May 12, 1953 S. M. BRIGGS 2,638,249

DISPENSING ATTACHMENT FOR FOOD CONTAINER CANS

Filed Oct. 12, 1951

Fig. 1.

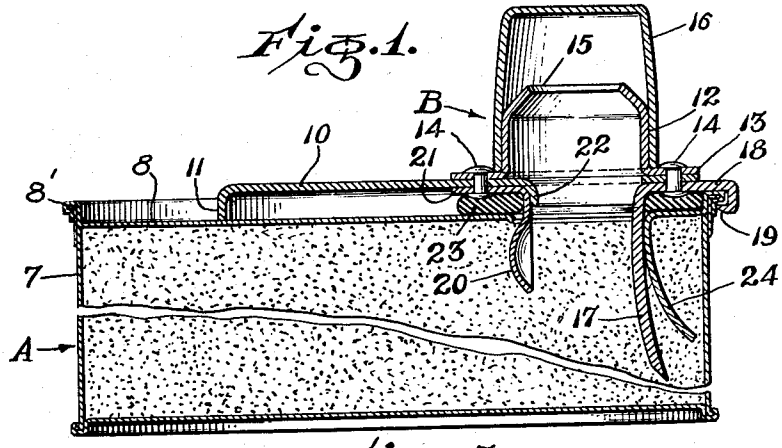


Fig. 3.

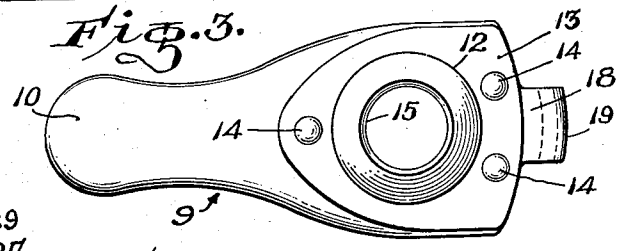


Fig. 6.

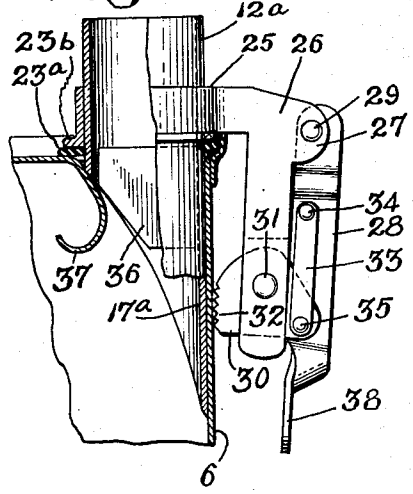
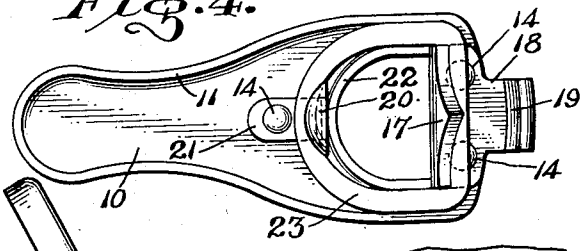


Fig. 4.



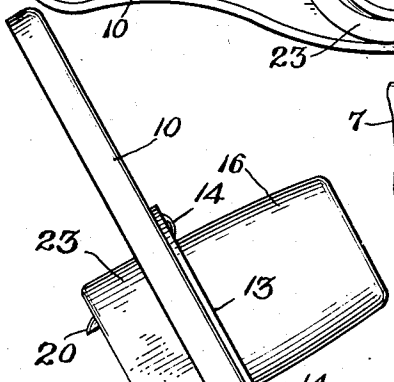


Fig. 5.

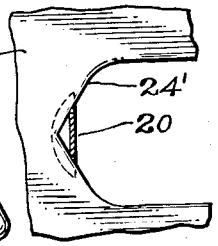
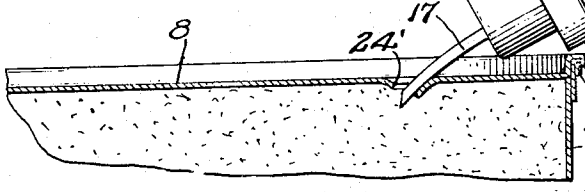


Fig. 2.



