July 12, 1966 D. J. LEVINSON 3,260,190

EQUIPMENT ADAPTABLE TO BREWING COFFEE
IN THE ORIGINAL SEALED CONTAINER

Filed Sept. 23, 1963 3 Sheets-Sheet 1

Fig. 1

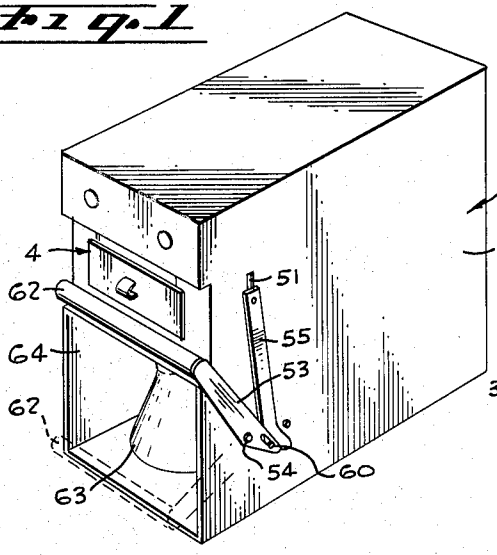

Fig. 2

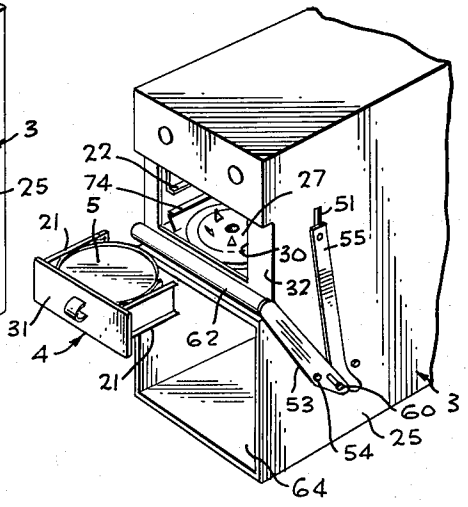

Fig. 3

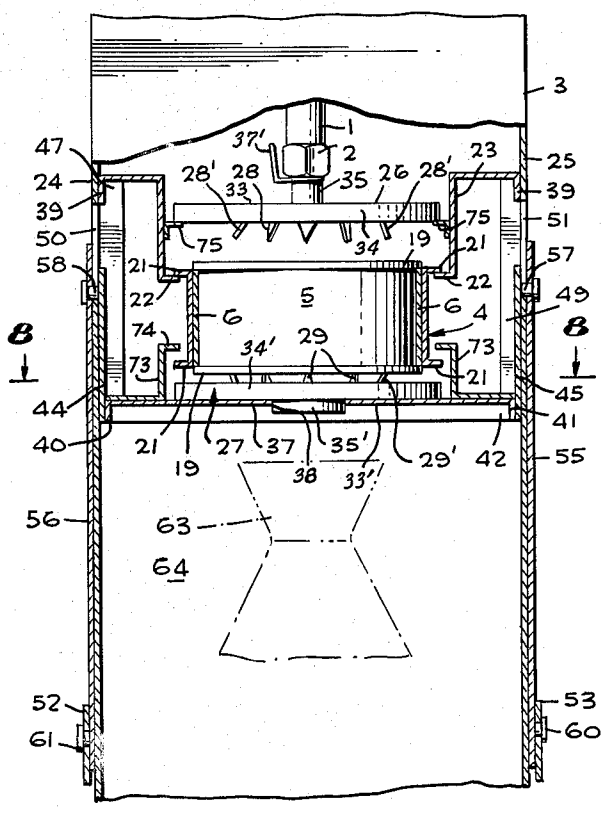

Fig. 4

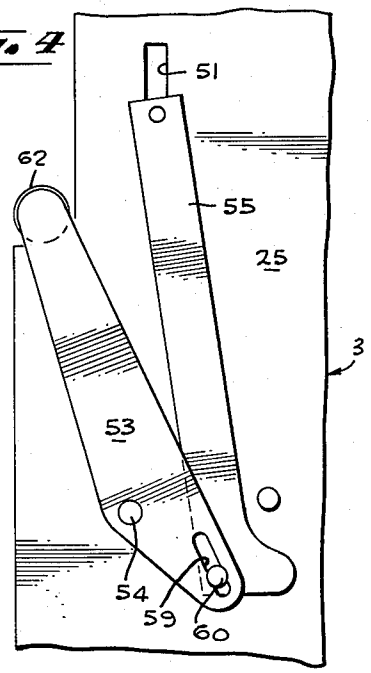

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Fig. 5

