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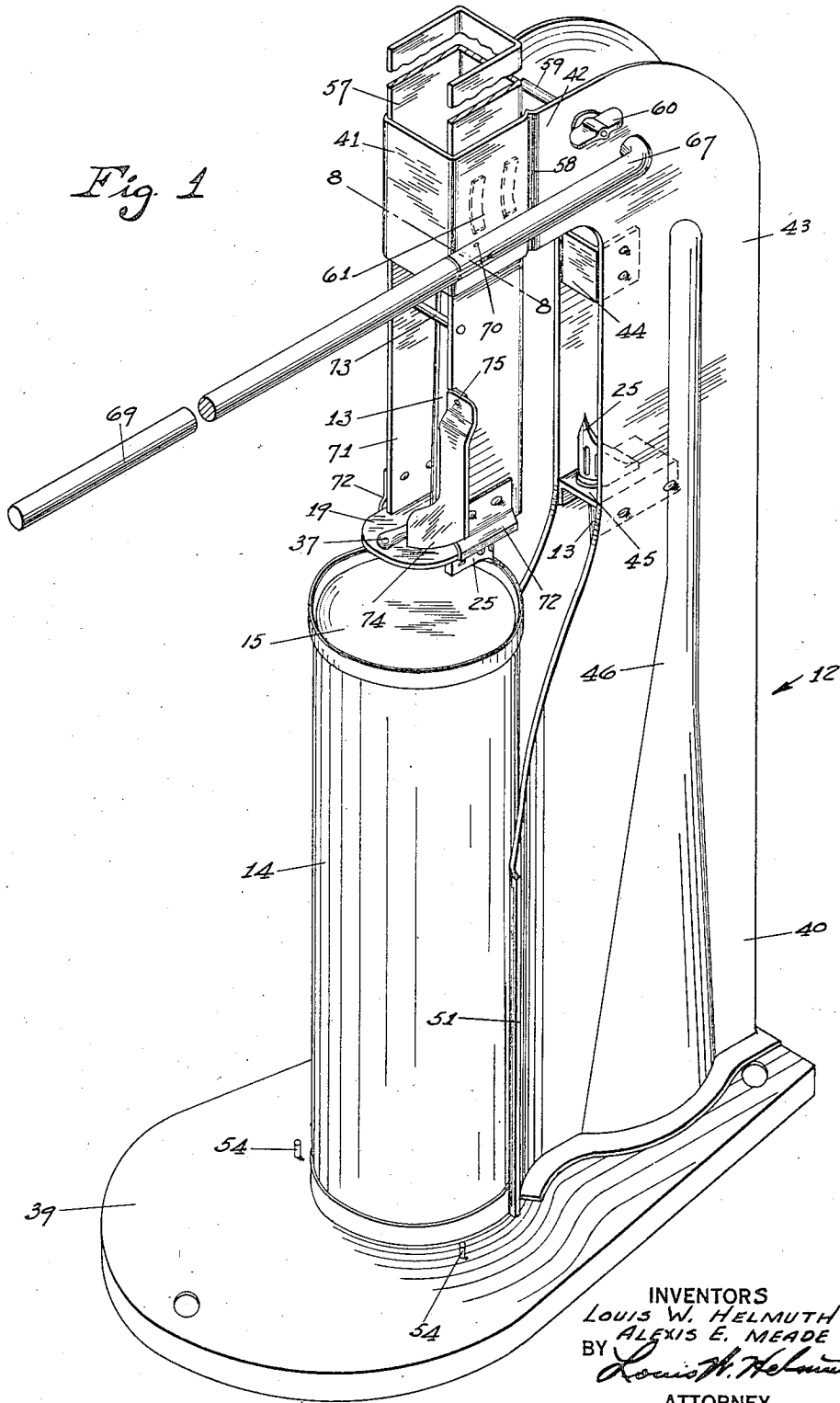
2,035,808

