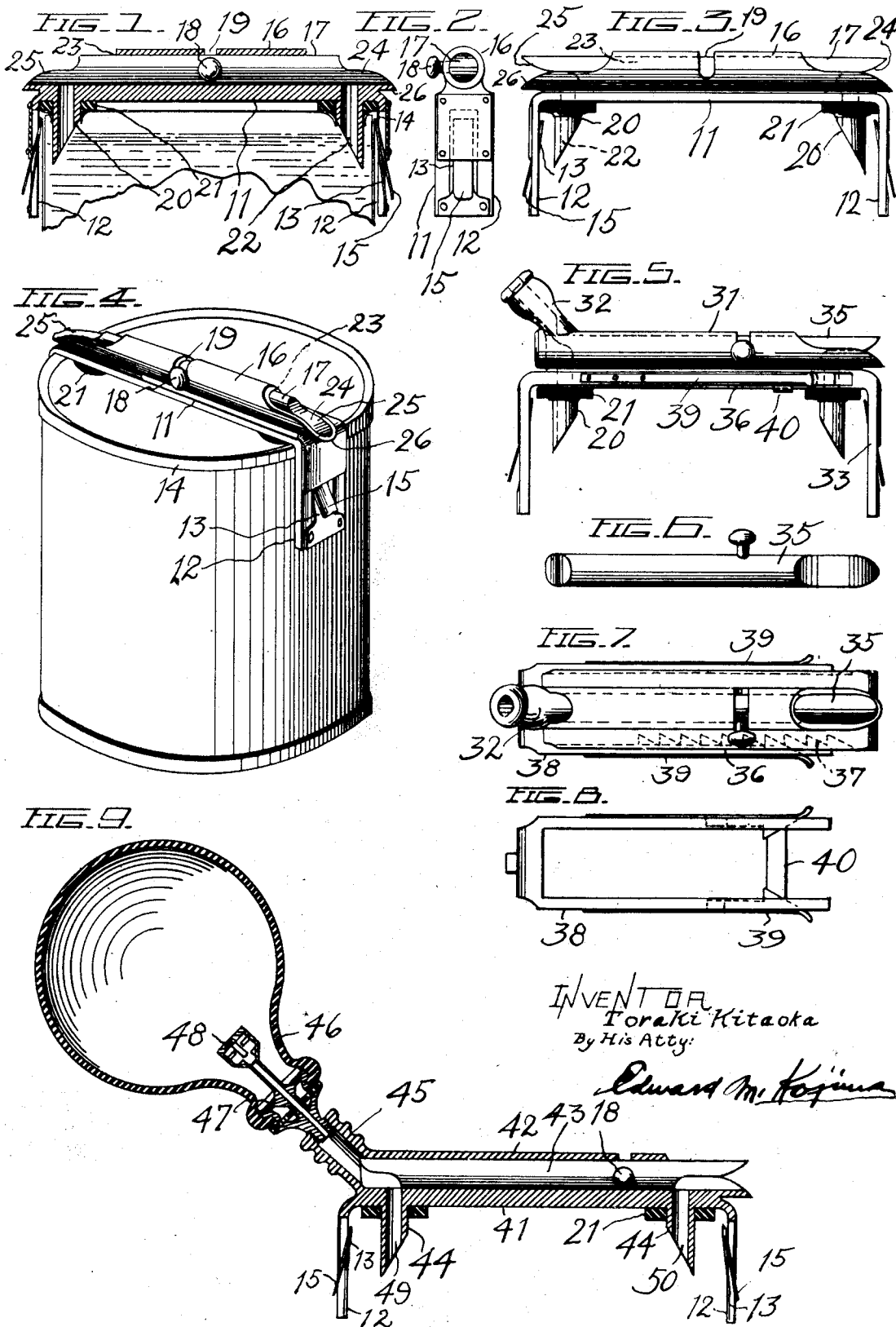


T. KITAOKA.
DETACHABLE CAN FUNNEL.
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1,344,801.

Patented June 29, 1920.