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DISPENSING ATTACHMENT FOR FOOD CONTAINER CANS

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5 Claims. (Cl. 222—90)

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This invention relates to measuring dispensers. Its general object is to provide a dispensing attachment for canned goods such as, for example, coffee; adapted to be attached to a can in a manner to provide a pouring spout for dispensing the contents without removing the lid of the can; and having means for measuring the quantity of material poured from the can.

A more specific object is to provide a dispensing device having means to perforate the can as the device is being attached to a can, and having a pouring spout which communicates with the interior of the can through the perforation thus made, and having means to latch itself to the can so as to avoid accidental removal when the can is being handled.

A further object is to provide a dispensing device having a pouring spout and a cap therefor, the cap functioning, in the use of the device, to measure the quantity of material dispensed from the can and functioning, when the device is not in use, to seal the can against the entry of air, thus preserving the contents from deterioration.

A further object is to provide a dispensing attachment for cans, having, in connection with a perforating device communicating with a pouring spout, a means for hermetically sealing the same to the can.

A further object is to provide a device which, in addition to the characteristics specified above, is adapted to be attached to a can in full operative condition, by a very simple operation which can be executed almost instantaneously, i. e., in not more than two seconds of time.

Other objects will become apparent in the ensuing specifications and appended drawings in which:

Fig. 1 is a fragmentary sectional view of a coffee can with my improved dispensing device attached thereto;

Fig. 2 is a view illustrating the attachment of the device to the can;

Fig. 3 is a plan view of the device with cap removed;

Fig. 4 is an inverted plan view of the device;

Fig. 5 is a detail horizontal sectional view taken in a plane immediately above the top of the can shown in Fig. 1; and

Fig. 6 is a side view, partially in section, of a modified form of the invention.

As an example of a preferred form of the invention, I have shown in Figs. 1–5 inclusive a dispensing attachment for a conventional coffee can A embodying a lateral wall 7 and a lid 8 having a rim flange 8′ which projects outwardly.

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My dispensing attachment, indicated generally at B, embodies a lever 9 which has a flat web portion 10, relatively wide at one end and narrow at the other (handle) end and has a marginal reinforcing flange 11 extending entirely around the handle end and along both sides, but terminates at the wide end, so as to leave that end open.

A pouring spout 12 has a flat, radially outwardly projecting rim flange 13 which is secured to the upper side of web 10 by rivets 14. Spout 12 has a frusto-conical lip 15 defining a reduced pouring outlet.

Normally attached to spout 12 is a cap 16, of cup shape and functioning alternatively as a closure and as a measure for the coffee dispensed through spout 12. The capacity of cap 16 is such as to provide a measure for a conventional unit portion of the can contents (e. g., it may correspond to the measure of dry ground coffee required for a single cup of brewed coffee). Cap 16 adheres to spout 12 by frictional engagement therewith, and completely receives, conceals and seals the spout when attached thereto.

A can piercing blade 17 is integrally formed with an arm 18 which is attached to the underside of web 10 by rivets 14. The end of arm 18 projects from the open end of lever 9 and is formed with a down-turned hook 19 adapted to engage around can lid flange 8′ to provide a fulcrum for the lever in a can piercing operation.

A latch 20 is integrally formed with an arm 21 which is secured to the underside of web 10 by a rivet 14, in a position diametrically opposed to blade 17.

Web 10 has a D-shaped opening therein, defined on three sides by a U-shaped flange 22, the fourth side being straight and unflanged, and registering with the inner face of blade 17. The lever opening is coaxial with spout 12. Latch 20 and blade 17 are disposed at diametrically opposite sides of the opening.

