April 1, 1952 L. P. CLEARY ET AL 2,591,136

CAN SEALER

Filed June 24, 1948 2 SHEETS—SHEET 1

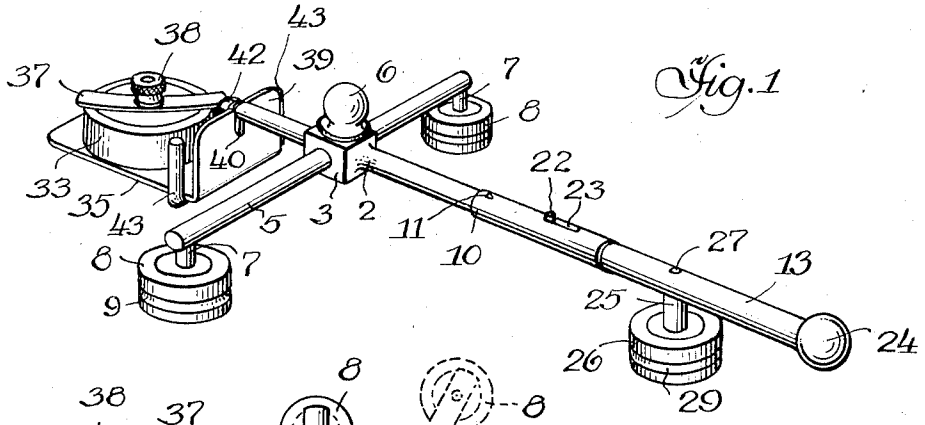


Fig. 1

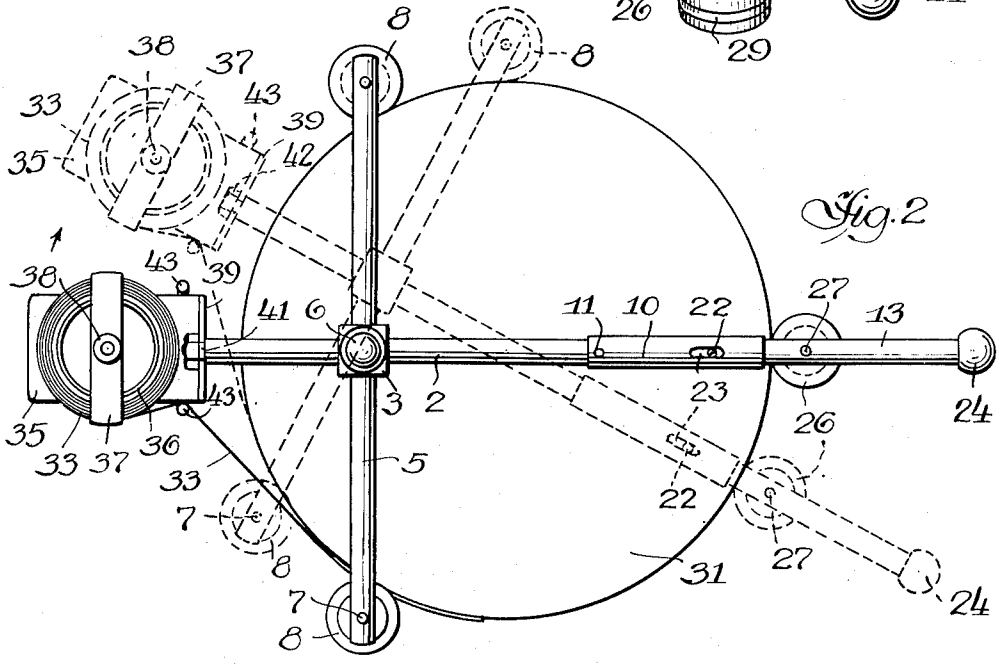


Fig. 2

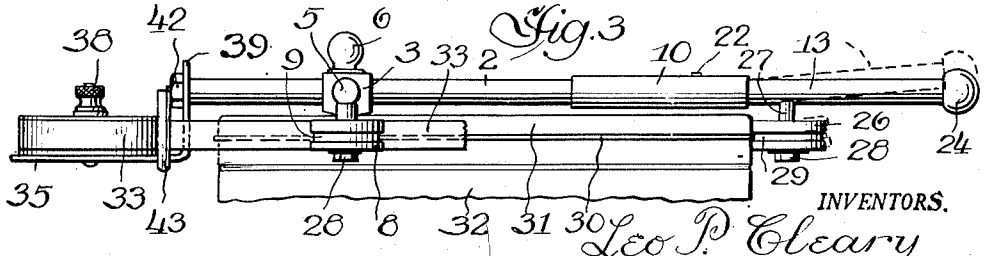


