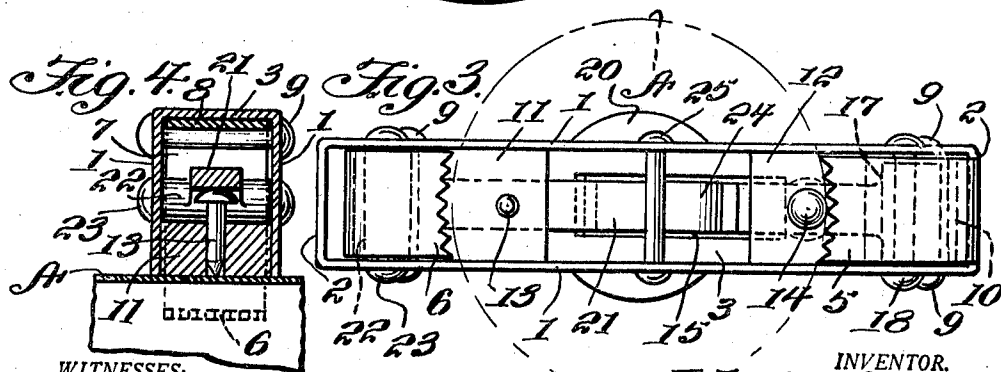
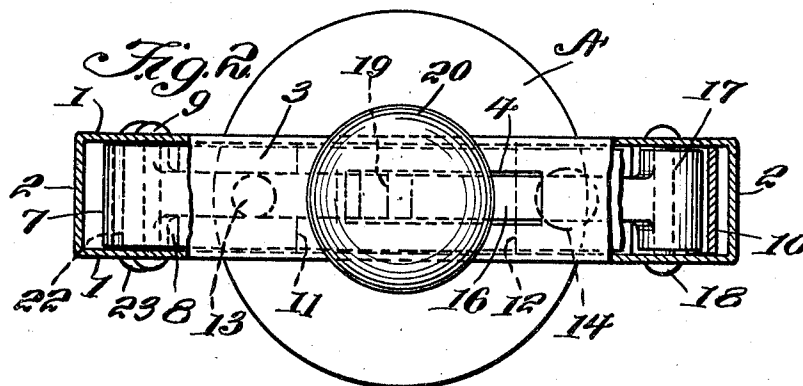
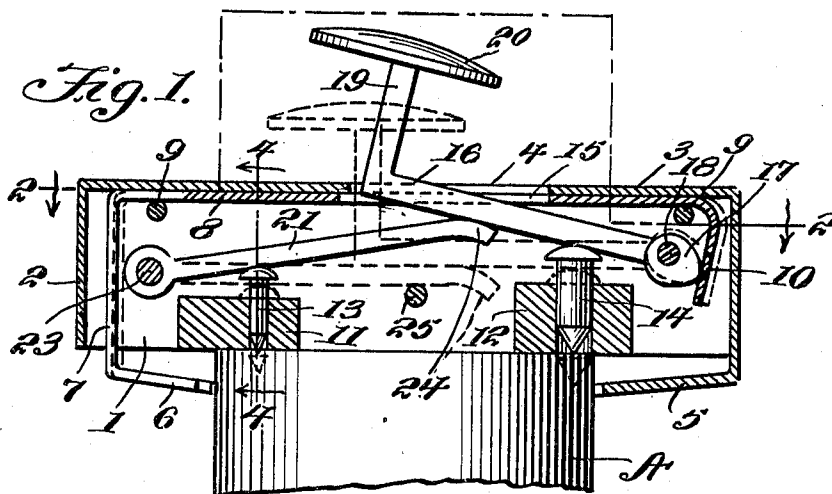


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CAN PUNCHING DEVICE
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WITNESSES:

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CAN PUNCHING DEVICE

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5 Claims. (Cl. 30—16)

This invention relates to can punching devices, and its general object is to provide a device that is designed for punching a pair of diametrically opposite holes in the top wall of a can of liquid, such as milk with minimum effort on the part of the user and in a single operation, so as to bring about the pouring of the contents from the can, and one of the holes acts as a vent and the other for the passage of the contents therethrough.

An important object is to provide a can punching device which has the pouring hole penetrating element arranged for punching that hole at the juncture of the top wall of the can with the cylindrical wall thereof, thus making it possible to drain the entire contents from the can.