The lever 9 is sealed to can lid 8 by a gasket 23 which is trained around the base of spout 12, i. e., around flange 22 and blade 17, being therefore D-shaped to correspond to the shape of the lever opening. Normally gasket 23 has an axial dimension exceeding its radial thickness, but when the lever 9 is latched to the can lid, the gasket will be compressed to an axial thickness about half its normal axial dimension, and will be extruded into all corners, depressions and cracks between the can lid and the lever in the area immediately surrounding the opening, whereby to hermetically seal the lever to the can lid. Ac-

cordingly, when cap 16 is attached to the spout, the can will be sealed to protect the coffee therein against atmospheric deterioration. Gasket 23 is of soft rubber or equivalent plastic material.

In the operation of the device, it may be attached virtually instantaneously to a can by hooking hook 19 over flange 8', with the lever 9 inclined upwardly from the can lid sufficiently so that the point of blade 17 may clear the lid 8. The lever is then pressed downwardly toward the lid, pivoting on flange 8' at hook 19, as indicated by the arrow in Fig. 2. Fig. 2 illustrates the initial piercing of the can lid by the point of blade 17. The lever 9 is then pressed quickly all the way down against the lid 8. Since blade 17 is generally triangular, an aperture of roughly triangular shape will be formed as blade 17 punches a tongue 24 of metal from the lid of the can downwardly into the can. Opposite the tongue 24, edges 24' of the aperture will define an obtuse angle. Latch 28, which is spoon shaped as shown, will be latched to the lid by engagement of its opposite sides beneath the respective edges 24' as indicated in Fig. 5. Latch 28 is of spring metal so as to yield as it slides downwardly past the edges 24', and is so disposed relative to blade 17, and, accordingly, relative to edges 24', that it will be sprung toward the center of the opening by engagement with edges 24', and will then spring back to the latching position in which it engages beneath the edges.

In dispensing material from the can, cap 16 is removed from spout 12 and contents of the can are poured into the cap, functioning as a measure.

Blade 17 is of such a length that its piercing point is spaced from hook 19 the proper distance to position the remote edges 24' of the lid aperture substantially in register with the remote sides of spout 12 and the lever aperture. This is accomplished by determining the length of blade 17 such that the spacing of its point from hook 19 will be substantially the same dimension as the spacing of hook 19 from the remote side of the lever aperture as defined by flange 22. Since the blade is arranged substantially as a continuation of the side of spout 12 which is adjacent to hook 19, the lid aperture, when fully formed, will have its near side in substantial register with the near sides of the lever opening and of the spout 12.

It may be noted that in the downward swinging, attaching movement of the lever 9, the piercing point of blade 17 will initially engage lid 8 at a point remote from the fulcrum axis of hook 19, and that the line of intersection of blade 17 with the plane of lid 8, will move progressively toward said fulcrum axis until, at the terminal position of piercing movement (in which lever 9 rests substantially flatly against the lid 8 and gasket 23 is fully compressed) the said line of intersection will have arrived at a position of substantial register with the near side of the lever opening. The blade being substantially flat, the lid aperture will thus have, roughly, the D-shape of the lever opening (though somewhat triangular as previously noted).

Fig. 6 illustrates a form of the invention in an earlier stage of development. Spout 12*a* is mounted in a band 25 which has an integral extension in the form of an arm 26 which is disposed in radially spaced, parallel relation to piercing blade 17*a*. Blade 17*a* may constitute an integral extension of spout 12*a*, both constructed from a length of tubing cut away on the bias to

shape blade 17*a*. Between a pair of ears 27, integral with arm 26, one end of a lever 29 is pivoted on a rivet 29. A latching jaw 30, pivoted to arm 26 by a rivet 31, has teeth 32 to grip the lateral wall 7 of the can, when the jaw is oscillated clockwise as viewed in Fig. 6, thereby to latch the spout to the can lid in the terminal position of its can piercing movement. This is provided for by a link 33, pivoted to lever 29 by a rivet 34, and pivoted to jaw 30 by a rivet 35.

A wedge 36 is attached to spout 12*a*, extending diametrically across the bore thereof, in a position to curl away from blade 17*a*, the tongue of metal 37 which is cut away by blade 17*a*. A cap (not shown) corresponding to cap 16, is attached to nozzle 12*a*.

Band 25 has a flange 23*b*, and a sealing gasket 23*a*, abutted against flange 23*b*, is arranged to function in the same manner as gasket 23 of Fig. 1.

