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J. W. DYE

1,923,779

CAN PUNCTURING AND SEALING DEVICE

Filed April 21, 1930

Fig. 1.

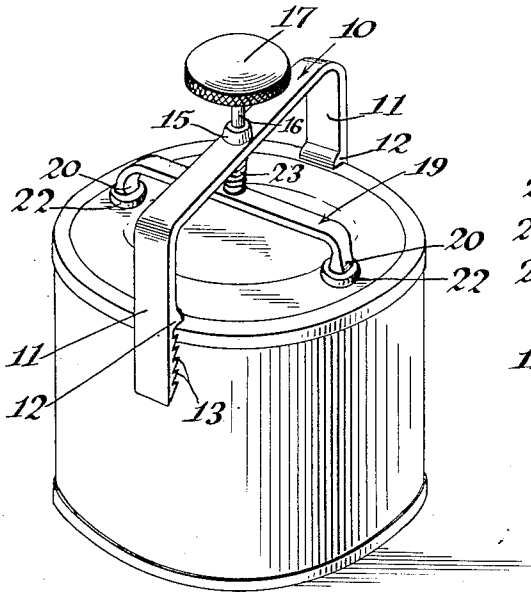


Fig. 2.

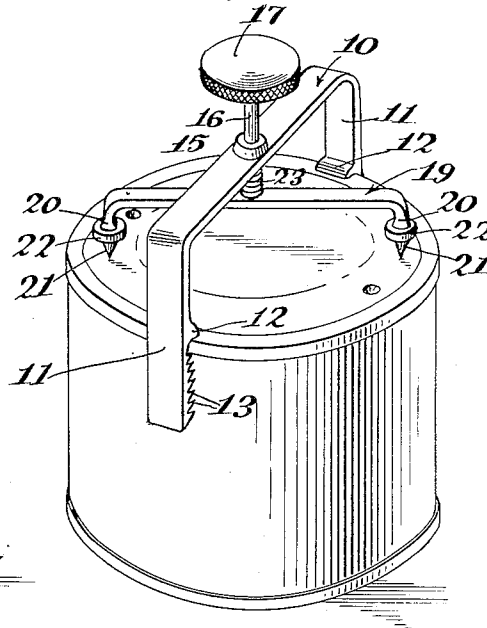
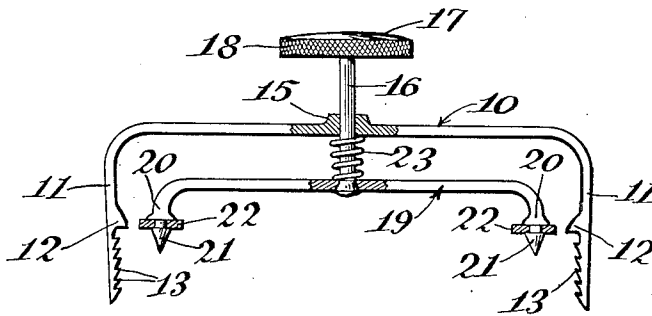


Fig. 3.



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CAN PUNCTURING AND SEALING DEVICE

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3 Claims. (Cl. 220-51)

My invention relates to a can puncturing and sealing device and has for its principal object, the provision of a relatively simple, practical and efficient device that may be conveniently employed for puncturing cans until they are utilized as containers for liquids such as milk, syrup, fruit juices, paints and the like and which device after being used for puncturing the can, serves as a readily releasable sealing device for the apertures or punch openings that are formed in the can and consequently preventing the increase of air and dust into the punctured can so that the contents are maintained in a clean and sanitary condition.

Further objects of my invention are, to provide a device of the character referred to that may be easily and quickly applied to a can or like container and which when positioned for use grips the body of the can at diametrically opposite points so as to maintain a firm and stable position while the puncturing and sealing member of the device is being manipulated.

A further object of my invention is, to provide a can puncturing and sealing device that comprises relatively few parts and which may be manufactured at comparatively low costs.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a can puncturing and sealing device in position upon a can or like container and showing the puncturing member in position to puncture the top of the can.

Fig. 2 is a perspective view similar to Fig. 1 and showing the punctured member turned so as to expose the openings or punch holes in the top of the can.

Fig. 3 is a side elevational view of the device with parts thereof in section.

