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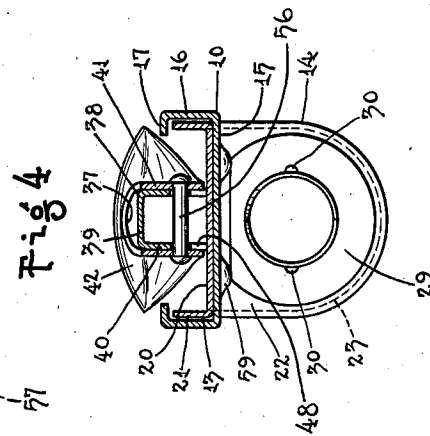
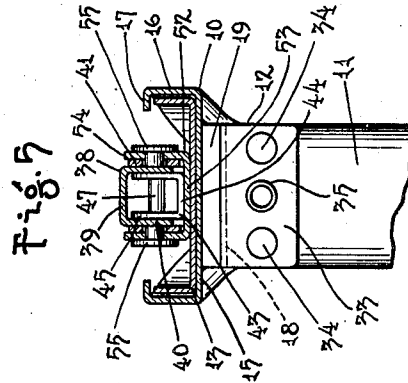
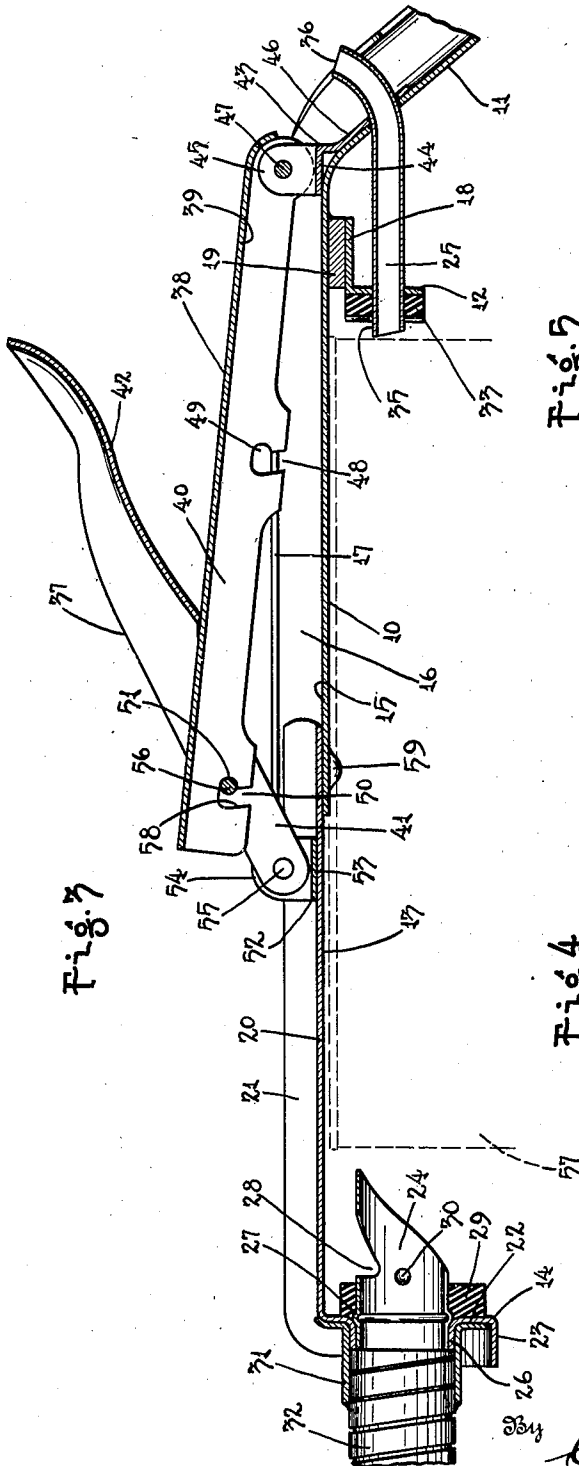
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MEANS FOR DISPENSING LIQUIDS FROM CANS

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MEANS FOR DISPENSING LIQUIDS FROM CANS

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7 Claims. (Cl. 222—83)

My invention relates to improvements in means for dispensing liquids from cans and comprises improvements in that type of dispenser which is clamped upon sealed cans of different sizes for tapping and manipulating the same to dispense liquid contents thereof.