I claim:

1. In a dispensing device for attachment to a sealed food container can having a lid provided with a radially outwardly extending marginal flange, for dispensing the contents of said can, comprising: a generally flat lever having at one end a handle, having at its other end a downwardly projecting hook having an end portion projecting toward said handle for engagement beneath said flange to provide a fulcrum, at right angles to the longitudinal axis of the lever, for downward swinging movement of the lever about an axis tangent to said flange, from a starting position in which the lever is inclined upwardly, defining with the lid a substantial dihedral angle, to a terminal position in which the lever lies substantially flatly against the lid, said lever having, intermediate its ends a dispensing aperture; a pouring spout attached to the upper side of the lever, registering with said aperture, and with its axis substantially at right angles to the plane of the lever; a piercing blade attached to the underside of said lever, projecting downwardly therefrom, and arranged substantially as a continuation of that side of said spout which is adjacent said hook, and substantially parallel to said fulcrum axis, whereby during said downward swinging movement said blade, commencing at a point remote from said fulcrum axis and moving progressively toward said fulcrum axis, will pierce in said lid an opening having a generally V-shaped starting portion defined between diverging edges of said lid, said opening, when the lever is in said terminal position, substantially registering with said lever aperture, with said starting portion disposed at the side of said opening remote from said fulcrum axis; and a spring latch attached to and projecting downwardly from the underside of said lever in a position diametrically opposed to said blade across said lever aperture, said latch including a narrowed resilient neck part and a head including laterally projecting parts for yielding latching engagement with said diverging edges within opposed sides of said lid opening at the apex of said starting portion, said latch being arranged to engage said lid edges in an intermediate stage of said downward movement, to spring toward said blade in passing said edges, and to then yieldingly engage beneath said edges, whereby to latch the lever to the lid in said terminal position.

2. In a dispensing device for attachment to a sealed food container can having a lid provided with a radially outwardly extending end flange.

for dispensing the contents of said can, comprising: a generally flat lever having at one end a handle, having at its other end a downwardly hooked hook having an end portion projecting toward said handle for engagement beneath said flange to provide a fulcrum for downward swinging movement of the lever about an axis tangent to said flange, from a starting position in which the lever is inclined upwardly, defining with the lid a substantial dihedral angle, to a terminal position in which the lever lies substantially flatly against the lid, said lever having, intermediate its ends a dispensing aperture; a pouring spout attached to the upper side of the lever, registering with said aperture, and with its axis substantially at right angles to the plane of the lever; a piercing blade attached to the underside of said lever, projecting downwardly therefrom, and arranged substantially as a continuation of that side of said spout which is adjacent said hook, and substantially parallel to said fulcrum axis, whereby during said downward swinging movement said blade will pierce in said lid starting at a point remote from said fulcrum axis and moving progressively toward said fulcrum axis, an opening which, when the lever is in said terminal position, will substantially register with said lever aperture, with said starting point disposed at the side of said aperture remote from said fulcrum axis; and a spring latch attached to and projecting downwardly from the underside of said lever in a position diametrically opposed to said blade across said lever aperture, for yielding latching engagement with the edges of the lid defining said lid opening adjacent said starting point, said latch being arranged to engage said lid edge in an intermediate stage of said downward movement, to spring toward said blade in passing said edge, and to then yieldingly engage beneath said edge, whereby to latch the lever to the lid in said terminal position, said blade and hook being integrally joined in an L-shaped member having said hook as one arm thereof and having another arm on the end of which said blade is formed, said other arm being secured to the under side of said lever; said spout having a marginal, radially outwardly extending flange secured to the upper side of said lever; said latch being of spoon form and having an integral arm extending generally at right angles therefrom and secured to the under side of the lever, the means for securing said other arm of the blade and hook member, said latch arm, and said spout flange to the lever being a common securing means extending through said lever.