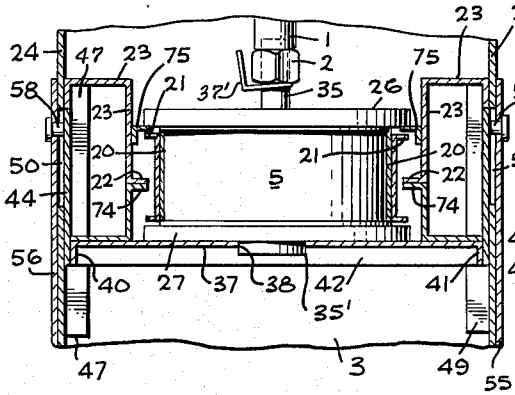


Fig. 6

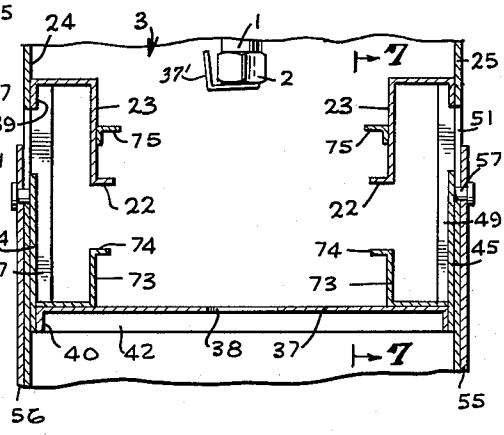


Fig. 7

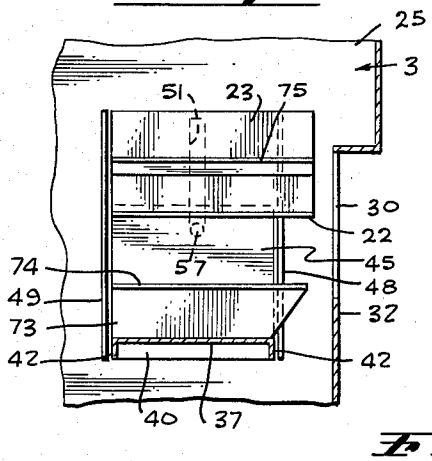


Fig. 8

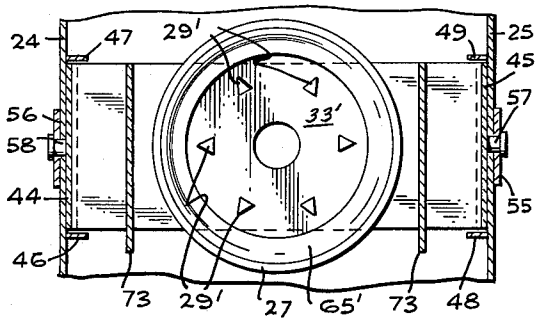


Fig. 9

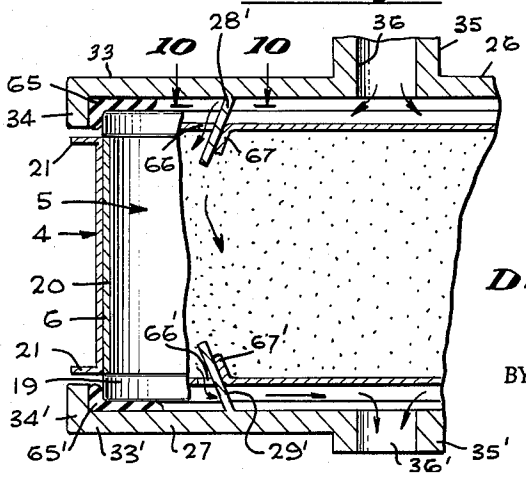
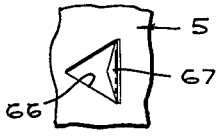


Fig. 10



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EQUIPMENT ADAPTABLE TO BREWING COFFEE
IN THE ORIGINAL SEALED CONTAINER