DECANTING DEVICE AND MEANS FOR ATTACHING SAME

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3 Sheets-Sheet 1

Fig. 1



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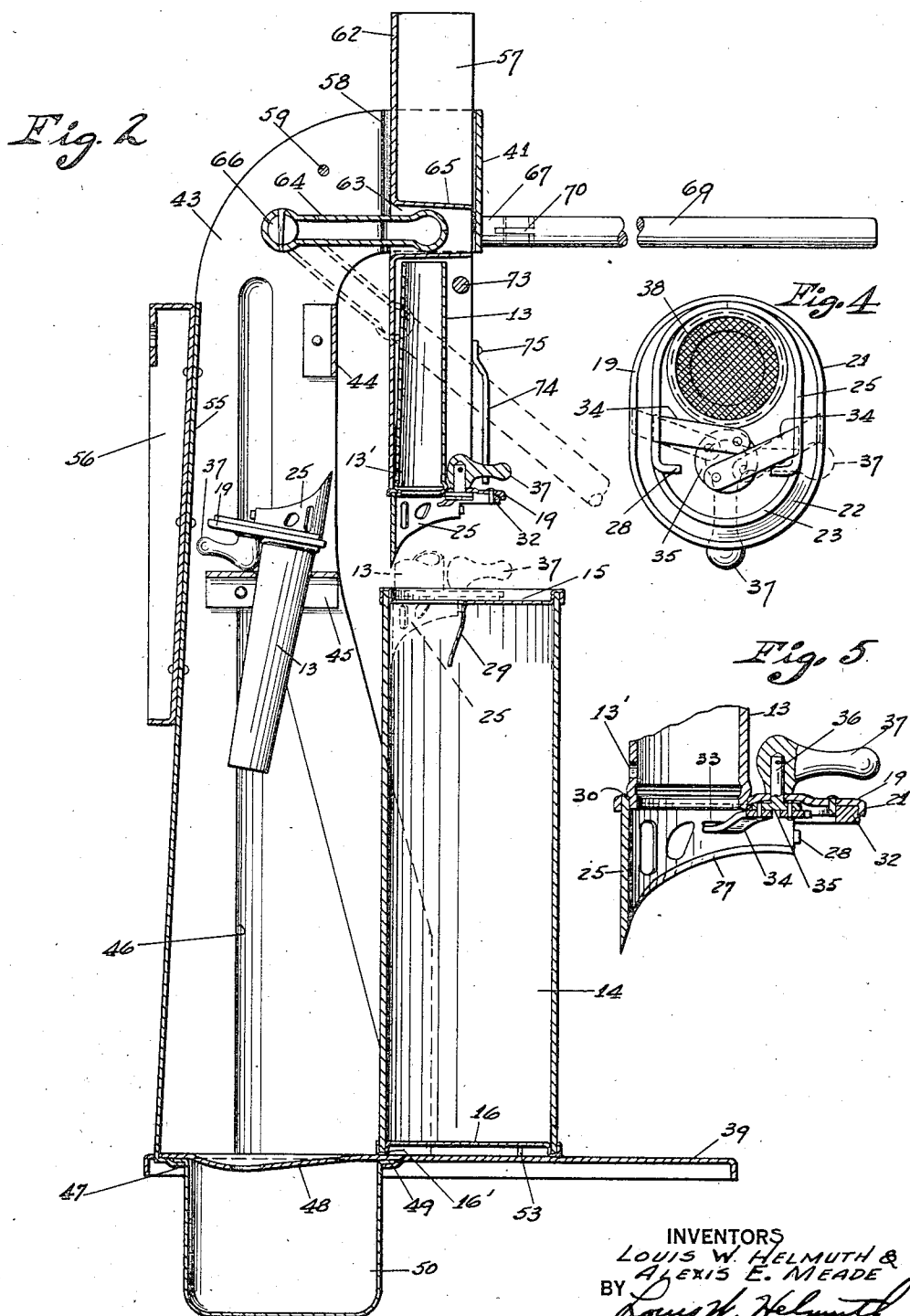