Previous devices of the present nature adapted to be clamped upon a can and to function as a means for manipulating the can have served to tap the can at one point for the discharge of the contained liquid and at the same time have served to pierce the can at another point to admit air thereto and thereby facilitate the dispensing of the liquid. Such previous devices have also been adjustable to accommodate cans of different sizes.

An object of my present invention is to supply a device of the present nature which is improved from the standpoints of simplicity, durability and efficiency.

Another object of my invention is to supply such a device in which the admission of air to a can, for the purpose of facilitating the dispensation of its liquid contents, is accomplished in a simple and effective manner, whereby the user, with the handle of the device in one hand, may readily manipulate the device and the can clamped thereto and, at the same time, may control the admission of air to the can.

A further object of the invention is to provide an improved device of the instant character in which a finger of the user's hand, grasping the handle of the device, may be conveniently employed as a valve member in controlling the admission of air to the can being evacuated.

An additional object of the invention is to provide improved means in an adjustable device of the present kind, whereby the same may be quickly and easily adjusted to accommodate cans of different sizes.

With the foregoing and other objects in view, which will appear in the following description, the invention resides in the novel combination and arrangement of parts and/or in the details of construction hereinafter described and claimed.

In the accompanying drawings, Fig. 1 is a side elevational view of a dispensing device, embodying my invention, said device being shown as clamped to a can of relatively small diameter illustrated fragmentarily in dotted lines; Fig. 2 is a plan view of the device shown in Fig. 1; Fig. 3 is a central longitudinal, sectional view of the same device adjusted to accommodate a can of relatively large diameter, such a can being shown fragmentarily in dotted lines and said device being shown in position relative to said can to be clamped thereto

for tapping and admitting air to the same; Fig. 4 is a sectional view in detail taken as on the line 4—4 of Fig. 2, and Fig. 5 is a similar view taken as on the line 5—5 of said Fig. 2.

Referring to the accompanying drawings in which similar reference characters designate similar parts throughout the several views, it will be seen that the illustrated embodiment of my invention comprises a structure in the nature of a clamp and includes two relatively sliding parts, one, a guide 10 having an integral handle 11 thereon and also a jaw 12 fixed thereto, the other, a slide 13, slidably guided on said guide and having an integral jaw 14 thereon. The guide 10, together with its integral handle 11, is struck from an elongated piece of sheet metal. Likewise, the slide 13, together with its integral jaw 14, is struck from an elongated piece of sheet metal.

The guide 10 is channel-shaped and has a web 15 with upstanding flanges 16 along its longitudinal edges, said flanges having inturned lips 17 along the upper edges thereof. The handle 11 on said guide 10 is of flattened tubular form, extensions of said web 15 and flanges 16 constituting said handle. This handle 11 is disposed at an angle relative to the guide 10 and extends downwardly and outwardly therefrom, as best shown in Fig. 1. The jaw 12 comprises a depending abutment mounted on the guide 10 adjacent to the junction between said guide and the handle 11. Said jaw 12 includes a flange 18 secured relative to the web 15, in parallelism therewith, through the medium of a spacing block 19 fastened to said web.

The slide 13, like the guide 10, is channel-shaped and consists of a web 20 having upturned flanges 21 at its longitudinal edges. The jaw 14 on said slide consists of a downturned extremity thereof, the body 22 of said jaw being a continuation of the web 20 and the reinforcing flange 23 for said jaw-body 22 being a continuation of the flanges 21 on said web 20.

The guide 10 telescopically receives the slide 13 and in the assembled relationship of said two elements, the web 20 of the slide 13 slides along the upper surface of the web 15 of the guide 10; the flanges 21 of said slide 13 slide along the inner surfaces of the flanges 16 of said guide 10, and the upper edges of the flanges 21 of said slide 13 slide along the lower faces of the retaining lips 17 inturned from the flanges 16 of the guide 10.

As ordinarily used, the device is disposed across the top of a can with the jaw 12 of the guide

10 and the jaw 14 of the slide 13 facing diametrically opposed portions of the side of the can near the top thereof. The jaw 14 carries a tapping member or tap 24 and the jaw 12 carries an air admission member 25, both members being adapted to pierce the side wall of a can as said jaws are clamped against the can by means acting through the telescoping guide 10 and slide 13, as will more fully hereinafter appear.