Referring by numerals to the accompanying drawing which illustrates a practical embodiment of my invention, 10 designates a short inverted U-shaped frame that serves as a support for the puncturing and sealing member, said frame being formed from metal having a certain degree of resiliency and the depending legs 11 at the ends of said frame normally converge to a slight degree so that when the lower portions of said legs are positioned at diametrically opposite points on a can, said legs will be flexed

outwardly a short distance so as to engage or clamp the can with a certain degree of pressure.

In order to hold the upper portion of the frame 10 at the desired elevation above the top of the can, lugs 12 are formed integral with the inner faces of the legs 11, which lugs function as stops or shoulders to bear on the upper face of the top of the can and thereby firmly support the frame in proper position above the can.

The inner faces of the legs 11, below these lugs 12, are serrated to form small horizontally disposed upwardly projecting teeth 13 that engage and bite into the outer face of the can so as to aid in firmly retaining the frame in proper position on the can.

Formed in the center of the cross member of the frame 10 is a bearing 15, through which is arranged to slide vertically, a push rod 16 on the upper end of which is mounted a disk 17 having a knurled edge 18.

Rigidly fixed in any suitable manner to the lower end of push rod 16 is a horizontally disposed bar 19, having depending end portions 20 that terminate in short conical points 21 and suitably mounted on said depending end portions just above said points 21 are packing members or gaskets 22, preferably of rubber of analogous material.

Arranged on the lower portion of push rod 16 between cross bar 19 and frame 10 is expansive coil spring 23.

When my improved puncturing and sealing device is applied to a can, the lower ends of the legs 11 are pressed downwardly against the outer face of the body of the can at diametrically opposite points and the tendency of said legs to move toward each other, due to the resiliency of the metal and the teeth 14 on the inner faces of said legs will grip the can so as to firmly support the frame in position thereupon.

The lugs 12 limit the downward movement of the frame relative to the can. The disk 17 is now engaged between the thumb and finger and by pulling upward on said disk against the resistance offered by the spring 23 and rotating said disk, the bar 19 may be conveniently turned into a position at an angle relative to the transverse plane occupied by the frame 10. Upon release of the disk 17, the spring 23 will act to move the bar 19 downwardly so that the ends of the points 21 rest on top of the can. The disk 17 is now pressed downwardly or it may be struck with a sharp blow with the palm of the hand

and as a result the points 21 will be driven through the top of the can at diametrically opposite points adjacent to the edge thereof.

Thus the top of the can is simultaneously punctured at two points and to effect a discharge of the contents of the can or a portion thereof, disk 17 is engaged and drawn upwardly and at the same time rotated in either direction so as to expose the openings formed by the points 21 and the can may now be tilted so as to pour the contents from the lower one of the openings and at the same time air enters the can through the upper one of the openings.

After a portion of the contents of the can has been thus discharged, the puncturing member may be rotated so as to position the points 21 in the openings and the gaskets 22 will provide a practically air and dust proof seal between the puncturing points and the openings so as to maintain the remaining portion of the contents of the can in a clean and sanitary condition.

Thus it will be seen that I have provided a can puncturing and sealing device that is relatively simple in construction, inexpensive of manufacture, capable of being easily and quickly applied to or removed from cans and said device being very effective in performing the functions for which it is intended.

It will be understood that minor changes in the size, form and construction of the various parts of my improved can puncturing and sealing device may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a can puncturing and sealing device, an inverted U-shaped frame formed of resilient material, the depending legs of which frame converge downwardly, stop lugs formed on the inner faces of the depending legs of said frame, which lugs are adapted to rest on top of the can to which the device is applied, teeth formed on the inner faces of the legs of said frame below the lugs thereon for engaging the outer face of the wall of the can to which the device is applied and a spring held puncturing member arranged for rotary and sliding movement on said frame.

2. In a can puncturing and sealing device, a frame comprising a cross bar, resilient legs depending from the ends of said cross bar, stop lugs formed on the inner faces of said depending legs which lugs are adapted to rest on top of the can to which the device is applied, teeth formed on the inner faces of said depending legs below said stop lugs which teeth are adapted to engage the outer surface of the wall of the can to which the device is applied, a push rod arranged for rotary and sliding movement at the center of said cross bar, a horizontally disposed arm carried by the lower end of said push rod, depending puncturing points on the ends of said cross arm and packing rings arranged on said puncturing points above the lower ends thereof.

3. A can puncturing and sealing device, as set forth in claim 2, and with a disk on the upper end of said push rod and a spring interposed between the cross bar of said frame and the arm carrying the puncturing points.

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