Filed Sept. 23, 1963 3 Sheets-Sheet 3

Fig. 11

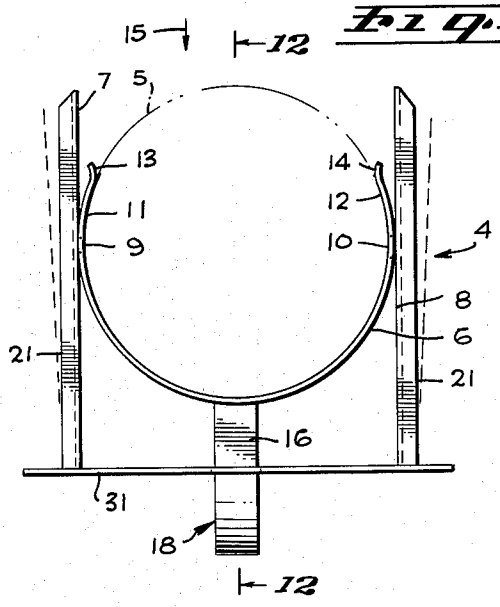


Fig. 13

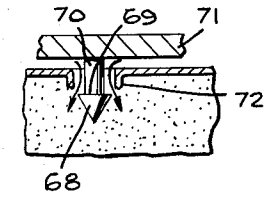


Fig. 12

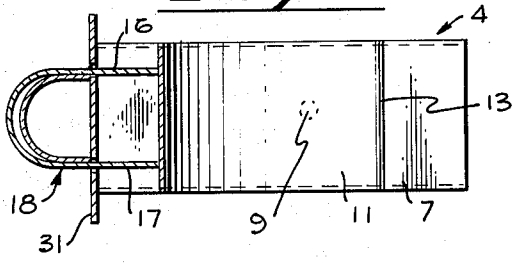
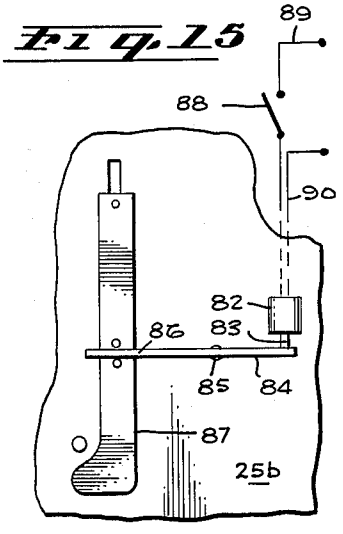


Fig. 15



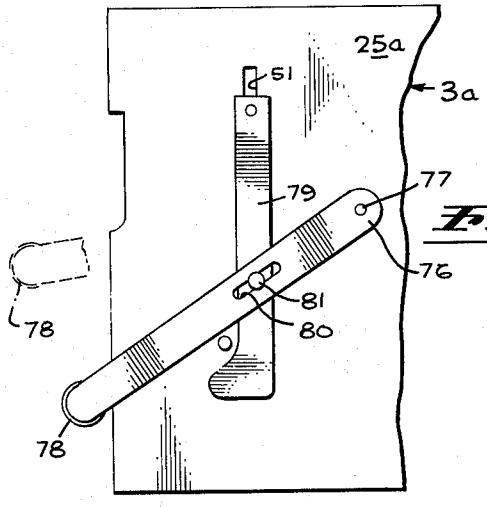


Fig. 14

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United States Patent Office 3,260,190 Patented July 12, 1966

3,260,190

EQUIPMENT ADAPTABLE TO BREWING COFFEE IN THE ORIGINAL SEALED CONTAINER

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Filed Sept. 23, 1963, Ser. No. 310,799
16 Claims. (Cl. 99—295)

The invention herein described pertains to equipment that facilitates positioning of a sealed can in the vicinity of a source of fluid and that pierces the can in a plurality of positions so that the fluid may flow therethrough, and it more particularly concerns a device of this type that makes it possible to brew coffee without removing the ground coffee beans from the can in which the coffee is sold.

The equipment is especially useful for brewing an entire decanter or container of coffee at one time and especially under conditions where space is at a premium as, for instance, in commercial airliners.

One of the principal objects of the invention is to make it possible for a stewardess or other attendant to put a sealed can into a device along with an empty decanter and brew sufficient coffee for a large number of people merely by pressing a lever and a button, and to do this by means of equipment that operates in a more efficient way than has heretofore been possible.

Another object is to provide equipment of the type described having parts that may easily be removed and readily cleaned in order to meet all the health regulations of the federal government and of the various states, as well as of the governments of foreign countries.

A further object is to make it easy to replace or reassemble the cleaned parts within a few seconds.

An additional object is to provide a removable receptacle for the coffee can that will accurately position the can of coffee within the housing of the equipment without requiring the stewardess or other attendant to have direct access to the inside of the housing when the insertion of the receptacle is being made, the receptacle being movable through the use of the handle alone.

Another object is to provide a receptacle into which a can may be snapped into position.

Still another object is the provision of a design for the receptacle that makes it possible to use the receptacle with either of its horizontal sides uppermost, the bottom being identical to the top.

Another object is the provision of improved manually operable means for causing the equipment to pierce the upper and lower ends of the can containing the coffee or such other material as the fluid is required to permeate and traverse.

A further object is to provide a linkage mechanism whereby a simple manual operation will furnish the power for piercing the cans without the application of any appreciable power or pressure on the part of the operator.

Still another object is to provide alternative linkages so that the power may be applied either by pressing down on the handle or by moving the handle up.

A further object is to provide a simple electrical means for applying the power in response to the simple closing of a control switch.

An additional object is to provide both the housing in which the coffee is brewed and the receptacle for the can of coffee with simple runners or guides to facilitate the accurate positioning of the coffee can within the device.

Another object is to provide an improved design for the platens that pierce the coffee, such design incorporating sealing means to prevent water or coffee from flowing around the outside vertical edges of the can.

A further object is to provide improved designs for the piercing elements so that there will be adequate space while the elements are still positioned within the can for the water or coffee to flow through the hole between the edges thereof and the piercing elements that have produced such holes or apertures.

Still another object is to provide equipment of the type described that will be inexpensive to build and yet durable in operation.