Fig. 3

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Fig. 4

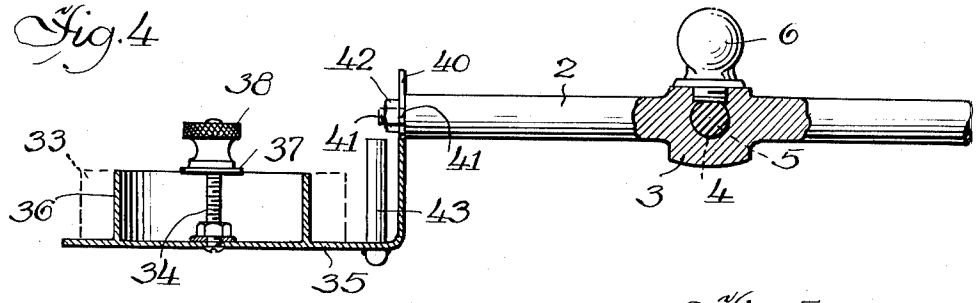
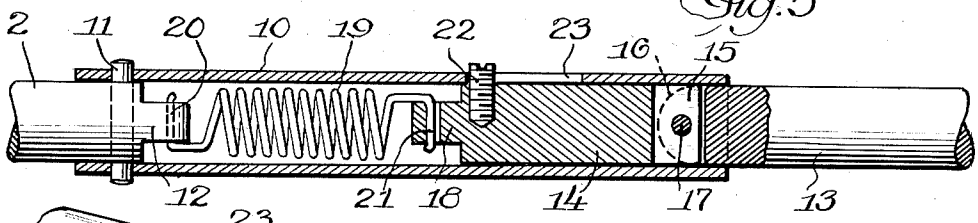


Fig. 5



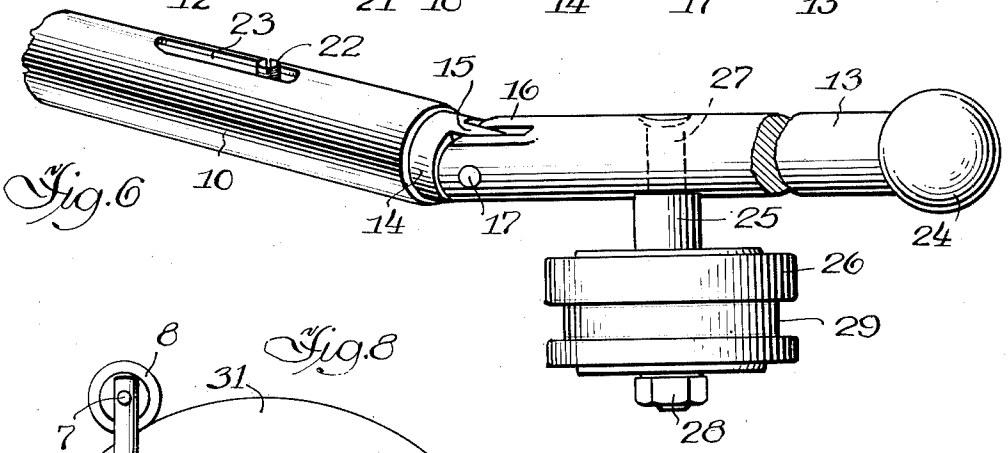
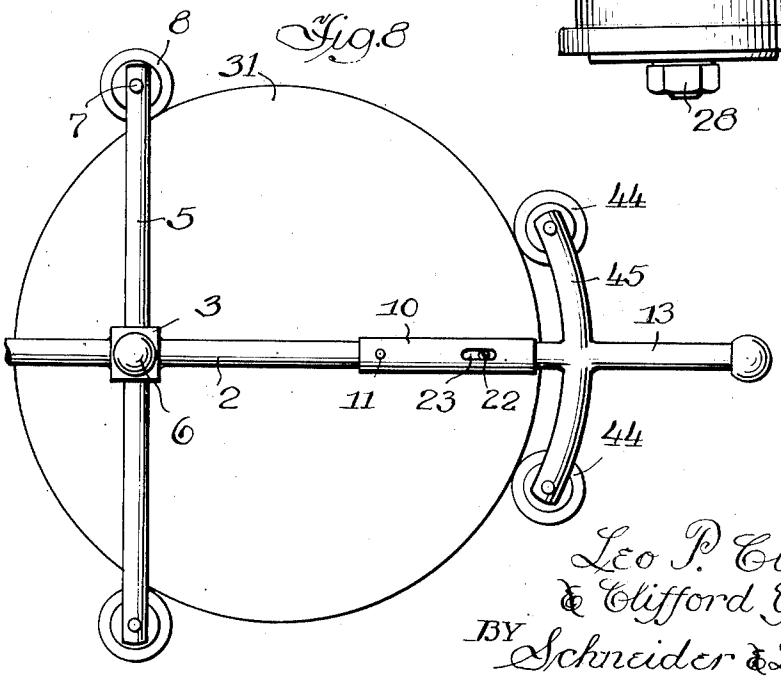


