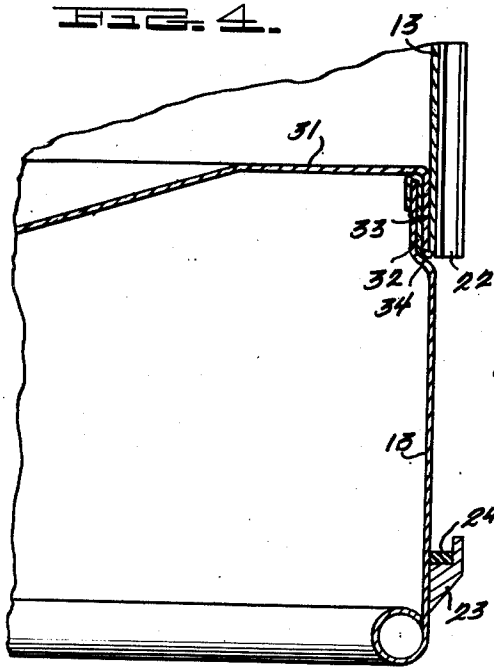
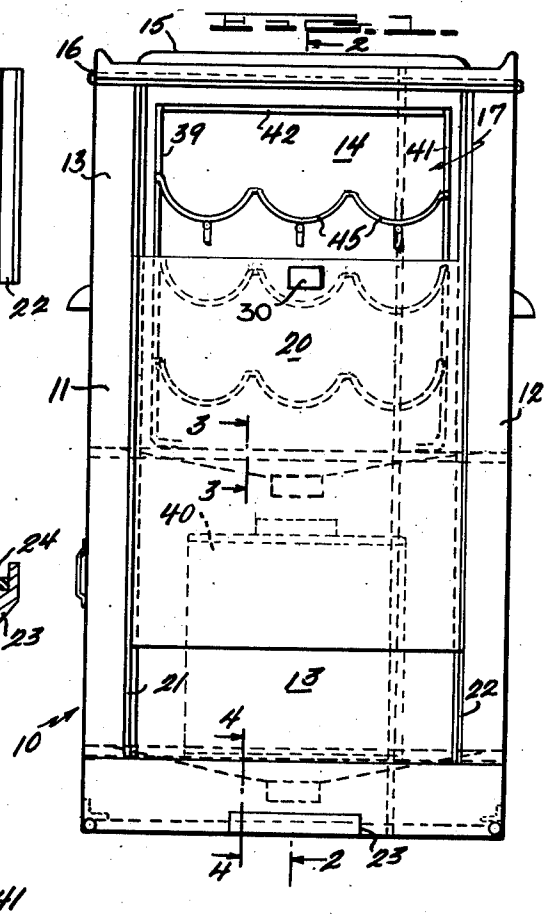
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OIL RECOVERY STAND

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FIG. 4.





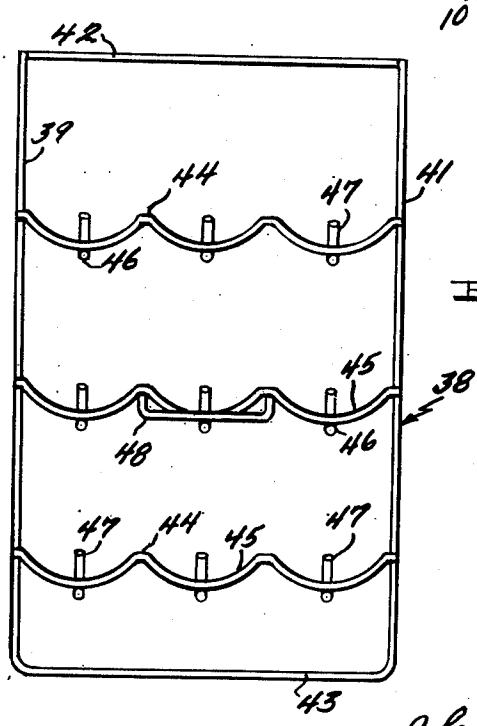


FIG. 5.

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FIG. 2.