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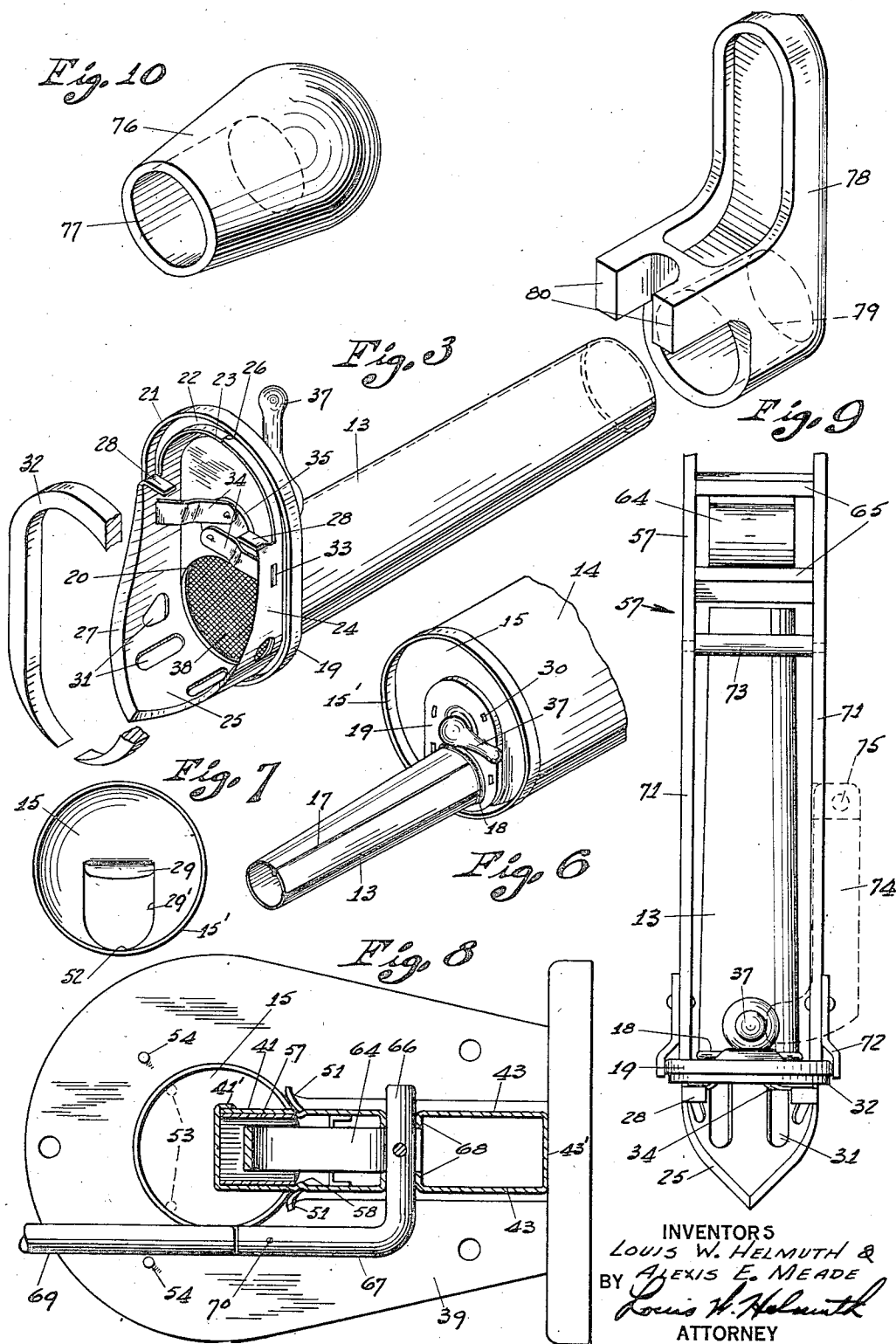
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UNITED STATES PATENT OFFICE