Said tapping member 24 is a longitudinally split tubular tap socketed in a boss-like sleeve 26 (Fig. 3) struck outwardly from the body 22 of the jaw 14, said tap extending inwardly from said jaw body and having its inner end cut on the bias downwardly and rearwardly to render it pointed and susceptible of piercing the wall of a can. This tubular tap 24 is formed with an external annular bead 27 forming a shoulder which abuts against the body 22 of the jaw 14 and is also formed with an opening 28 at the top thereof for the admission of air thereto. Snugly encircling the tubular tap 24 is a gasket 29 of resilient material. This gasket 29 is backed against the body 22 of the jaw 14 and is held in such disposition by means of protuberances 30 pressed outwardly from the tubular tap 24 in positions to engage the front face of said gasket. A ferrule 31, fitted over the tubular boss 26 on the jaw body 22, receives the end of a suitable dispensing spout or tube 32 which may be in the form of the flexible, metallic conduit shown in the drawings.

The air admission member 25 carried by the jaw 12 on the guide 10 consists of a tube of metal which extends through the jaw and through the handle 11 near its junction with said guide 10. The inner end of this air admission tube 25 projects inwardly from the face of the jaw 12 through a gasket 33 of rubber secured as by rivets 34 to said jaw and has an exposed terminal 35 which is cut on the bias downwardly and outwardly to provide a point capable of piercing the wall of a can. The outer end of said air admission tube 25 is curved upwardly and terminates slightly above the plane of the upper surface of the handle 11, the lip 36 of the tube at its outer open end forming a valve member or seat with which the thumb or other finger of the user's hand, grasping said handle, may cooperate, as a companion valve member, to regulate the inflow of air into and through said air ingress tube 25.

The telescoping guide 10 and slide 13 are telescoped together and extended by simple and effective clamping means now to be described, said means including a feature of adjustment adapting the device to cans of different sizes, such for example, as the usual quart and two-quart cans. Said clamping means includes a lever 37 and a link 38, both struck from sheet metal, the link 38 being of channel-like formation consisting of an elongated web 39 and depending flanges 40 turned downwardly from said web along the longitudinal edges thereof. The lever 37 consists of a pair of arms 41 connected together in spaced parallel relation by means of hand-piece 42 formed integrally with the outer ends of said arms. The link 38 is pivoted at its outer end to the guide 10 at the junction of said guide and handle 11, said link being swingable to fold into position between the channels of the guide 10 and slide 13. The pivotal connection provided between the link 38 and guide 10 includes a generally U-shaped bearing 43 having a base 44 and upstanding ears 45, said base 44 having an ear

46 issuing therefrom, the base being secured to the web 15 of the guide 10 and said ear being secured to the extension of said web in the handle 11. The flanges 40 of the link 38 straddle the ears 45 of the bearing 43 and a pintle 47 extending through said flanges 40 and ears 45 pivotally connects the link 38 with the guide 10. Substantially midway between the ends of the link 38, the flanges 40 thereof are formed with registering bayonet slots 48 (Fig. 3) the main reaches of which extend obliquely into said flanges from the lower edges thereof and at an angle veering away from the pivoted end of the link 38, while the inner branches 49 of said slots 48 extend from the main reaches thereof in the direction of said pivoted end of said link. Near the free end of the link 38, the flanges 40 thereof are formed with registering bayonet slots 50, having branches 51, which duplicate said first mentioned slots 48.

The lever 37 is pivoted to the slide 13 through a U-shaped bearing 52 consisting of a base 53 having upturned ears 54, said base being secured to the web 20 of said slide 13. The arms 41 of said lever 37 fit inside of the ears 54 of said U-shaped bearing 52 and each of said arms 41 of said lever 37 is supplied with a headed stud or trunnion 55 pivoted in its respective ear 54 to swingably connect said lever 37 to said slide 13. The free end of the link 38 is freely received between the arms 41 of the lever 37 and extending from one of said arms to the other is a pin 56 which is selectively engageable in either set of bayonet slots 48, 50 in the flanges 40 of said link. To engage said pin 56 in the slots 50, the guide 10 and slide 13 are relatively extended, as shown in Fig. 3, whereby the device is adapted for use in dispensing the liquid contents from a relatively large container such as a can of two quart capacity. To engage the pin 56 in the slots 48, the guide 10 and slide 13 are telescoped together as shown in Figs. 1 and 2, whereby the device is adapted for use in dispensing the liquid contents from a relatively small container such as a can of one-quart capacity. In either adjustment of the lever pin 56 in the slots 48, 50 of the link 38, the action of the lever 37 and link 38 is the same in causing the device to be clamped upon and freed from a can. This clamping and freeing action of the device can be readily comprehended by reference to the drawings and particularly to Fig. 3 thereof, wherein the lever 37 is shown as having been swung up and back from the slide 13 to its rearward limit, which is reached upon the engagement of the hand-piece 42 of said lever 37 with the web 39 of the link 38. Upon such backward swing of the lever 37, the pin 56 passes from the main reaches of the slots 50 into the branches 51 thereof, the handle 37 and link 38 coacting in the operation to spread apart and extend said guide 10 and slide 13. With the guide 10 and slide 13 thus relatively disposed, the tips of the tap 24 and air tube terminal 35 are separated sufficiently so that the extended device is capable of straddling the upper portion of a relatively large can, as at 57 in Fig. 3, with the guide 10 and slide 13 disposed diametrically across and resting upon the top of the can. At the outset of the return swing of the lever 37, the pin 56 recedes from the branches 51 of the slots 50 and thence abuts against the biased edges 58 of said slots, bringing the link 38 into cooperation with the lever 37 to draw the guide 10 and slide 13 together. Continuing the return swing of

