element to prevent the same from turning in one direction upon said shaft and permitting the same turning in an opposite direction upon the said shaft, the arrangement being such that the mixing elements may partake of relative folding action and when folded being adapted to be shifted laterally with the shaft to assume a position adjacent to one side of the can, the shaft being shifted laterally by the movement of the cover element.

4. In a device of the character described, a can, a can cover element mounted upon the top of the can and adapted to be shifted laterally with relation thereto, a shaft rotatably mounted upon the cover element and extending into the can and movable laterally with the can, a mixing element rigidly mounted upon the shaft for rotation therewith, a co-acting mixing element pivotally mounted upon the shaft, and shifting means rigidly mounted upon the shaft and separate from and adapted to engage the co-acting mixing element, said mixing elements being adapted to partake of a relative folding action and when in the folded condition being adapted to be shifted laterally adjacent to one side of the can.

5. In a device of the character described, a

can, a can cover element mounted upon the top of the can and adapted to be shifted laterally with relation thereto, and a rotatable mixing device carried by the cover element and movable laterally with the cover element, said device embodying a plurality of laterally foldable mixing elements.

6. In a device of the character described, a cover member embodying an annular body portion to be arranged upon the top of a can and having a spout, a cover element pivotally mounted upon the annular body portion and adapted to be shifted laterally with relation to the can, and a collapsible rotatable stirring device carried by the cover element and movable laterally with relation thereto and when collapsed being adapted to be shifted to a position adjacent to one side of the can.

7. In a device of the character described, a cover element embodying an annular body portion to be arranged upon the top of a can and having a spout, a cover element pivotally mounted upon the annular body portion upon one side of the spout and carrying an upstanding flange serving to cover the open side of the spout, said cover element being shiftable laterally with relation to the can, and a rotatable collapsible mixing device carried by the cover element and adapted when collapsed to be shifted laterally with the cover element to assume a position adjacent to one side of the can.

8. In a device of the character described, a cover member embodying an annular body

portion to be arranged upon the top flange of a paint can or the like, a gasket arranged between the cover member and flange, a spout rigidly carried by the annular body portion and projecting above the same, a cover element pivotally connected with the annular body portion and having an upstanding flange to close one side of the spout and also having a depending portion provided with slot means, said cover element being shiftable laterally with relation to the can, bolt means carried by the annular body portion to enter the slots, and a rotatable agitating device carried by the pivoted cover element and shiftable laterally therewith and adapted to have a relative folding action so that when folded it may be shifted adjacent to one side of the can.

9. In a device of the character described, a cover member embodying an annular body portion to be arranged upon the top of the can and having an upstanding spout, a cover element pivoted upon the annular body portion and provided at one end with a resilient catch said cover element being shiftable laterally with relation to the can, a bead formed upon the end of the spout for co-action with the resilient catch, and a collapsible rotatable mixing device carried by the pivoted cover element and shiftable laterally with the cover element and adapted when collapsed to be shifted to a position adjacent to one side of the can.

In testimony whereof I affix my signature.  
GLENN A. HARRIS.