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DECANTING DEVICE AND MEANS FOR
ATTACHING SAMELouis W. Helmuth and Alexis E. Meade,
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22 Claims. (Cl. 221—23)

This invention relates to new and useful improvements in container decanting or dispensing devices and to means for attaching the same to containers.

5 An important object of the invention is to provide a detachable spout having means for penetrating a container to be decanted and means to positively and releasably lock the spout in proper leak proof position upon the
10 container for decanting the same.

Another important object is to provide means for holding the spout in position to be rapidly attached to the container, for forcing the penetrating means thru a wall of the container,
15 and for automatically locking the spout upon the same.

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

20 In the accompanying drawings forming a part of the application and wherein like numerals are employed to designate like parts throughout the various views.

Figure 1 is a perspective view of the press stand with a container in position thereon to have the spout attached thereto.

Figure 2 is a vertical section of the same.

Figure 3 is a perspective view of the spout with its gasket and a detachable handle separated therefrom.
30

Figure 4 is a bottom plan of the spout.

Figure 5 is a fragmentary section of the base of the spout illustrating the cutter and locking device.

35 Figure 6 is a fragmentary perspective of one end of a container showing the spout attached thereto.

Figure 7 is a top plan of the container top illustrating the shape of opening cut by the
40 spout cutter.

Figure 8 is a transverse horizontal section of the press stand taken on line 8—8 of Figure 1.

Figure 9 is an enlarged front elevation of the ram of the press stand holding a spout in
45 position to be attached to the container, and Figure 10 is a perspective of a modified form of hand press knob for forcing the spout thru a wall of a container.

Referring now in detail to the drawings
50 wherein one embodiment of the invention is illustrated by way of an example, the numeral 12 designates a press by which a detachable decanting spout 13 is attached to a container 14 having metallic top 15 and bottom 16 spun
55 thereon to seal the container.

The elongated tapered spout 13 is preferably made of sheet metal rolled into a tube with a longitudinally extending crimped seam 17. Near its larger end it has a vent hole 13' and is formed with an annular shoulder 18 adapted to
5 engage the top of a base 19 when the end of the spout is passed thru an opening in the base and spun or flanged over against the inner surface of the base as at 20 thereby securely
10 anchoring itself to the base 19.

This base is of somewhat oval shape and as best seen in Figure 6, the spout 13 is attached at one end of the base for a purpose to later appear. The margin of the base has a flange
15 21 forming the outer wall of a gasket retaining groove 22; the inner wall 23 thereof being constituted by the base of a stamping 24 which forms a cutter blade 25. This stamping is formed to follow the shape of the base 19; the
20 ends of the stamping being brought together and secured as at 26.

The edges of this stamping are provided with integral lugs 30 which extend thru the base 19 and are bent over or secured in any other
25 suitable manner for fastening the cutter blade 25 thereto. A strainer 38 may be positioned across the inner end of the tube if desired.

The cutter blade tapers from a point as shown and the cutting edge 27 thereof is sharpened and hardened. This edge terminates in
30 blunt edged inwardly and laterally extending fingers 28 which are provided to engage the tongue 29 cut from the container top opening 29' to bend the same inwardly of the container as shown in Figure 2.

The blade 25 is provided with a series of
35 perforations 31 to facilitate flow of contents from the container to the spout and to enable complete draining of the container. A gasket 32 of felt or other suitable material shaped to fit in the groove 22 and held therein by bending in the flange 21 as shown in Figure 5, is adapted to be compressed against the container top to provide a liquid tight seal. The sides
40 of the cutter blade are provided with openings 33 to slidably support a pair of toggle locking links 34 having offset portions eccentrically pivoted to an oscillatory disk 35 mounted in a recess formed in the base 19. This disk is provided with a stud 36 extending exteriorly of the
50 base to have a knob or handle 37 fastened thereto whereby the beveled ends of the links 34 can be projected thru the openings 33 and out under the edges of the opening 29' of the container top to detachably fasten the spout to the container. 55

The edges 29' are slightly deformed inwardly of the container by the cutter 25 as it is projected therethru, so that the links 34 in moving out obliquely across these edges, tend to groove them and in so doing force the base 19 of the spout radially outward across the container top to firmly engage the bead or flange 15' thereof. The edges of the links 34 abut one another every quarter turn of the handle 37 in either direction thereby providing a stop determining the locked and unlocked positions of the links and handle.

Return of the handle to its unlocked position withdraws the toggle links from beneath the edges of the opening in the container so that the spout may be detached from an empty container and repeatedly used to decant other containers. The handle, of course, retains the disk 35 seated in its recess in the base. The offsets in the toggle links enable them to clear the flange 21 and their free ends are prevented from sliding out of supporting engagement with the openings 33 by abutment of the edges of the links when in their unlocked position.