said lever 37 to its ultimately closed position between the flanges of the guide 10 and slide 13, as shown in Fig. 1, the pin 56 of the lever 37 is brought axially into substantial coplanar relationship with the axes of the pintle 47 of the link 38 and the trunnions 55 of the lever 37, thus latching the guide 10 and slide 13 against being extended. As said guide 10 and slide 13 are telescoped together, through the coaction of the lever 37 and link 38, the tap 24 and tube terminal 35 are caused to pierce the wall of the can at opposite sides thereof and the gaskets 29, 33, of the jaws 14, 12 carrying said tap 24 and tube terminal 35, are clamped and compressed against the can about said tap and tube, respectively. Having thus rigidly clamped the device to a can whose liquid contents is to be dispensed, the user grasps the handle 11 with one hand of which the thumb or other finger is used to coact with the valve-seat 36 of the tube 25 and throttle the ingress of air into said tube as may be desired. Thus having control of the device together with the can clamped thereto, they are both manipulated as a unit with one hand to tip and dispense the liquid contents of the can through the spout 32, the other hand of the user being free for the accomplishment of whatever else is required to be done in dispensing the liquid. Throttling the air ingress tube 25 with his thumb, the user controls the admission of air to the can and consequently the discharge of the liquid from the spout 32, whereby, under such control, said liquid is readily dispensed from the can without spillage in its transfer to a receiver, such for example, as the oil filler tube of an automobile engine. Having tipped and drained a can of its contents with the dispensation of such contents controlled by the valving of the air admission tube 25, the device is readily removed from the can by swinging the lever 37 back into its unlatched position, as shown in Fig. 3, the shifting of said lever in such manner resulting in the extension of the guide 10 and slide 13 which is attended with the opening of the jaws 14, 12 and the withdrawal and disengagement of the tap 24 and tube terminal 35 from the pierced side wall of the can.

When the pin 56 of the lever 37 is disposed in the slots 48 of the link 38 to secure an adjustment of the device to accommodate a relatively small can (Fig. 1), the operation of said device is the same as that above described, as will readily be comprehended.

Struck down from the web 15 of the guide 10 on a line transversely thereof and near the end of said web opposite the handle 11 are a pair of supporting lugs 59. These lugs are received in the usual recess at the end of a can and rest upon the top proper of the can, thus affording an intermediate support for the telescoped guide 10 and slide 13 between the supports at the rim of the can on the opposite sides thereof. This intermediate support is particularly useful in the fully extended relationship of the guide 10 and slide 13 (Fig. 3) by reason of its purpose in keeping the adjoining ends of said guide 10 and slide 13 from sagging into the end recess of the can. At the outset of the application of the device to a can, the guide 10 preferably will be disposed relative to the can with the air tube terminal 35 against or adjacent to the side of the can with the supporting lugs 59 of the guide 10 resting upon the top proper of said can and with the web 15 of said guide resting upon the end flange of the can as shown in Fig. 3. With the

guide 10 thus seated on the can, under the control afforded by the user's grasp on the handle 11, the slide 13 is then readily led by the lever 37 into the guide 10 without any undue friction, as otherwise might be occasioned were the adjoining ends of the guide 10 and slide 13 permitted to sag into the recess at the top of the can. In this connection, it is to be noted that the bearing 52, to which the lever 37 is pivoted, is secured to the inner end of the slide 13, whereby said slide is led into the guide 10 without binding. Obviously, the leading of the slide 13 into the guide 10 in this manner permits construction of slide and guide in minimum lengths.