This invention possesses many other advantages and has other objects which may be made more clearly apparent from a consideration of certain alternative embodiments of the invention. For this purpose, there are shown representative embodiments in the drawings accompanying and forming a part of the present specification. These forms will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

In the drawings:

FIGURE 1 is a perspective view of my device showing the housing, the front portion of the receptacle for the can, the compartment for the container that receives the liquid that is passed through the can, a container in this compartment, and part of the operating mechanism;

FIG. 2 is a broken-away, partially exploded view, similar to FIG. 1, showing the receptacle for the can about to be inserted in an opening in the housing and revealing through this opening a portion of the guides that position the receptacle within the housing, together with a portion of the lower platen that applies pressure to the can and pierces apertures in the bottom thereof;

FIG. 3 is a front elevation, partly broken away, of the device illustrated in FIGS. 1 and 2, but showing many of the operating components;

FIG. 4 is a broken-away side elevation of the device of FIGS. 1, 2 and 3, revealing a portion of one type of manual linkage for operating the device;

FIG. 5 is a broken-away view, similar to FIG. 3, but showing the components and the can in different operating positions of the mechanism;

FIG. 6 is a view similar to FIG. 5 with some of the components removed in order to reveal other structures more clearly;

FIG. 7 is a left side elevation, partly broken away, of the device of the preceding figures;

FIG. 8 is a section taken substantially on line **8—8** of FIG. 3;

FIG. 9 is a fragmentary view of the can and some of the components of FIG. 5, with various parts broken away in order to show structural details that are not visible in FIG. 5;

FIG. 10 is a fragmentary view of the can, revealing the type of aperture that is cut in the top and bottom sides of the can by the type of piercing element shown in FIGS. 2, 3, 8 and 9;

FIG. 11 is a plan view of the receptacle for the can;

FIG. 12 is a section taken on line **12—12** of FIG. 11;

FIG. 13 is a broken-away view of a top piercing element and the upper portion of a pierced can, showing a modified type of piercing element and the type of aperture which it produces in the can;

FIG. 14 is a side elevation of the device, showing a modified form of operating mechanism; and

FIG. 15 is a similar view to that of FIGS. 4 and 14, but showing a modified form of operating mechanism that is actuated by a solenoid.

Although the embodiments of my invention illustrated in the accompanying drawings are intended primarily for brewing coffee without removing the ground coffee beans from the sealed can provided by the distributor, the equipment may be used for piercing cans containing other products and for positioning the cans so that a liquid may be passed therethrough; but the presently preferred embodi-

ment will be described in connection with its use for brewing coffee in cans that are placed in the device unopened.

It will be understood that the structure may be oriented in any convenient way with only a slight rearrangement of some of the components, but for convenience in describing the device, it will be assumed that hot water is provided through a conduit 1 having a nipple or connector 2 appropriately joined to its lower end. The conduit 1 and nipple 2 are fixed in their position with respect to the housing 3. When the apparatus is actually brewing coffee, hot water is supplied in any appropriate manner to the conduit 1, the precise manner of heating the water or of turning it on and off being immaterial to the present invention.

In order conveniently to place the can in the proper position with respect to the hot water supply, I provide a receptacle 4 (FIGS. 1, 2, 3, 5, 11 and 12). This receptacle, as perhaps best shown in FIG. 11, has a resilient band 6 appropriately attached to the resilient sides 7 and 8 of the receptacle at points 9 and 10. The side members 7 and 8 are secured at their front ends to the front plate or outer wall 31 of the receptacle, the back ends remaining free and unattached. The band 6 has two inwardly directed segments 11 and 12 that are flared outwardly at their respective ends 13 and 14. Because of the resilience of the band 6 and of the side members, which may flex out as shown in broken lines, a can may readily be snapped into the receptacle between the inwardly directed portions 11 and 12 of the band in the direction indicated by arrow 15 in FIG. 11 until the can abuts against the arcuate section of the band adjoining the inside end portions 16 and 17 of the handle structure 18.

Most cans in which coffee or similar products are sold have short flanges or beads 19 (FIGS. 3, 5 and 9) that extend outward from the sides 20 of the can. The band 6 of the receptacle 4 engages the sides of the can between these top and bottom flanges, as perhaps best shown in FIGS. 3 and 5.

The sides of the receptacle 4 are provided with runners 21, as shown in FIGS. 2, 3, 5 and 11, to cooperate with ways or ledges 22 for guiding the receptacle to its proper position within the housing beneath the fluid conduit 1 and the connector 2. The runners and other portions of the receptacle are so formed that it is immaterial if the receptacle becomes inverted.

The ways or ledges 22 may suitably be formed integrally with brackets 23 which are attached to the sides 24 and 25 of the housing by welding or otherwise securing the bent-down portions 39 to the side walls.

As the receptacle 4 containing a sealed can 5 is being inserted into the front opening 30 of the housing 3, the ends of the uppermost runners 21 of the receptacle that face the opening should be so aligned that they will slide into the housing just over the ways or ledges 22 so that they may rest thereon. When the receptacle is pushed as far into the housing as possible, the engagement of the outer wall 31 of the receptacle with the front portion 32 of the housing serves to limit the inward movement. This operation positions the can 5 directly under the conduit 1 and the nipple 2 that is attached to the conduit's lower end.