Fig. 6

Fig. 8



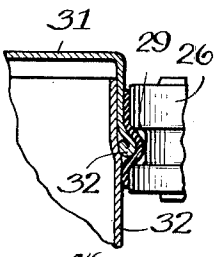


Fig. 7

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UNITED STATES PATENT OFFICE

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CAN SEALER

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Application June 24, 1948, Serial No. 34,868

6 Claims. (Cl. 216—20)

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This invention relates to a can sealer adapted to roll sealing tape around the joint between a can and its top and to press the tape around the bead with a firm, even pressure, and thereby provide an airtight seal insuring lasting freshness for the contents. In particular it relates to a can sealer for sealing a cylindrical or a generally cylindrical can.

Can sealers of the type previously used to seal cylindrical cans adapted to hold alimentary products such as liquid egg products, potato chips, popcorn, and the like, have not been entirely satisfactory in service because the can being sealed sometimes slipped and the tape missed part of the joint. Sealers of the type previously known also lacked positive means for pressing the tape down around the bead of the can top, to insure that an airtight seal is made.

In the can sealer made in accordance with the present invention rollers are positioned around the joint to be sealed and are held in position by an applied pressure, for example spring pressure. The rollers press the tape around the bead of the cylindrical can top with uniform pressure and insure application of the tape to the joint, thereby providing complete and airtight sealing of the joint. The rollers are adjustable so that they can fit the tops of a wide range of different sized cans of cylindrical or generally cylindrical shape. The position of the roll of tape can be adjusted vertically relative to the can so that the tape may be positioned directly over the bead of the can top. The sealer can be applied to the can and removed with ease, and yet is firmly held in position so that it can not be accidentally displaced. It may be manipulated manually very readily to apply the tape to the can without the application to the operation of any special skills.

The structure by which the above advantages are attained will be described in the following specification, taken in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of a can sealer embodying the present invention adapted for sealing cylindrical cans;

Fig. 2 is a top elevational view of the can sealer applied to the top of a can, showing the sealer, in dotted lines, moved partially around the can to an intermediate point in its travel about the can to seal the same;

Fig. 3 is a fragmentary side elevation of the top of a can with the sealer in position to apply the sealing tape;

Fig. 4 is a fragmentary longitudinal view, with parts in section, on an enlarged scale, showing the tape dispensing means;

Fig. 5 is a fragmentary longitudinal sectional view, with parts in elevation, showing the spring structure by which the sealer is held in position on the can top;

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Fig. 6 is a fragmentary side elevation showing the jointed arm forming a part of the spring structure, in released position;

Fig. 7 is a fragmentary detail cross sectional view showing a roller of the can sealer pressing the sealing tape around the bead of the can top; and

Fig. 8 is a top elevation of a modified form of the sealer applied to a can top.

In the drawings, the reference numeral 2 refers to a rod having an enlarged block 3 positioned intermediate its ends. Block 3 has an aperture 4 extending transversely therethrough. A cross rod 5 is positioned in aperture 4 and a set screw 6 holds it in place. Each end of cross rod 5 has a depending shaft 7 riveted or otherwise secured thereto. A roller 8 is mounted on each shaft. The periphery of each roller is grooved circumferentially, as indicated at 9, for a purpose hereinafter described.