Among the various advantages residing in my present invention, one of chief importance is the ready control of the admission of air to a can being evacuated of its liquid contents, whereby the dispensing of such liquid can be controlled without spillage and without reference to the degree to which the can is canted. Other important advantages of the invention to be particularly noted are the simplicity and durability of the means for clamping the device upon a can and the freedom from frictional resistance encountered between the guide 10 and slide 13.

Changes in the specific form of my invention, as herein disclosed, may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In an article for dispensing liquids from closed cans containing the same, a clamp applicable to a can and including a guide adapted to overlie the top thereof, said guide having a handle for manipulating said clamp together with the can grasped thereby, said handle being adapted to occupy a position adjacent to one side of the can, a jaw on said guide for engagement with said can at said side thereof, a slide mounted on the guide and having a jaw for engagement with said can at the opposite side thereof, means for relatively adjusting said guide and slide to clamp said jaws against their respective sides of the can, a tapping member projecting from the face of the second jaw for piercing the corresponding side of the can in the process of engagement of said second jaw therewith, a dispensing spout leading from said tapping member, an air inlet tube arranged with its outer end portion extending through said handle and with its inner end portion extending through said first jaw and having a terminal portion projecting from the face of said first jaw, said outer end portion of said tube having an air ingress opening disposed at a locality conveniently permitting the valving thereof by a finger of the user's hand holding said handle, said terminal portion of said tube being pointed to pierce the corresponding side of the can in the process of the engagement therewith of said first jaw, said tube being adapted to admit air to the interior of said can under the valving action of the user's finger.

2. In an article for dispensing liquids from closed cans containing the same, a clamp applicable to a can and including a guide adapted to overlie the top thereof, said guide having a handle for manipulating said clamp together with the can grasped thereby, a jaw on said guide for engagement with one side of said can, a slide mounted on the guide and having a jaw for engagement with said can at the opposite side thereof, means for relatively adjusting said guide and slide to clamp said jaws against their respective

sides of the can, a tapping member projecting from the second jaw for piercing the corresponding side of the can, a dispensing spout leading from said tapping member, an air inlet tube having a terminal portion thereof projecting from said first jaw, the opposite end portion of said tube having an air ingress opening disposed at a locality conveniently admitting of the valving thereof by a finger of the user's hand holding said handle, said terminal portion of said tube being formed at its extremity to pierce the corresponding side of the can and being adapted to admit air to the interior of said can under the valving action of the user's finger.

3. In an article for dispensing liquids from closed cans containing the same, a clamp applicable to a can and having a handle issuing therefrom for manipulating said clamp together with the can grasped thereby, said handle being adapted to be grasped by a hand of the user with a finger of such hand adjacent the junction between said handle and clamp, said clamp having a pair of tubular can-piercing members, one for the egress of liquid from the can and one for the ingress of air thereto, said latter member opening to the atmosphere near said junction to be valved by said finger, means for opening and closing the clamp, said means including a lever swingable away from the handle, upon the closing of the clamp, into a position unobstructing the access of said finger to said air ingress member.

4. In a device for dispensing liquids from closed cans, an elongated clamp adapted to overlie the top of a can and including a guide and a slide telescopically connected together at the inner end portions thereof, a handle at the outer end of said guide, an abutment on said guide adjacent said handle for engagement with one side of the can, a tapping abutment on the outer end of said slide for engagement with the opposite side of the can, means for relatively adjusting said guide and slide to open and close the clamp and upon the closing of the same to bring said abutment and tapping member against their respective sides of the can to cause the latter to pierce said can, said adjusting means including a lever and a link, the lever consisting of a hand-piece and a pair of spaced arms extending therefrom, said arms being pivoted at their extremities to the inner end of said slide and enabling the lever to swing toward and from said handle, the link consisting of a channel-like member with depending flanges, said flanges being pivoted at one end of said link to the outer end of said guide, the other end of said link being received between the arms of said lever, said lever and link affording selective pivotal connections therebetween for adapting the device to cans of different sizes, said lever and link cooperating, upon the swinging of said lever away from said handle, to lead the slide along the guide and thus close the clamp and cooperating upon the swinging of said lever toward said handle to open the clamp, said link and lever being foldable against said guide and slide substantially to align said pivotal connections and thereby releasably lock the clamp closed, said means for affording selective pivotal connections between said lever and link consisting of a pin extending from one arm to the other of said lever and consisting further of successive pairs of downwardly opening bayonet slots in the flanges of said link, each pair of slots being adapted to receive said pin, each slot of each pair having a main reach with a biased side and a

branch reach opposed to such side, the biased sides of the paired slots retaining said pin therein upon the swinging of said lever in one direction, the branch reaches of the paired slots retaining said pin therein upon the swinging of said lever in the other direction.