Concentrically aligned with the conduit 1 and nipple 2 are a pair of removable platens 26 and 27, the purpose and manner of attachment of which will now be described. For convenience in manufacturing, cleaning and placing them in proper position within the housing, the two platens 26 and 27 are preferably identical structures. Each one comprises a disc which in the case of platen 26 has been identified by the numeral 33, and in the case of the lower platen 27 by the numeral 33'. Each disc is provided with a rim or cylindrical flange that extends at right angles from the periphery of the disc. The cylindrical flange on the uppermost 26 of the two platens is designated by the numeral 34, and the numeral 34' designates the identical flange on the lower platen. The upper and

lower discs are provided with central bosses 35 and 35', respectively, having coaxial openings 36 and 36' therein.

Platen 26 is removably secured to the nipple or connector 2 by means of its boss 35. The precise manner of attachment is immaterial to this invention, many standard connectors being suitable for the purpose. Suffice it to say that the boss is released from the connector merely by pressing the lever 37, which is a type of release lever well known in connection with quickly disconnectable fittings.

Platen 27 rests upon a vertically movable platform 37, the construction of which will be explained hereinafter. The platform 37 is provided with a central opening 38 (FIG. 6). The boss 35' of platen 37 fits into this opening in order properly to position the platen.

The top platen 26 is provided with at least one piercing element 28 directed toward the lower platen, and when a can is positioned between the two platens such piercing element is of course directed at the top of the can. The lower platen 27 is provided with a plurality of piercing elements 29 for piercing the bottom of the can. The piercing is effected by the upward movement of the platform 37, which raises the can into engagement with the one or more piercing elements depending from the upper platen 26. Further movement will then of course result in the piercing of both the top and bottom of the can by the piercing elements. Various structural details of the platens are of course important, but before these are described, the mechanism for elevating the platform will first be discussed.

The platform itself is formed somewhat like an inverted tray having two ends 40 and 41 and two side members 42 and 43. The ends 40 and 41 are secured, respectively, to the vertically movable plates 44 and 45. Plate 44 is movably confined between a pair of vertically disposed members 46 and 47, and plate 45 is similarly guided by members 48 and 49. The vertical members 46 and 47 are affixed to the left side wall 24 of the housing, and members 48 and 49 to the right wall 25.

The side walls 24 and 25 of the housing each have a vertical slot therein, these two slots 50 and 51 being parallel and directly opposite from each other. The upper ends of the vertically movable members 44 and 45 move over these slots, the purpose of which will presently be apparent.

In the structure just described, the platform 37 may be said to be suspended from the side members 44 and 45, and it is to these members that a force is applied in order to move the platform upward. The upward movement of the platform is manually controlled, and in the presently preferred embodiment of my invention it is manually powered. This is accomplished by means of a handle, lever and linkage mechanism perhaps best seen in FIGS. 1, 2, 3 and 4, although portions of some of the parts may also be seen in FIGS. 5, 6, 7 and 8.

This preferred operating mechanism comprises two levers 52 and 53. Lever 53 is pivoted on a stud 54 appropriately secured to the side wall 25 of the housing, and an identical lever is symmetrically mounted and disposed on the opposite side wall 24. A link 55 operatively connects the lower short arm of lever 53 to the vertically movable member 45 on which one end of the platform 37 is suspended, and link 56 on the other side of the housing similarly connects the lower end of lever 52 to the vertically movable member 44 to which the left side of the platform 37 is attached. The upper end of link 55 is connected to the vertically movable member 45 by means of a pin 57 that passes through slot 51 in the side wall 25 of the housing, and a similar pin 58 in like manner operatively connects the link 56 to the vertically movable member 44, the pin 58 passing through slot 50 in the left wall 24 of the housing. These two pins are rigidly secured to the vertically movable members 44 and 45, but links 55 and 56 are pivoted to these pins which are provided with suitable heads to hold the links

in close proximity to the side walls and keep the links from slipping off the pins.

The lower ends of links **55** and **56** are pivotally secured to the short lower arms of levers **53** and **52** respectively, one satisfactory pivoting means being shown in FIGS. 1, 2 and 3, but most clearly illustrated in FIG. 4. The lower or short end of lever **53** is provided with a slot **59** longitudinally aligned with the lever itself, and it will be clear that a similar slot must be provided in lever **52**. A shoulder pin **60** extends through slot **59** to be firmly secured in the link **55**, and a similar pin **61** (FIG. 3) pivotally fastens lever **52** to the lower end of link **56** on the opposite side of the housing **3**. A handle **62**, which extends across the front of the housing, is secured at its opposite ends to the outer ends of levers **53** and **52**.

It should be clear from the foregoing description of this linkage mechanism that the movement of handle **62** from the position shown in full lines in FIG. 1 to the position there shown in phantom will effect the upward movement of links **55** and **56** and that they in turn will move members **44** and **45** and the platform **37** upwardly, the movement of the links being transmitted to the slot in the casing by means of the previously described pins **57** and **58**.