The press 12 for holding a spout in position to be attached to the container and for connecting the same thereto includes a stamping or other platform to provide a base 39 which may be secured to a suitable support such as a display stand for the containers to be decanted. A pedestal 40 is secured to the base and comprises preferably a one piece stamping of sheet metal. The blank is bent along a pair of spaced parallel lines to form a back 43' and a pair of spaced parallel side walls 43. Lateral extensions 42 of the walls are bent toward each other and secured together as at 41', Figure 8, to form a guide or support 41 and the forward free edges of walls 43 are retained in their relationship by an angle brace 44, joining the walls 43 adjacent points where they merge into the extensions 42, and by a spare spout bracket 45, upon which one or more spare spouts may be supported. Each arm or wall 43 is formed with an integral pressed out longitudinally extending rib 46 or ribs to strengthen the pedestal. The transverse edges of the arms 43 where they meet the base 39 are equipped with integral lugs 47 extending thru apertures in the base to be bent over as shown in Figure 2, or these edges may be flanged outwardly to be bolted on top of the base as shown in Figure 1.

The portion of the base 39 under bracket 45 and between the arms 43 is depressed as at 48 and lips 49 are struck out from the base to provide a sliding support for a detachable receptacle 50 adapted to catch any drippings from a spare spout supported by bracket 45. One or more of the lugs 47 may be used in the support of cup 50, as shown in Figure 2. The forward margins 51 of the lower portions of arms 43 are flared outwardly as illustrated to engage the sides of various size containers 14 placed upon the base to be opened and assist in locating the same with respect to cutter blade 25 of the spout whereby the point of the blade will penetrate the container top at a point 52 tangent to the flange 15' as shown in Figure 7. This will insure complete draining of the container thru the spout. Pairs of pins or tabs 53 and 54 may be struck up from the base to engage the inner surface of the bottom flange 16' at spaced points to properly position the container with respect to the cutter blade. The other pair

of locaters 54 is for properly positioning containers of larger diameters upon the base.

In cases where the press 12 is to be supported upon a wall, the rear edges of the arms 43 may be bent inwardly as at 55 and a wall bracket 56 may be secured thereto.

In order to complete the guide 41 for slideably mounting a ram 57, the extensions 42 are each formed with an inwardly extending vertical rib 58. A bolt 59 with a wing nut 60 extends thru the portions 42 in back of the ram for adjustably holding the same in frictional contact with the ram so it can be retained thereby in elevated positions, or flat springs 61 may be interposed between the ram and its guide in addition to the variable tension which may be exercised by adjustment of the wing nut.

The ram 57 in the present exemplification, is a sheet metal elongated member of channel cross section having its web 62 or rear wall provided with a socket or cavity 63 for the reception of the end of a crank arm or cam 64 for moving the ram vertically in its guide 41. The socket 63 may be provided by pressing out vertically spaced cross members 65 between which the rounded end of arm 64 operates to raise or lower the ram. These cross members 65 may be separate pieces welded or otherwise secured to the ram and are preferably so spaced as to allow for the arm sliding fore and aft as the ram is moved up and down. The arm 64 may be formed in any suitable manner and is keyed to the shaft portion 66 of a crank handle 67. The portion 66 is suitably journaled in bearings 68 formed by punching in portions of the parts 42; said bearings abutting opposite sides of the arm 64 to centralize it.

The outer end 69 of the handle is pivoted as at 70 to swing in a plane transverse to the plane of movement of the part 67 for a purpose presently to appear.

The lower ends of the spaced flanges 71 of the channeled ram are formed with or have secured thereto, spring plates 72 which are adapted to frictionally engage opposite sides of the base 19 of a spout 13 for releasably retaining the same in the ram with the spout 13 extending upwardly between the flanges 71 of the ram and prevented from tilting forwardly thereof by a cross bar 73, preferably engaging the spout. If desired, the plates 72 or lower ends of flanges 71 may be grooved to slidably receive the base 19 of the spout in a horizontal plane, in which event the cross bar can be dispensed with, as such grooves will prevent tilting of the spout within the ram and retain the blade 25 in proper vertical position for projection thru the container wall.

The locking handle 37 of the spout will project forwardly beyond the front edges of the ram when in position therein to be turned by an L-shaped trip plate 74 freely pivotally suspended as at 75 from an ear bent out of the ram as shown. The trip normally hangs vertically in position to engage the locking handle 37 and turn the same to project the toggle links 34 thru openings 33 and under the cut edges of the container wall, after the ram has been lowered by the handle 69 and the cutter blade 25 has cut the tongue 29 out of the top 15 and the gasket 32 engages the latter. The outer end 69 of the operating handle is then swung to the left of Figure 1 on pivot 70 to engage the edge of trip 74 and thereby move it into engagement with the handle 37 of the spout to cause the toggle

links to compress the gasket 32 against the container top and lock the spout thereto.