A tubular member 10 is secured to the rear end of rod 2 by means of a stud or rivet 11, as shown in Fig. 5. A stub portion 12 projects from the end of rod 2 into tubular member 10. A handle 13 has an extension 14 positioned in the opposite end of tubular member 10. The rear end of extension 14 has a projecting rib 15 and handle 13 has its forward end bifurcated, as indicated at 16, to straddle rib 15. A pivot pin 17 secures bifurcated ends 16 to rib 15 and permits vertical movement of handle 13 relative to extension 14 when the jointed section is outside tubular member 10.

The forward end of extension 14 has a stub portion 18 in tubular member 10 projecting towards stub portion 12 of rod 2. A coiled tension spring 19 has its ends secured to stub portions 12 and 18, as indicated at 20 and 21, respectively. Spring 19 exerts a constant force urging extension 14 and handle 13 into tubular member 10. A set screw 22 threaded into extension 14 projects into a short longitudinal slot 23 in tubular member 10 and abuts the forward end of the slot to limit the inward movement of extension 14, as shown in Fig. 5. The rear end of slot 23 is engaged by set screw 22 to limit the movement of extension 14 outwardly relatively to tubular member 10, as shown in Fig. 6.

When the can sealer is in position on a can, spring 19 holds extension 14 and handle 13 in position with the joint between them within tubular member 10, so that no pivotal movement of handle 13 relative to extension 14 is possible, and handle 13, tubular member 10, and rod 2 cooperate to act as a single rigid unit. Handle 13 is preferably provided with an enlarged end 24 to facilitate its manual manipulation. Handle 13 may be pulled out of tubular member 10, against the action of spring 19, when it is desired to move it pivotally relative to extension 14.

A shaft 25, carrying a roller 26, similar to rollers

8, depends from handle 13 and is secured thereto by a stud 27 in the same manner that shafts 7 are secured to cross rod 5. A nut 28 threaded on the bottom of stud 27 holds roller 26 in place. The periphery of roller 26 is circumferentially grooved, as indicated at 29, in the same manner as rollers 8. Grooves 9 and 29 are wide enough to straddle the circumferential bead 30 on circular can top 31 which is to be sealed to cylindrical can 32, and are shallow enough to press against the top surface of bead 30.

A roll of sealing tape 33 is mounted on a spindle 34 carried by a flat plate 35. An upstanding circular flange 36 keeps roll 33 positioned centrally relative to spindle 34. A flat strip 37 held against the top of circular flange 36 by a nut 38 threaded on the top of spindle 34 holds roll 33 down against plate 35. One end of plate 35 is bent upwardly to form a side wall 39. A slot 40 extends downwardly from the top of side wall 39. Slot 40 fits around a stud 41 projecting from the forward end of rod 2, and a nut 42 threaded on stud 41 holds the tape dispensing mechanism rigidly relative to rod 2. The length of slot 40 permits a slight vertical adjustment of plate 35 relative to rod 2 in order to insure horizontal alignment of sealing tape 33 with bead 30. A pair of guide pins 43 project upwardly from plate 35 adjacent side wall 39. Pins 43 may be welded to plate 35 or may be secured thereto in any other suitable manner.

The operation of the can sealer is simple. Looking at Fig. 2, the sealer is placed on the can top somewhat to the left of the position shown, with rod 2 along a diameter of the can top, and is then moved to the right until rollers 8 engage the circumference of the can. Handle 13 is then pulled outwardly against the action of spring 19 to permit roller 26 to clear bead 30. When handle 13 is released spring 19 pulls it inwardly so that the rollers 8 and 26 are firmly held against the circumference of the can at three spaced points. It is important that cross bar 5 be short enough so that rollers 8 and roller 26 lie on opposite sides of the diameter of the can top normal to rod 2. In this position cross rod 5 occupies a position on the can top corresponding with a chord thereof.