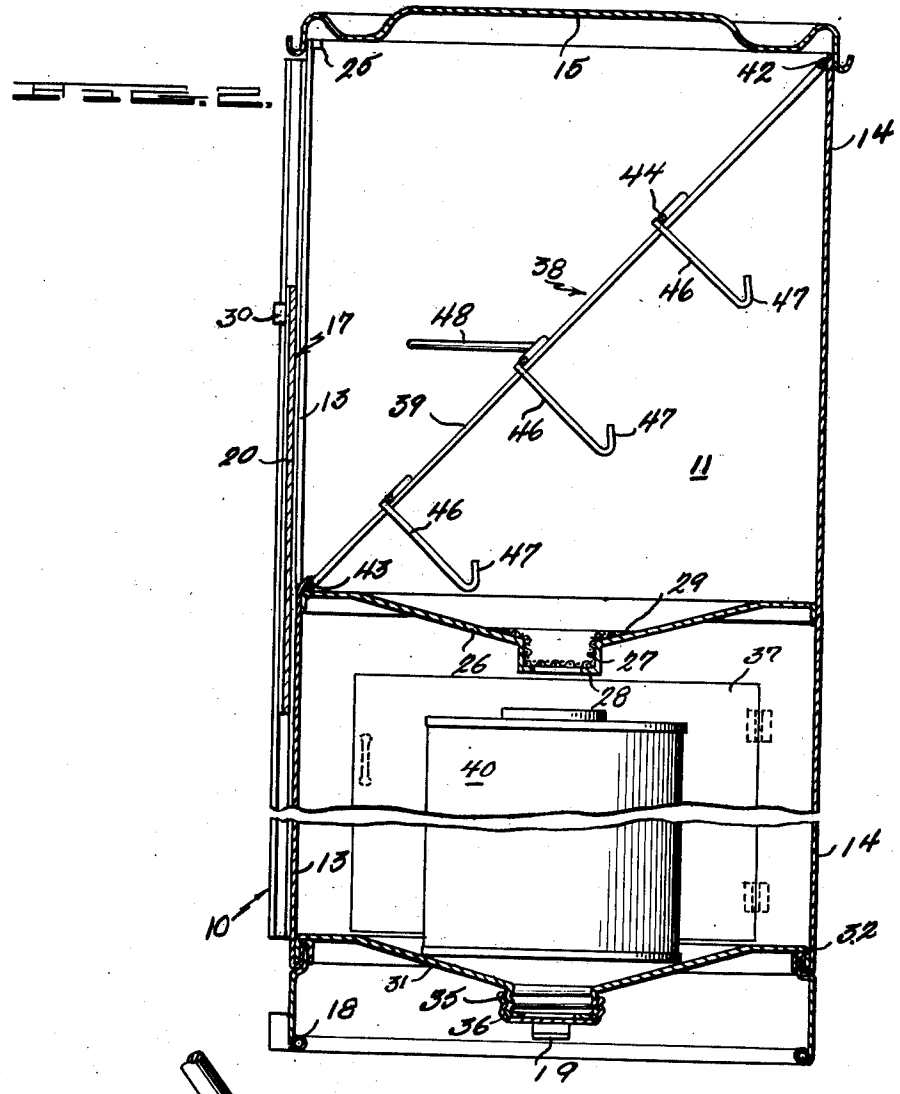
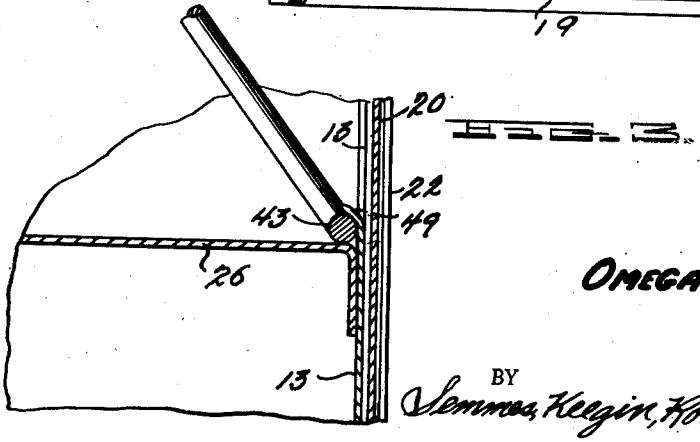


FIG. 3.



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OIL RECOVERY STAND

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Application January 26, 1950, Serial No. 140,679

6 Claims. (Cl. 222—112)

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This invention relates to an oil recovery stand and more particularly to an apparatus for supporting emptied lubricating oil cans in a position for completely draining the oil adhering on their inner surface into a storage container.

It is now the general practice to sell lubricating oil for automobiles in cans, usually of one quart capacity. These cans are not opened until they are drained into the crank case of the automobile and are thrown away after draining. Generally, insufficient time is allowed for complete draining into the crank case because of a desire to give the customer quick service. In addition, many service stations store the cans of lubricating oil on racks outside of the station, and in cold weather the oil becomes extremely viscous which further increases the amount of oil remaining in the can. In some cases as much as two ounces of oil will remain in the can after it has been emptied into the crank case of an automobile. While this amount of oil is not large, and is not particularly important to the motorist who would rather not wait for complete draining, important savings can be made by the operator of a service station if the oil normally remaining in the cans is completely recovered.