As handle **62** is pushed down, the piercing elements on the platens pierce the top and bottom ends of the can. By means that are not pertinent per se to this invention, hot water is then caused to flow through the conduit **1** and thence through the connector **2** and the boss **35** of the platen **26** to the holes pierced by elements **28** in the top of the can. If the can is filled with suitably ground coffee, the hot water slowly moves through the contents of the can and leaves through the perforations that were formed in the lower end of the can by the piercing elements **29**. The coffee thus prepared then flows through the opening **36'** in the boss **35'** of platen **27** and thence into such decanter or other container **63** as may be provided in the compartment **64** in the lower part of the housing.

My device will operate quite satisfactorily with only one piercing element attached to the upper platen, but it is desirable to have a plurality of piercing elements attached to the lower platen so that the hot water will take many paths through the coffee and thus entrain the flavor as the water passes therethrough and out of the lower perforations. A still more thorough permeation of the coffee grounds is effected when a plurality of piercing elements is used on the upper platen also.

In order to prevent the flat disc portions of the platens from directly engaging the ends of the can and thus interfering with the free flow of hot water or coffee through the perforations made by the piercing elements in the top and bottom of the can, I provide spacing and sealing gaskets or rings **65** and **65'** around the inner edge of the platens adjacent their respective flanges **34** and **34'**. These resilient gaskets are thus so disposed on the inside of the platens that they will engage the top and bottom rims of the can. Under the pressure created when the lower platen is pressed toward the upper platen, the gaskets **65** and **65'** are deformed so that a part of the resilient material extends down around the sides of the rims of the can as indicated in FIG. 9. This not only provides the space through which the water may flow from the opening **36** in the upper platen **26** to the various perforations that are formed in the top of the can and likewise through the various perforations formed in the bottom of the can to the opening **36'** in the lower platen, as shown by the arrows, but the resilient gaskets also effectively seal the platens to the rims of the can so that neither hot water nor coffee can flow around the sides **20** of the can.

It will probably be apparent that if the piercing elements were normal to the platens and conical or pyramid-like in shape, they would not only pierce holes in the can but would also fill up the holes and thus defeat their purpose. The piercing elements **28** and **29** shown in FIG. 3 are triangular in shape in order to increase the size of the hole as they proceed through the ends of the can, but they are inclined away from a perpendicular relationship with respect to the platen, as shown by the perforating elements **28'** attached or formed on the upper platen and by the similar piercing elements **29'** integrally joined to the bottom platen. In the preferred embodiment of my invention, these piercing elements are all flared outwardly as shown by the piercing elements **29'** in FIG. 8.

The cutting or tearing action of this type of piercing element is illustrated in FIG. 9 where apertures **66** and **66'** have been cut by the piercing elements **28'** and **29'** respectively. The left side of the hole, in the FIG. 9 view, is obviously cut by the *tip* of the piercing element, but the sides of the element continue to cut or tear the metal as the element proceeds further into the can, the position of the edge that does the cutting becoming closer to the *center* of the platen as the base of the piercing element moves closer to the surface of the can.

When the lower platen **27** has reached the end of its upward movement and the piercing action has been completed, the metal that has been sheared away from the sides of each of the triangular openings will proceed down into the can as shown by the small strips of metal **67** and **67'** extending into the can from the top and bottom ends respectively. When the piercing elements are shaped and inclined as shown in the figures, the apertures that are formed leave a space for the water to move into the can between the portions of the aperture that were cut by the tip of the piercing element and the portions of the aperture cut by the wider parts of the element nearer the base thereof, and the coffee leaving the can has similar escape routes around and adjacent the elements **29'** that have pierced the lower end of the can. The shape of the pierced apertures is shown in FIG. 10.

Another satisfactory type of piercing element is illustrated in FIG. 13. This piercing element **91** has a conical end **68**, and it is immediately reduced in its cross-sectional dimensions adjacent the conical portion to form a shoulder **69** and a thin shank **70** between the shoulder **69** and the base **71** of this particular platen. The hole produced by the piercing element **91** is pierced or extruded, rather than torn, the sides of the hole extending down into the can a short distance as shown at **72** in the figure. The diameter of the hole pierced by element **91** is of course the same as the diameter of the base of the pyramid **68**. Space is thus provided around the shank **70** for the fluid to enter or leave the can.

Various structural features not heretofore explained are also shown in the figures. One of these may be most advantageously seen in FIGS. 3 and 6 where brackets **73** are shown attached to the elevator **37**. The brackets **73** are each provided at the top end with an inwardly directed flange or guide member **74** which cooperates with the guide member **72** directly above. One of the guide flanges **74** may also be seen in FIG. 2 where the coffee can receptacle **4** is shown about to be inserted through the opening **30** in proper alignment with respect to the guides **22** and **74**. As shown in FIG. 3, the upper and lower runners **21** on the sides of the receptacle **4** span over the guide members **22** and **74**. They thus serve to guide the receptacle **4** and to position it properly as it is being inserted into the housing. As the elevator moves upward from the position illustrated in FIG. 3 to the position shown in FIG. 5, the upper runner of the receptacle **4** moves away from the ledge **22** until it engages a stop member **75** which is duplicated on both sides of the device integrally secured to the supporting structures **23** on the walls **24** and **25** of the housing. During the upward movement of the elevator, the guides **74** which are connected to the elevator engage the guides **22** simultaneously with the engagement of runners **21** and stop brackets **75**.