3. In a dispensing device for attachment to a sealed food container can having a lid provided with a radially outwardly extending end flange, for dispensing the contents of said can; a generally flat lever including a web and a marginal flange, said lever having a relatively wide portion at one end and a relatively narrow portion, functioning as a handle, at its other end, with said marginal flange extending unbrokenly around the end of said handle but interrupted across the end of said relatively wide portion to leave the web unflanged at said end; a combined piercing blade and flange engaging hook, integrally formed of sheet metal, separate from said lever, and of generally L-shape, including a flat web portion attached to the underside of said web, a hook portion formed integrally with one end of said web portion and projecting beyond said unflanged end of said web, and a blade extending generally at right angles to the other end of said

web portion, said hook being engageable with said can flange to provide a fulcrum for downward swinging movement of said lever about an axis tangent to said can flange, whereby to pierce in said lid a pouring opening; a pouring spout having a marginal flange engaged against the upper side of said web in the relatively wide portion thereof, and projecting in the opposite direction from said blade; said web having a pouring aperture coaxial with said spout; a latch element including a part engaged against the under side of said web diametrically across said aperture from said blade, and a resilient latch finger projecting generally at right angles to said web, and engageable with the can lid to latch the device to the can lid with the lever in engagement with the can lid; common securing means attaching said spout flange, said web and said latch element together in sandwiched relation; and a gasket of compressible material secured to the underside of said lever and embracing said blade and latch element therewithin, said gasket being engageable with the can lid to seal the spout to the can.

4. In a dispensing device for attachment to a sealed food container can having a lid provided with a radially outwardly extending end flange, for dispensing the contents of said can: a generally flat lever including a web and a marginal flange, said lever having a relatively wide portion at one end and a relatively narrow portion, functioning as a handle, at its other end, with said marginal flange extending unbrokenly around the end of said handle but interrupted across the end of said relatively wide portion to leave the web unflanged at said end; a combined piercing blade and flange engaging hook, integrally formed of sheet metal, separate from said lever, and of generally L-shape, including a flat web portion attached to the underside of said web, a hook portion formed integrally with one end of said web portion and projecting beyond said unflanged end of said web, and a blade extending generally at right angles to the other end of said web portion, said hook engageable with said can flange to provide a fulcrum for downward swinging movement of said lever about an axis tangent to said can flange, whereby to pierce in said lid an opening having a triangular portion defined by edges which converge to an apex remote from the point of engagement of said can flange by said hook; a pouring spout having a marginal flange engaged against the upper side of said web in the relatively wide portion thereof, and projecting in the opposite direction from said blade; said web having a pouring aperture coaxial with said spout; a latch element including a part engaged against the under side of said web diametrically across said aperture from said blade, and a resilient latch finger projecting generally at right angles to said web, engageable in said aperture and having a head defining laterally projecting parts engageable beneath said converging edges of said opening, to latch the device to the can lid with the lever in engagement with the can lid; common securing means attaching said spout flange, said web and said latch element together in sandwiched relation; and a gasket of compressible material secured to the under side of said lever and embracing said blade and latch element therewithin, said gasket being engageable with the can lid to seal the spout to the can.

5. In a dispensing device for attachment to a sealed food container can having a lid provided with a radially outwardly extending end flange,

for dispensing the contents of said can: a generally flat lever having one end portion provided with a pouring aperture; a combined piercing blade and flange engaging hook, including a web portion, a hook portion formed integrally with one end of said web portion and disposed adjacent said one end portion of the lever, and a blade formed integrally with and extending generally at right angles to the other end of said web portion, said hook being engageable with said can flange to provide a fulcrum for downward swinging movement of said lever about an axis tangent to said can flange, whereby said blade portion will pierce in said lid a pouring opening; a pouring spout having a marginal flange engaged against the upper side of said lever in the area thereof surrounding said aperture, and projecting in the opposite direction from said blade; a latch element including a part engaged against the underside of said lever diametrically across said aperture from said blade, and a resilient latch finger projecting generally at right angles to said lever and engageable with the can lid to latch the device to the can lid with the lever in engagement with the can lid; common securing means

attaching said spout flange, said lever and said latch element together in sandwiched relation; and a gasket of compressible material secured to the underside of said lever and embracing said blade and latch element therewithin, said gasket being engageable with the can lid to seal the spout to the can.

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