It is an object of this invention to provide an oil recovery stand in which oil may be completely drained from a number of cans simultaneously.

A further object of this invention is to provide an oil recovery stand in which the cans are supported in a position with the drain opening of the can at the lowest part of the can to allow complete removal of oil from the can.

Another object of this invention is to provide an oil recovery stand which is simple in construction and may be sold at a low price.

Still another object of this invention is to provide an oil recovery stand in which the cans from which the oil is draining are supported in a laterally spaced position whereby oil draining from one can does not fall on the outer surface of a can supported at a lower level.

With these and other objects in view, this invention resides in a cabinet in which a rack having a plurality of hooks for supporting cans is mounted. The rack supports the cans above a collecting pan which directs the oil recovered from the cans into a container from which the oil may be drained periodically.

In the drawings:

Figure 1 is a front elevation of the oil recovery stand of this invention with the door to the cabinet partly open;

Figure 2 is a vertical sectional view along the line 2—2 of Figure 1 of the assembled recovery stand;

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Figure 3 is an enlarged fragmentary sectional view along the section line 3—3 of Figure 1 showing the attachment of the collecting pan to the side walls of the cabinet and the retaining means for the oil can supporting rack;

Figure 4 is an enlarged fragmentary sectional view along the section line 4—4 of Figure 1 illustrating the means of attaching the bottom plate to the walls of the cabinet; and

Figure 5 is a plan view of the oil can supporting rack.

Referring to Figure 1 of the drawings, reference numeral 10 indicates generally a cabinet for the oil recovery stand having side walls 11 and 12, a front wall 13, and a back wall 14. The upper end of the cabinet 10 is closed by a top 15 having a depending flange 16 which fits snugly over the side walls and front and back walls to close the top of the cabinet and increase the rigidity of the structure. The central portion of the front wall 13 terminates at about the middle of the cabinet to provide an opening 17 allowing access to the interior of the cabinet. The lower edge of the walls of the cabinet are rolled over to form a bead 18 extending around the bottom of the cabinet to provide a strong base permitting the cabinet 10 to be moved easily over a floor. A plurality of cleats 19 may be mounted on the cabinet 10 directly above the bead 18 for anchoring the cabinet. The cleats 19 are provided with slots, not shown, to allow them to be slid into place under the heads of bolts. The cabinet may be constructed of any suitable sheet metal, such as 20 gauge steel or aluminum sheet.

The opening 17 is closed by a door 20 adapted to slide vertically in tracks 21 and 22 which are secured to the front wall 13 of the cabinet. Tracks 21 and 22 are merely channels U-shaped in the drawings, welded to the front surface of the wall 13 to guide the door 20 as it is moved from the closed position. A door stop 23 having a buffer 24 of a resilient material, such as rubber, on its upper surface, is mounted on the front wall 13 at the bottom of the cabinet to limit the downward movement of the door 19. A conventional latch 30 mounted on the door near its upper end engages a complementary part 25 of the latch on the top 15 to hold the door in the closed position. Thus, door 20 may be lowered to allow access to the interior of the cabinet 10 through the opening 17 and then may be locked in the closed upper position to minimize contamination of the oil drained from the cans.

A collecting pan 26 is spot welded or screwed to the walls of the cabinet 10 in a horizontal position near its middle. The collecting pan 26 is disc shaped to direct all of the oil drained from the cans to the center of the pan. A nozzle 27 at the center of the pan provides an opening through which the oil recovered may drain. Nozzle 27 is provided with an inwardly extending flange 28 at its lower end on which a screen 29 rests. The screen 29 prevents the passage of grit into the oil reservoir below the collecting pan 26.

The cabinet 10 is closed at its lower end by a bottom plate 31 which may be secured to the walls of the cabinet by means of joint 32. The joint 32, best illustrated in Figure 4 of the drawings, consists of a doubled back section of the walls of the cabinet forming a channel into which a flange 33 along the outer edge of the bottom plate 31 extends. The portion of the walls of the cabinet below the bottom plate 31 is made up of a short section of sheet metal secured to the upper part of the side walls of the cabinet at joint 32. The bottom plate 31 is provided with a centrally positioned nozzle 35 threaded to receive a cap 36 which tightly closes the outlet formed by the nozzle to permit periodic draining of oil which may accumulate on plate 31. Access to the space between the bottom plate 31 and collecting pan 26 is gained by a door 37 hinged or otherwise mounted on the walls of the cabinet to close an opening through which a suitable storage container 40 may be placed under the nozzle 27 in the collecting pan 26 to receive the recovered oil.