A further object is to provide a can punching device that is simple in construction, inexpensive to manufacture and extremely efficient in operation, use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein the same characters denote the same parts throughout the several views, and in which:

Figure 1 is a vertical sectional view taken through my device and illustrates the same applied to a can, as well as with parts in a position prior to the punching stroke, in full lines and after the punching stroke has been completed in dotted lines.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a bottom plan view of the device.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 1, looking in the direction of the arrows.

Referring to the drawing in detail, the letter A indicates a can of the usual sealed type commonly used for condensed milk or other liquid.

My device in the form shown includes an elongated body in the form of a casing provided with side and end walls 1 and 2 respectively and a top wall 3, the latter having a slot 4 extending longitudinally thereof for a portion of its length, as best shown in Figure 1, and the bottom of the body or casing is completely open. One end wall has an intumed flange 5 formed thereon to underlie the open bottom of the casing, and the flange is disposed at a slight downward inclina-

tion, as well as is provided with a toothed arcuate inner edge to follow the curvature of the cylindrical wall of the can, the flange providing one of the clamping jaws for the device for engagement with the can, as shown.

Cooperating with the flange or jaw 5 is a companion jaw 6 having a toothed arcuate inner edge for engagement with the can diametrically opposite the first jaw, and the jaw 6 is formed on and inwardly directed at a slight downward inclination from the downturned vertical end portion 7 of a strip 8 that bears against the under face of the top wall 3 for slidable movement, and said jaw is held accordingly by pins 9 secured to and bridging the side wall 1. The strip 8 is provided with a downturned portion 10 at the end thereof opposite the portion 7, and the portion 10 which is inwardly inclined provides an abutment member for a purpose which will be later described. The strip 8 is of a length for disposing the portions 7 and 10 adjacent to the end walls 2, with ample space between the end walls and the portions 7 and 10, to allow free sliding movement of the strip.

Welded or otherwise secured to and bridging the side walls 1 is a pair of spaced blocks 11 and 12 respectively, and each block is provided with a vertical bore extending therethrough. Slidably mounted in the bore of the block 11 is the headed shank of a penetrating element 13, while a like element 14 has its shank slidably mounted in the block 12. The shanks of the elements 13 and 14 are of greater length than that of the bores, so as to extend through the same an ample distance to perform their penetrating function, and the heads are engageable with the tops of the blocks to limit downward movement of the elements, as will be apparent upon inspection of Figure 1. The lower ends of the shanks are of conical formation to provide penetrating points to pierce the top wall of the can, and the element 14 is of greater diameter than that of the element 13, as the element 14 provides the pouring hole in the can, while the element 13 provides the vent hole.

The block 12 is arranged relative to the device, so that the penetrating element 14 will pierce the top wall of the can at its juncture with the cylindrical wall thereof, for the pouring opening to be arranged accordingly. That feature makes it possible to drain the entire contents from the can, and the block 11 is arranged so that the penetrating element 13 will provide the vent hole a slight distance inwardly of the periphery of

the top wall of the can, as best shown in Figure 1.

The strip 8 is provided with a slot 15 extending longitudinally thereof and arranged therein for registration with the slot 4, and extending through the slots is a hand lever 16 having a cam member 17 formed on the inner end thereof. The cam member 17 is mounted on a pin like shaft 18 for rocking movement of the hand lever and the shaft 18 is secured to and bridges the side walls 1 adjacent the abutment member 10, for engagement of the cam member with the abutment member, as shown in Figure 1, which likewise illustrates that the cam member is of oval shape in cross section. The free end portion 19 of the lever is bent at right angles to the remaining portion thereof, and secured to the upper end of the portion 19 is a disk like member 20 providing a button that is preferably of concavo-convex formation with its convexed face uppermost to fit the palm of the hand of the user, and it will be noted as best shown in Figure 1 that the hand lever engages the head of the penetrating element 14 for forcing the same into the top wall of the can to provide the pouring opening.

Engaging the head of the penetrating element 13 is a lever 21 that is formed with a bearing collar 22 at one end and the collar is mounted on a pin like shaft 23 for rocking movement of the lever 21. The shaft 23 is secured to and bridges the side walls 1 adjacent to the end wall opposing the end wall which has the shaft 18 arranged adjacent thereto, and the lever 21 is directed toward the hand lever 16, as well as is provided with a downwardly inclined free end portion 24 that has the hand lever disposed in bearing engagement with the upper face thereof, as clearly shown in Figure 1, so that the lever 21 is moved against the penetrating element 13 upon downward movement of the hand lever, for the penetrating element to pierce the top wall of the can to provide the vent opening therein. A stop pin 25 is secured to and bridges the side walls for disposal in the path of the lever 21 to limit downward movement of the levers.