FIG. 14 illustrates an alternative arrangement of the manually operable mechanism for moving the elevator

upward. This figure shows the right side 25*a* of a housing 3*a* to which a lever 76 is pivoted by means of a suitable stud 77 secured to the wall 25*a*. The hand 78, attached to the outer end of lever 76, is also secured to a duplicate of lever 76 on the opposite side of the housing. It will be noted in FIG. 14 that lever 76 is pivoted intermediate its ends to the lifting link 79 instead of near the end of the lever with a pivot point between the slot and the operating handle, as in the previously described embodiment illutsrated in FIGS. 1, 2 and 3. In the form shown in FIG. 14, lever 76 is provided with a slot 80 through which a shoulder screw 81 extends to be anchored in the lifting link 79. When this type of operating linkage is employed, it will be clear that the elevator will move upward as the handle is raised from the position shown in full lines to the position shown in phantom.

FIG. 15 shows still another modification in which the actual lifting is done by means of a solenoid 82 having a plunger 83 that presses downward on a rocker that is pivoted at 85 to the side 25*b* of the housing. The opposite end 86 of this rocker may be operatively pivoted or confined in any suitable manner to the lifting link 87. The solenoid is actuated manually by closing the switch 88 which is suitably connected to a voltage source 89 and by conductors 90 that complete the circuit to the solenoid.

Various other modifications may of course be made in the embodiments hereinbefore described, and any of the illustrated components may be omitted and replaced by other components performing the same functions or the same functions plus additional ones, and the elements may be rearranged and transposed in a variety of ways without departing from the broad spirit of my invention as succinctly set forth in the appended claims.

1. In a device that facilitates the positioning of a sealed can in the vicinity of a source of fluid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing having vertical slots in opposite walls thereof; a downwardly directed nippel fixed in position with respect to said housing; a first platen releasably secured to said nipple and having an opening so disposed therein that fluid from said source passing downward through said nipple may pass through said opening, said first platen also having at least one downwardly directed piercing element integrally secured thereto; a horizontal platform mounted for movement toward and from said first platen, said platform having an orifice therethrough; a second platen removably mounted on the top of said platform and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; and manually controllable means for raising and lowering said platform so that a sealed can interposed between said platens will be pierced by said elements whereby fluid from said nipple may flow through said can and thence through said orifice, said means comprising (a) a pair of pins each having a connection to a respectively opposite side of said platform and passing through one of said vertical slots, (b) a pair of levers each pivoted on the outside of one of said walls and having an outer end extending beyond said walls, (c) a pair of links each having a first end pivoted to the exterior end of one of said pins and its other end pivoted to the proximal lever at a point removed from the lever's axis of rotation (d) and an operating handle having its opposite ends each connected to the outer end of a different one of said levers.

2. The device of claim 1 in which the links are connected to the levers on the opposite side of their axes from said handle so that the movement of the handle in one direction will move the platform in the opposite direction.

3. The device of claim 1 in which the links are connected to the levers between the operating handle and the levers' axes of rotation to cause the platform to move upward in response to the upward movement of the handle.

4. In a device that facilitates the positioning of a sealed can in the vicinity of a source of fluid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing having vertical slots in opposite walls thereof; a downwardly directed nipple fixed in position with respect to said housing; a first platten releasably secured to said nipple and having an opening so disposed therein that fluid from said source passing downward through said nipple may pass through said opening, said first platten also having at least one downwardly directed piercing element integrally secured thereto; a horizontal platform mounted for movement toward and from said first platten, said platform having an orifice therethrough; a second platten removably mounted on the top of said platform and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; a receptacle for receiving a sealed can and holding it by the sides thereof; means supported by said housing for so guiding said receptacle when it is being inserted in said housing that a can supported in the receptacle may readily be so interposed between said plattens that the ends of the can will face the plattens; manually controllable means for raising and lowering said platform so that such can as may be interposed between said plattens will be pierced by said elements whereby fluid from said nipple may flow through said can and thence through said orifice; and resilient sealing members secured to said plattens for engaging the adjacent rims of the cam and preventing liquid from escaping around the can.

5. The device of claim 1 in which the housing has a compartment therein beneath the platform for the reception of a removable container to receive the fluid that flows through said orifice.

6. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having a first opening therethrough and at least one downwardly directed piercing element integrally secured thereto; means for so releasably connecting said platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening therethrough; a second platten disposed between said carriage and said first platten and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; and manually controllable means for so raising and lowering said carriage that a sealed can interposed between said plattens will be pierced by said elements upon upward movement of said carriage whereby fluid from said outlet may flow through said can and thence through said second opening, said manually controllable means comprising a lever structure pivotally carried by said housing, and a linkage mechanism so operatively connected to said lever structure and to said carriage that the movement of said lever structure in one rotative direction will effect the movement of said carriage in one vertical direction and the movement of said lever structure in the opposite rotative direction will effect the movement of said carriage in the opposite vertical direction.

7. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having a first opening therethrough and at least one downwardly directed piercing element integrally secured thereto; means for so releasably connecting said platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening there-

through; a second platten disposed between said carriage and said first platten and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; a removable receptacle for receiving said can and so holding it by the sides thereof that when the receptacle is inserted between said plattens the top and bottom portions of the can will be engageable by said piercing elements; and manually controllable means for so raising and lowering said carriage that a sealed can interposed between said plattens will be pierced by said elements upon upward movement of said carriage whereby fluid from said outlet may flow through said can and thence through said second opening.

8. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having (a) a first opening therethrough, (b) piercing means comprising at least one downwardly directed piercing element integrally secured thereto, (c) a depending wall surrounding said piercing means, and (d) a resilient sealing member on the under side of said first platten adjacent the depending wall; means for so releasably connecting said first platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening therethrough; a second platten disposed between said carriage and said first platten and having (a) at least one aperture therethrough, (b) a plurality of upwardly directed piercing elements integrally secured thereto, (c) an upwardly extending wall surrounding said piercing elements, and (d) a resilient sealing member on the upper side of said second platten adjacent the upwardly extending wall; a removable receptacle for receiving said can and so holding it by the sides thereof that when the receptacle is inserted between said plattens the top and bottom portions of the can will be engageable by said piercing elements and sealing members; and manually controllable means for moving said carriage toward said first platten, whereby said top and bottom portions will be pierced by said piercing elements and sealingly engaged by said sealing members.

9. The device set forth in claim **6** with the addition of a handle accessible from the exterior of said housing and rigidly secured to said lever structure.

10. The device set forth in claim **6** in which the lever structure comprises a pair of levers located on opposite sides of said plattens and in which the linkage mechanism comprises a pair of links each operatively connecting one of said levers to a different side of said carriage.

11. The device set forth in claim **10** with the addition of an operating handle accessible from the exterior of said housing and having its opposite ends each connected to the outer end of a different one of said levers.

12. The device set forth in claim **6** in which the manually controllable means comprises (a) a solenoid for actuating the lever structure that is pivotally carried by said housing, and (b) a manually operable switch for making and breaking an electric circuit to said solenoid; said lever structure having a driving connection to the carriage that carries the can.

13. The device set forth in claim **6** in which the piercing elements are generally perpendicular to the platten to which they are integrally attached and in which the elements spread outward from their points but are reduced in their lateral dimensions adjacent the platten to form shoulders on the elements with an annular space around each element between its shoulder and the platten so that when the elements are inserted as far as possible into the can, the reduced portion of each element will be surrounded by an opening in the can whose edges are spaced from said reduced portion to permit the passage of fluid through said opening.

14. The device of claim **6** with the addition of means for releasably holding said second platten on said carriage in such position that said aperture will register with said second opening.

15. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having (a) a first opening therethrough, (b) piercing means comprising at least one downwardly directed piercing element integrally secured thereto, (c) a depending wall surrounding said piercing means at such distance therefrom that when the under surface of said first platten is in engagement with said can said surrounding wall will encompass the upper portion of the can's periphery, and (d) a resilient sealing member on the under side of said first platten adjacent the depending wall, said resilient sealing member bulging beyond and downward over the top rim of the can when said rim is pressed upward against said first platten; means for so releasably connecting said first platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening therethrough; a second platten disposed between said carriage and said first platten and having (a) at least one aperture therethrough, (b) a plurality of upwardly directed piercing elements integrally secured thereto, (c) an upwardly extending wall surrounding said piercing elements at such distance therefrom that when the upper surface of said second platten in an engagement with said can said surrounding wall will encompass the lower portion of the can's periphery, and (d) a second resilient sealing member on the upper side of said second platten adjacent the upwardly extending wall, said second resilient sealing member bulging beyond and upward over the bottom rim of the can when said can is gripped between the plattens; and manually controllable means for moving said carriage in either vertical direction.

16. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having a first opening therethrough and at least one downwardly directed piercing element integrally secured thereto; means for so releasably connecting said platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening therethrough; a second platten disposed between said carriage and said first platten and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; manually controllable means for so raising and lowering said carriage that a sealed can interposed between said plattens will be pierced by said elements upon upward movement of said carriage whereby fluid from said outlet may flow through said can and thence through said second opening, said manually controllable means comprising a lever structure pivotally carried by said housing, and a linkage mechanism so operatively connected to said lever structure and to said carriage that the movement of said lever structure in one rotative direction will effect the movement of said carriage in one vertical direction and the movement of said lever structure in the opposite rotative direction will effect the movement of said carriage in the opposite vertical direction; said housing having a compartment therein beneath said carriage for the reception of a removable container to receive the fluid that flows through said second opening.

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