Resting on the surface of the collecting pan 26 is a rack, indicated generally by 38, for supporting the cans in a draining position. The rack 38 consists of standards 39 and 41 joined by a top member 42 and a bottom member 43 to form a rectangular frame. Extending between the standards 39 and 41 are a plurality of cross bars 44 which form supporting members on which the oil cans rest while draining. Preferably, the cross bars 44 are bent into a series of arcs 45 which aid in positioning the cans accurately during the draining. Secured to the cross bars and extending therefrom are rods 46 having hooks 47 at their ends remote from the cross bars to which they are secured. When the cross bars 44 are provided with the arcs 45, the rods 46 should extend from the mid point of the arcs to cooperate with the arcs in the alignment of the oil cans in a position allowing most efficient and complete removal of oil from the cans. The rack 38 may be provided with a handle 48 to aid in its handling.

The rack 38 rests on the upper surface of the collecting pan 26 with the bottom member 43 against the front wall 13 of the cabinet 10. The central portion of the front wall 13, which terminates shortly above the level of the collecting pan 26 to form the opening 17, is bent in the manner best illustrated in Figure 3, to form a retaining arm 49 which holds the bottom member 43 firmly in place. The top member 42 of the rack 38 is then allowed to rest against the back wall 14 of the cabinet to support the rack 38 in an oblique position as is illustrated in Figure 2 of the drawings. It will be noticed that the oblique position of rack 38 results in the hooks 47 being laterally spaced whereby the oil from a can supported by any hook will not drain onto the outer surface of the can supported on a lower hook.

The operation of the oil recovery stand is believed to be self-evident. The can is placed with the hooks 47 extending into the drain opening of the can, which are positioned along the rim of the can. The hooks 47 and the supporting members 44 combine to support the cans at an angle with the horizontal and with the drain opening at the lowest part of the can to allow complete draining from the can. The oil draining from the can drops onto the collecting pan 26 and passes through the screen 38 and nozzle 27 to the container 40 where it is stored. At the end of a day, or any other suitable time, the oil storage container 40 is removed through the door 37, emptied into other suitable containers, such as the usual quart dispensing bottles. The recovered oil has been maintained in a clean condition and may be sold for use in automobiles. The large number of cans that are placed on the rack allows the cans to remain in a draining position for a period sufficient for substantially all of the oil to be recovered. Recovery of the oil is further aided by the sloping position of the can with the opening at the lowest possible level.

In the description of this invention, reference has been made to the recovery of lubricating oil from the cans. It will be appreciated that this invention may be used for the recovery of lubricating oil from containers other than cans, and the term "cans" is herein employed as a generic term denoting suitable containers of any description.

While the present invention has been described with reference to the specific embodiments shown and described herein, its concept is not limited thereto, but falls within the scope of the appended claims.

I claim:

1. Apparatus for the recovery of lubricating oil from opened oil cans comprising, in combination, a cabinet, a rack supported within the cabinet and adapted to support opened cans during the draining of residual oil therefrom, said rack comprising a frame, a series of substantially parallel can supporting bars extending across the frame and spaced from each other a sufficient distance to receive a can endwise therebetween, and spaced rods secured to the bars and depending therefrom, each of said rods having an upwardly directed hook at its lower end adapted to supportingly hook under the lower side edge of a can at its drain opening, said supporting bars and hooks co-acting to hold the cans in an inclined position for draining.

2. Apparatus as set forth in claim 1 and in which the rack is so supported in the cabinet as to be manually removable therefrom and replaceable therein, whereby the rack with drained cans therein may be manually removed from the cabinet as a unit.

3. Apparatus as set forth in claim 1 and in which said rack has abutments at said bars and positioned to abut opposite sides of the cans when supported by said hooks and bars and restrain sidewise displacement of said cans on the bars.

4. Apparatus as set forth in claim 1 and in which said bars are formed in the shape of a series of arcs each of which is adapted to receive a can and to fix the position of the can laterally on the bar.

5. Apparatus as set forth in claim 1 and in which the rods are secured to the bars at the center points of the arc formations thereof.

6. Apparatus for the recovery of lubricating oil

from opened oil cans comprising, in combination, a cabinet, an oil collecting pan supported horizontally in the cabinet substantially at the mid section thereof, a door in one wall of the cabinet above the collecting pan, a can supporting rack positioned diagonally in the cabinet above said collecting pan, said rack comprising a pair of spaced standards connected by top and bottom members and constituting a frame, can supporting bars extending between the standards and spaced apart a sufficient distance to receive cans endwise therebetween, rods secured to and depending from the bars and having at their lower ends upwardly directed hooks adapted to enter the drain openings of the cans and supportingly hook under the lower edges of the sides of the cans, said hooks and bars coacting to hold the cans in an inclined position in the rack while draining, means for draining oil from the collecting pans, and a storage container positioned to receive oil draining from said collecting pan.

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