When the can sealer is positioned on the can top, one end of sealing tape 33 is pulled loose from the roll, with its non-adhesive surface against guide pin 43, and is pressed against the can and can top. Enough slack is allowed so that one roller 8 can engage the end of the tape and press it firmly against the bead. The handle is rotated in a clockwise direction and plate 35 moves clockwise with the rod 2. One hand may be placed on the enlarged head of screw 6 to aid in holding the can sealer on the can as the sealer is being rotated. Since the end of tape 33 is pressed firmly against the can and can top and anchored thereto, roll 33 is unwound to release the tape in advance of the aforementioned rollers 8. When the sealer has made a complete circuit around the can top, the tape is severed and movement of the sealer is continued until the end of the tape is pressed against the can by the rollers 8 and the roller 26. Handle 13 is then pulled outwardly and then upwardly to release roller 26 from bead 30.

Although the sealer is preferably dimensioned to fit one specific size can, it may be used with cans of different sizes as long as the cans are large enough so that rollers 8 and roller 26 are on opposite sides of a diameter normal to rod 2, and

handle 13 may be extended far enough to fit roller 26 against the bead of the can top. Cross rod 5 may be made adjustable by making it hollow and having rollers 8 mounted on rods adapted to telescope into the cross rod.

In Fig. 3, a modified form of sealer is shown in which a pair of rollers 44, mounted on a cross rod 45, is substituted for the single roller 26. Cross rod 45 is shown as being arcuate, but it may be straight, if desired. Cross rod 45 may be welded to handle 13 or may be secured thereto in any other suitable manner.

Although we have described two preferred embodiments of our invention in considerable detail it will be understood that the description is intended to be illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of the invention. Accordingly, we do not desire to be restricted to the exact structure described.

We claim:

1. A can sealer for a circular can comprising a frame, three spaced rollers mounted on said frame, said rollers being adapted to be circumferentially spaced about the side wall of the circular can top so that two rollers are on one side of a diameter of said can top and the other roller is on the other side of said diameter, a spring urging the one said roller towards the said other two rollers, tape dispensing means mounted on said frame, and a handle on said frame to facilitate rotation of said can sealer around the can top to which it is applied, whereby tape from said tape dispensing means may be applied around the circumference of the can and can top.

2. In a can sealer, a frame comprising a rod including a handle extending rearwardly thereof, a tape dispenser mounted on the forward end of said rod, a pair of rollers mounted on said frame and spaced laterally of said rod on opposite sides thereof, at least one roller mounted on said handle, and means urging said last named roller towards said pair of rollers, whereby said frame may be held in operative position on a can top on which it is positioned.

3. In a can sealer, a frame comprising a rod, a tape dispenser mounted on the forward end of said rod, a pair of rollers mounted on said frame and spaced laterally from said rod on opposite sides thereof, a handle mounted in axial alignment with said rod, at least one roller mounted on said handle, said handle being movable longitudinally relative to said rod, and a spring urging said handle towards said first mentioned rollers, whereby each of said rollers may be held in contact with the circumference of a can to which the can sealer is applied.

4. In a can sealer, a frame comprising a rod, a tape dispenser mounted on the forward end of said rod, a pair of rollers mounted on said frame and spaced laterally from said rod on opposite sides thereof, a tube extending rearwardly from the rear end of said rod, a handle having an extension pivoted thereto, said extension being mounted in said tube, a spring urging said extension into said tube, said handle being retractable against the action of said spring to move said pivotal joint out of said tube, and a roller mounted on said handle, said spring holding each of said rollers in contact with the circumference of a can to which the sealer is applied when no retracting force is applied to said handle.

5. A can sealer for a circular can comprising a frame, three spaced rollers mounted on said frame, said rollers being adapted to be circum-

ferentially spaced about the side wall of the circular can top so that two rollers are on the one side of a diameter of said can top and the other roller is on the other side of said diameter, a spring urging the one said roller towards the said other two rollers, and tape dispensing means mounted on said frame on the side of the said two rollers remote from the said one roller, said frame being rotatable about said can to apply tape from said dispensing means around the circumference of the can and can top.

6. In a can sealer, a frame comprising a rod including a handle extending rearwardly thereof, a tape dispenser mounted on the forward end of said rod, a pair of rollers mounted on said frame rearwardly of said tape dispenser, said rollers being spaced laterally of said rod on opposite sides thereof, at least one roller mounted on said handle, and means urging said roller towards said pair of rollers, whereby said frame may be held in operative position on a can top on which it is positioned.

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