5. In a device for dispensing liquids from closed cans, an elongated clamp adapted to overlie the top of a can and including a guide and a slide telescopically connected together at the inner end portions thereof, a handle at the outer end of said guide, an abutment on said guide adjacent said handle for engagement with one side of the can, a tapping member on the outer end of said slide for engagement with the opposite side of the can, means for relatively adjusting said guide and slide to open and close the clamp and upon the closing of the same to bring said abutment and tapping member against their respective sides of the can to cause the latter to pierce said can, said adjusting means including a lever and a link, the lever being pivoted at one end on the inner end of said slide and swingable toward and from said handle, the link being pivoted at one end to the outer end of said guide, said lever and link affording selective pivotal connections therebetween for adapting the device to cans of different sizes, said lever and link cooperating, upon the swinging of said lever away from said handle, to lead the slide along the guide and thus close the clamp and cooperating, upon the swinging of said lever toward said handle, to open the clamp, said link and lever being foldable against said guide and slide substantially to align said pivotal connections and thereby releasably lock the clamp closed, said means for affording pivotal connections between said lever and link consisting of a pin on the lever and spaced bayonet slots in said link adapted selectively to receive said pin, said lever having a hand-piece at its free end and an opening between said hand-piece and its pivoted end, the free end of said link being received in said opening, said hand-piece forming a stop for said lever engageable with said link to arrest the swinging of the lever toward said handle.

6. In a device for dispensing liquids from closed cans, an elongated clamp adapted to overlie the top of a can and including a guide and a slide telescopically connected together at the inner end portions thereof, a handle at the outer end of said guide, an abutment on said guide adjacent said handle for engagement with one side of the can, a tapping member on the outer end of said slide for engagement with the opposite side of the can, means for relatively adjusting said guide and slide to expand and to close the clamp and upon closing the same to bring said abutment and tapping member against their respective sides of the can to cause the latter to pierce said can, said adjusting means including a lever and a link, the lever being pivoted at one end on the inner end of said slide and swingable toward and from said handle, the link being pivoted at one end to the outer end of said guide, said lever and link affording selective pivotal connections therebetween for adapting the device to cans of different sizes, said lever and link cooperating, upon the swinging of said lever away from said handle, to lead the slide along the guide and thus close the clamp and cooperating, upon the swinging of said lever toward said handle, to open the clamp, said link and lever being foldable against said guide and slide sub-

stantially to align said pivotal connections and thereby releasably lock the clamp closed, said means for affording selective pivotal connections between said lever and link consisting of a pin on the lever and spaced bayonet slots in said link, each slot having a main reach open at the bottom to receive said pin, the side of said main reach remote from said handle being upwardly biased away from said handle to retain the pin therein upon the swinging of the lever away from the handle, each slot further having a branch reach, opposed to the biased side of its main reach, to receive the pin from said main reach and retain the same in said slot upon the swinging of said lever toward said handle.

7. In a device for dispensing liquid from a closed can having a recessed top formed by a rim projecting from the top proper, a clamp adapted to be applied to the top of the can across the same, said clamp including a pair of relatively slidable elements, one end portion of one thereof superimposing one end portion of the other and telescopically connected therewith, said elements being adapted to rest upon said rim

at opposite localities thereon with their telescopically connected portions above the recess in the can, an abutment mounted on one of said elements for engagement with one side of the can and a tapping member mounted on the other of said elements for engagement with the opposite side of the can, means carried by said elements for relatively adjusting the same to open the clamp and also to close the clamp and bring said abutment and tapping member against their respective sides of the can for causing the latter to pierce the can, said adjusting means including a lever adapted to be pressed downwardly toward the top of the can upon the closing of the clamp, the end portion of the one element superimposed by the end portion of the other element having a depending projection thereon received within said recess in the can and adapted to bear upon the top proper of said can to support said telescoping end portions of said elements against sagging and thereby prevent the binding of one relative to the other under pressure placed upon said lever.

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