The outer end of handle 69 is then swung back to align with part 67 as the handle is swung upwardly, and this moves the ram 57 upwardly, freeing or disengaging the spring plates or fingers 12 from the base 19 of the spout, which is now locked to the container ready to dispense the contents thru spout 13. The container with the spout attached can now be removed from the press and another spout and container positioned therein ready to be opened by the next depression of the operating handle.

Different size containers, within certain limits, can be opened by the press, due to the arrangements of centering devices 53 and 54 together with the long stroke of the ram 57.

One proposed use of the invention is in connection with dispensing engine lubricating oils from containers sealed at the refineries and consequently the spouts must be firmly attached to such containers to enable the spout to be entered into an engine crank case filling opening and thereby support the filled container while it is emptying without assistance of the station attendant. After the contents have been discharged, the locking handle 37 is turned counter-clockwise to retract the toggle links 34 to the full line position shown in Figures 3 and 4, whereby the spout can be removed from the empty container and reused.

The cutter blade of the decanting device 13 may be pushed thru a wall of the container without the press, by placing the end of the spout in opening 77 of a knob 76, shown in Figure 10, and pressing upon the rounded end of the knob with the palm of the hand. This knob may form a stopper or closure for the spout. Again, a modified form of handle is shown in Figure 3, comprising a handle 78, having an opening 79 adapted to snugly fit the inner end of spout 13 adjacent the base 19 with one or more legs 80 in engagement with the base for distributing hand pressure uniformly about the spout for pushing the cutter blade 25 thru the can top.

It is to be understood that various changes can be made in the size, shape and arrangement of parts, without departing from the spirit of the invention or the scope of the appended claims.

We claim:

1. The combination with a decanting device for containers adapted to be forced thru a wall thereof for attachment thereto; of pressure means for holding the device in position to be forced thru the wall and to be attached thereto, said pressure means having means to force a part of the decanting device thru said wall, and said pressure means automatically releasing the decanting device upon elevation of the former to leave the device attached to the container.

2. The combination with a detachable decanting device having a cutter to be forced thru a wall of a container, and means for locking the device upon said wall; of pressure means for detachably holding the device in position to be forced thru the wall, and said pressure means having means for forcing the cutter thru said wall and for operating the locking means to lock the decanting device of said wall.

3. The combination with a detachable decanting device having a cutter to be forced thru a wall of a container and means for locking the device upon said wall; of pressure means for

detachably holding the device in position to be forced thru the wall, and said pressure means having means for forcing the cutter thru said wall and for operating the locking means to lock the decanting device on said wall, and said pressure means automatically releasing the decanting device upon elevation of the former to leave the device attached to the container.

4. The combination with a detachable decanting device having a cutter to be forced thru a wall of a container and means for locking the device upon said wall and including an operator; of pressure means including a vertically moveable ram for detachably holding the device in position to be forced thru the wall, a trip member carried by said ram and adapted to engage the operator to operate the locking means, and means for operating the ram to lower it and force the cutter of the decanting device thru the wall.

5. The combination with a detachable decanting device having a cutter to be forced thru a wall of a container and means for locking the device upon said wall and including an operator; of pressure means including a vertically moveable ram for detachably holding the device in position to be forced thru the wall, a trip member carried by said ram and adapted to engage the operator to operate the locking means, means for operating the ram to lower it and force the cutter of the decanting device thru the wall, and said pressure means automatically releasing the decanting device upon elevation of the former to leave the device attached to the container.

6. The combination with a decanting device having a cutter to be forced thru the top of a container; of guide means for holding the device with the cutter in position to penetrate a wall substantially coincident with the inner periphery of an adjacent wall of the container, and means to force the cutter of the device thru the top of the container.

7. The combination with a decanting device having a cutter to be forced thru the top of a container; of guide means for holding the device with the cutter in position to penetrate substantially coincident with the periphery of an adjacent side wall of the containers of different diameters, and means to force the cutter of the device thru the top of the container.