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DETACHABLE CAN-FUNNEL.

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Specification of Letters Patent. Patented June 29, 1920.

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To all whom it may concern:

Be it known that I, TORAKI KITAOKA, a subject of the Emperor of Japan, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Detachable Can-Funnel, of which the following is a specification.

This invention relates to a funnel device adapted to be attached to cans for the purpose of removing the contents thereof.

The object of this invention is to provide a device of this character which may be quickly applied to the can and remain attached thereto until the contents are fully removed.

Another object is to provide a funnel device which, when not in use for removing the contents of the can, may be closed for protection of the remaining contents.

Another object of this invention is to provide a device of this character which may be employed for removing the contents of a can which may be of a viscid character, and without removing the cover of the can.

Another object is to provide a device of this character which may be adjusted for use on different sizes of cans.

An ordinary method of removing the contents of a can, for example, of condensed milk, consists in punching two holes in the top cover thereof, one of which serves for the discharge of the contents of the can, and the other serves for the admission of air to the can. To protect the contents of the can which are not removed, plugs rolled from paper, are inserted in the holes. By the use of my improved device, both incisions in the can cover may be made simultaneously, and the contents may be protected if not removed, the device serving as an opener, a funnel, and a temporary closure for the can.

A practical embodiment of the invention is shown in the accompanying drawings.

Upon the annexed drawings, Figure 1 is a longitudinal and sectional view of the device in applied position upon a can. Fig. 2 is an end elevation of the same. Fig. 3 is a side elevation of the device, the same being shown in open position. Fig. 4 is a perspective view showing the device applied to a can and in closed position. Fig. 5 is a side view of a modified form of the device. Fig. 6 is a detail view of the movable closure member. Fig. 7 is a top plan view of the device as shown in Fig. 5. Fig. 8 is a top plan view of the attaching member adjustable for different sizes of the can. Fig. 9 is a

longitudinal and sectional view of a modified form of the device, showing means for forcible ejection of the contents of the can.

Referring to the drawings, the device consists of a clamp member 11, having the depending ends 12, within which are mounted the spring latch members 13, adapted to engage with the projecting edge 14 of the can to which the device is applied. The spring members 13 have projecting ends 15 adapted to be pressed inwardly for removal of the device. A cylindrical body 16 is formed integral with the clamp 11, and has mounted therein the rotary bolt 17, provided with the handle 18, extending through the lateral slot 19. The member 11 is provided with hollow and integral punches depending therefrom, and adapted to pierce the can cover with suitable incisions for removal of the contents. Annular gaskets 21, preferably of rubber, are mounted at the top end of the punches 20. The punches 20 are provided with central openings 22, extending to the chamber 23, and are normally closed by the rotary bolt 17. The ends 24 of the bolt, are formed with inclined faces 25, and arranged so that as the bolt is turned to open position, the central openings 22 are uncovered, forming outlet and inlet ports for the can.

To apply the device for use, the same is placed upon the top of the can with the punches resting upon the cover and the depending ends 12 engaging with the sides of the can. The device is then given a stroke with the palm of the hand, which causes the punches to pierce the cover, and the spring latch members 13 to engage with the edge of the can. The gaskets 21 are efficient to prevent leakage when the can is tilted to remove the contents. The handle 18 is given a half turn to place the rotary bolt in open position, and the can may be then tilted to remove the contents thereof. The ends 26, of the cylindrical body 16, serve as spouts for delivery of the contents of the can. After use, if the contents of the can are not all removed, the bolt is rotated to closed position, and all exposed parts thereof may be cleansed with a cloth fabric. For removing the device, the projecting ends 15 of the latch members, are pressed by the operator and the device may be removed from the can.

In the modified form shown in Fig. 5, the body member 31 is formed at one end with a projecting nipple 32, formed for affixing a

rubber bulb or other device for injecting air into the can. The clamp serving for attachment to the can, consists of a member 33, formed with the integral cylinder body 31, having therein the working bolt 35, and grooved edges 36, provided with a series of notches 37 within the grooves. The opposite clamp member 38 is arranged to engage with the grooved edges 36 and to slide therein, being provided with latch members 39 adapted to engage with notches 37. A transverse brace 40, prevents the telescoping clamp members 33 and 38, from becoming detached.