From the above description and disclosure in the drawing, it is believed that the operation of my device will be obvious, but it might be mentioned that the parts are arranged in the full line position of Figure 1, thence the device is applied to the can. Upon downward movement of the hand lever the cam member 17 will slide the strip 8 for disposing the jaws in clamping engagement with the cylindrical wall of the can. Simultaneously with the clamping action of the jaws, the levers 16 and 21 will force the penetrating elements through the top wall of the can, and thus provide the pouring and vent holes therein. Thence upon lifting the hand levers, the jaws are released from the can to allow the device to be removed therefrom.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

I claim:

1. A can punching device comprising a casing, a pair of blocks secured within the casing in spaced relation to each other, penetrating means

mounted for slidable movement through the blocks, handled means associated with the penetrating means for moving the same to penetrating position, and clamping means included in the device and having the handled means associated therewith for moving the same in engagement with the can simultaneously with the movement of the penetrating means to piercing position.

2. A can punching device comprising a casing, a pair of blocks secured within the casing in spaced relation to each other, penetrating elements mounted for slidable movement through the blocks, a hand lever extending through the casing and having its inner end pivotally mounted within the casing, said lever being engaged with one of said elements for moving the same to piercing position, a second lever pivotally mounted within the casing and engaged with the other penetrating element for moving the same to piercing position, said hand lever being engaged with the second lever for moving the latter against its piercing element, and can clamping means included in the device and having the hand lever associated therewith for moving the clamping means in engagement with the can simultaneously with the movement of the penetrating elements.

3. A can punching device comprising a casing, a pair of blocks secured within the casing in spaced relation to each other, penetrating elements mounted for slidable movement through the blocks, a hand lever extending through the casing and having its inner end pivotally mounted within the casing, said lever being engaged with one of said elements for moving the same to piercing position, a second lever pivotally mounted within the casing and engaged with the other penetrating element for moving the same to piercing position, said hand lever being engaged with the second lever for moving the latter against its penetrating element, a can clamping jaw formed on the casing, means slidably mounted within the casing, a can clamping jaw formed on said slidably mounted means, and cam means secured to the hand lever and engaged with said slidably mounted means for disposing the jaws in clamping engagement with the can simultaneously with the movement of the penetrating elements to piercing position.

4. A can punching device comprising an elongated casing including top, side and end walls and an open bottom, said top wall having a slot extending longitudinally thereof for a portion of its length, a pair of blocks secured to and bridging the side walls in spaced relation to each other, headed penetrating elements mounted for slidable movement through the blocks, a hand lever extending through the slot and having its inner end pivotally mounted within the casing, a hand receiving disk member secured to the outer end of the hand lever, said lever being engaged with the head of one element for moving the same to piercing position, a second lever pivotally mounted within the casing and engaged with the head of the other penetrating element for moving the same to piercing position, said hand lever being engaged with the second lever for moving the latter against its penetrating element, a can clamping jaw formed on one end wall of the casing and extending inwardly therefrom to underlie the open bottom of the casing, a strip slidably mounted within the casing along the length thereof and having downturned end portions disposed adjacent the end walls, a can clamping

jaw formed on one of said end portions, and cam means secured to the hand lever and engaged with the other of said downturned end portions for drawing the jaws in clamping engagement with the can simultaneously with the movement of the penetrating elements to piercing position.

5. A can punching device comprising a casing, a pair of blocks secured within the casing in spaced relation to each other, penetrating elements mounted for slidable movement through the blocks, a hand lever extending through the casing and having its inner end pivotally mounted within the casing, said lever being engaged with one of said elements for moving the same to piercing position, a second lever pivotally mounted within the casing and engaged with the other penetrating element for moving the same

to piercing position, said hand lever being engaged with the second lever for moving the latter against its penetrating element, can clamping means included in the device and having the hand lever associated therewith for moving the clamping means in engagement with the can simultaneously with the movement of the penetrating elements to piercing position, one of said penetrating elements being of greater diameter than that of the other element to provide a pouring hole in the top wall of the can and the latter element providing a vent hole in said top wall, and the pouring hole providing element being arranged for disposing its hole at the juncture of said top wall with the cylindrical wall of the can.

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