8. A detachable decanting device having a dispensing mouth, a cutter carried thereby and adapted to be forced thru a wall of a container to form a dispensing opening therein, and means movable in a plane parallel with the wall and operable from the exterior of the container and engageable under the edges of the opening to lock the device to the container.

9. A detachable decanting device having a portion adapted to engage a wall of a container, a cutter extending therefrom and adapted to be projected thru the wall to form a dispensing opening therein, and means moveable thru the cutter and under the edges of the opening formed by the cutter to lock the device of the container.

10. A detachable decanting device having a portion adapted to engage a wall of a container, a cutter extending therefrom and adapted to be projected thru the wall to form a dispensing opening therein, and a pair of toggle links associated with said portion and moveable under opposite edges of the opening formed by the cutter to lock the device on the container.

11. A detachable decanting device having a dispensing mouth, a cutter carried thereby and adapted to be forced thru a wall of a container to form a dispensing opening therein, and means operable from the exterior of the container and mounted on an axis substantially parallel to the axis of the mouth and being engageable under the edges of the opening to lock the device to the container, said means operating to limit its release and locking movements.

12. A detachable decanting device having a base adapted to engage a wall of a container, said base having a marginal flange, a cutter blade extending from the base and defining with the said flange a gasket groove, a flexible gasket seated in said groove, and means for locking the device to the container and for compressing the gasket into firm engagement with said wall.

13. A detachable decanting device having a portion adapted to engage a wall of a container, a cutter extending therefrom and adapted to be projected thru the wall to form a dispensing opening therein, and a pair of toggle links associated with said portion and moveable obliquely under opposite edges of the opening formed by the cutter to lock the device on the container.

14. A detachable decanting device having a base adapted to engage a wall of a container, a cutter blade extending from the base and adapted to be projected thru the wall to form a dispensing opening therein, an oscillatory member mounted on said base, a pair of toggle links eccentrically pivoted to said member, and an operator operated part located exteriorly on the base for turning the oscillatory member to project and retract the links under the edges of said opening in the container.

15. A decanting device having a base adapted to engage a wall of a container and having an opening, a dispensing tubular spout having an end extending thru said opening and bent over the edges of said opening, and a cutter blade of sheet metal bent to have a portion conform to the contour of said opening and having lugs extended thru said base.

16. Means for attaching decanting devices to containers comprising a base, means thereon for locating the container, a hollow pedestal on the base, a vertically moveable ram mounted on the pedestal, a holder for spare decanting devices mounted in the hollow pedestal, and a drip cup supported by the base below said holder.

17. The combination with a decanting device

having a cutter to be forced through a wall of a container, of pressure means for holding the device in position to have the cutter forced through the wall and including means for positioning containers of different sizes with the inner peripheries of their side walls in direct line with the cutter.

18. A device of the class described comprising a support upon which a container is positioned, a guide thereon, a cutter mounted upon the guide for movement to and from the container, and means serving to position the container with the inner surface of a wall thereof in direct line with the cutter.

19. A device of the class described comprising a base upon which a container is positioned, an upright rising therefrom, a cutter mounted upon the upright for movement to and from the container, and means on the base serving to position containers of different diameters with the inner peripheries of the side wall in direct line with the cutter.

20. A device of the class described comprising a base upon which a container is positioned, an upright rising therefrom, a cutter guide on the upright, a cutter holder vertically slidable therein, and having a chamber receiving the dispensing spout of a cutter, and means for vertically moving the holder with the cutter releasably retained therein.

21. A decanting device comprising a substantially tubular spout having a cutter of substantially U-shape cross section extending from the free end thereof and having the base of the U substantially coincident with the curved wall of the spout, and said cutter having a series of openings to facilitate draining of a container with which the device is associated.

22. A decanting device having a cutter to be forced through a wall of a container, said cutter conforming to the shape of a wall adjacent the first named wall, means for holding and guiding said device with the cutter in position to penetrate said wall coincident with the inner periphery of said adjacent wall and for guiding the cutter to slide on the inner periphery of said adjacent wall as the cutter is forced through the first mentioned wall, and said cutter blade having a drain opening in the central portion of its body which conforms to the contour of said adjacent wall.

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