The device shown in Fig. 9 is a modified form of the invention, and consists of a clamp member 41, having the integral cylindrical body 42, with the rotary bolt 43, mounted therein, and having integral punches 44. The projecting nipple 45 is provided with a detachable bulb 46, provided with inlet valve 47 and outlet valve 48, and constructed preferably of rubber, the bulb being adapted for forcing air through port 49, and into the can to which the device may be attached. The opposite port 50 is adapted for delivery of the contents of the can. This device is adapted for use in removing the contents, such as paint, oils, creams, and other articles of a more or less viscid character, from a containing can. The nipple 45 is provided with exterior corrugations 51, so that any form of rubber bulb or tube may be applied for the purpose of forcing air into the can to which the device may be attached.

In each of the modified forms of the device, it may be seen that the same may be applied by placing over the top of the can, and driving the same with one or more strokes of the hand. Each device is provided with means for closing the delivery ports or nozzles, and arranged so that when closed, the same may be readily cleaned.

What is claimed is:

1. In a can delivery funnel, a clamp member adapted to engage with the top of the can, a cylindrical body formed integral therewith, a pair of punches integral with the clamp and adapted to perforate the top of the can, said punches having ports therein, a rotary bolt mounted in the cylindrical body and arranged to cover the ports in the closed position, a handle to operate the bolt to open position, and spring latch members mounted on the ends of the clamp and adapted to engage with the rim of the can in applied position.

2. In a can delivery funnel, a clamp member adapted to engage with the top of a can, having a series of serrations on oppositely disposed edges thereof and longitudinal grooves in the oppositely disposed edges, a supplementary member engaging with the edges of the clamp and sliding in said

grooves, spring latch members fixed to the supplementary member and adapted to engage with said series of notches in the clamp, an integral cylinder having a chamber, integral punches adapted to perforate the top of the can with two oppositely disposed incisions, and having central ports forming communication between the interior of the can and the cylinder chamber, a rotary valve member mounted in said chamber and adapted to open and close said ports, and a handle to operate said valve member.

3. In a can delivery funnel, a clamp member adapted to engage with the top of a can, having oppositely disposed and grooved edges and a series of serrations in the bottom of the grooves, a supplementary member in sliding engagement with said grooves, spring latch members fixed to the supplementary member and engaging with the clamp notches, an integral cylinder having a chamber and a transverse slot therein, integral punches adapted to perforate the top of the can with two oppositely disposed incisions, and having central ports forming communication between the cylinder chamber and the interior of the can, a valve member rotatively mounted in the cylinder chamber, and arranged to open the ports in one position and to close said ports in the opposite position, and a handle projecting through said slot and arranged for manual operation of said valve member.

4. In a can delivery funnel, a clamp member adapted to engage with the top of the can, a cylinder body integral with the clamp member and forming a valve chamber, a spout forming one end of the cylinder, a bulb attaching nozzle forming the opposite end of the cylinder, integral punches depending from the clamp member and having central ports communicating with the cylinder chamber, and a rotary valve member mounted in the valve chamber and adapted to open and close said ports.

5. In a can delivery funnel, a clamp member adapted to engage with the top of the can, a cylinder body integral with the clamp member, a spout forming one end of the cylinder body, a bulb attaching nozzle forming the opposite end of the cylinder body, a valve chamber formed by the cylinder body, a valve member mounted therein, integral punches depending from the clamp member and adapted to perforate the top of the can with two oppositely disposed incisions, ports in the punches forming communication between the interior of the can and the valve chamber and opened and closed by said valve member, and a bulb mounted on the bulb nozzle and adapted to force air into the inlet port.

In testimony whereof I hereunto affix my signature.

TORAKI KITAOKA.