Sept. 11, 1962 E. J. EADDY 3,053,410

SLIVER CAN AND SEAL THEREFOR

Filed March 31, 1961

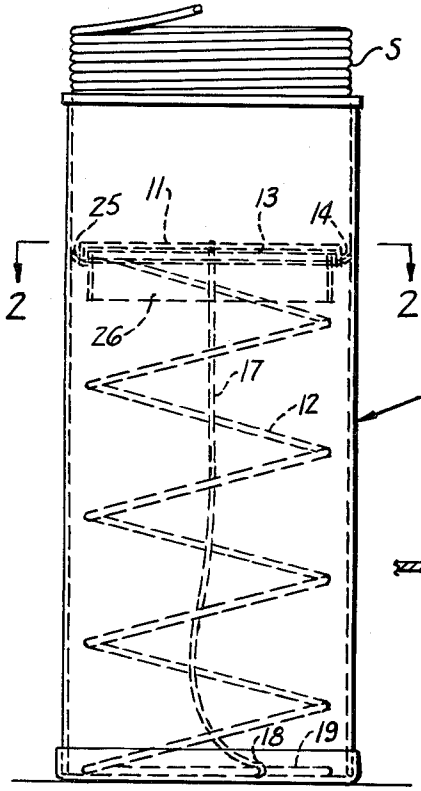


FIG. 1

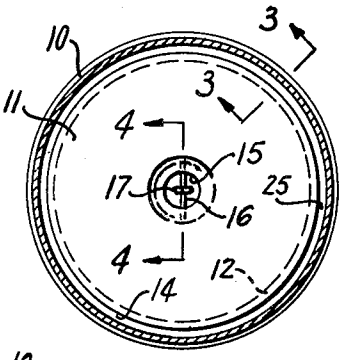


FIG. 2

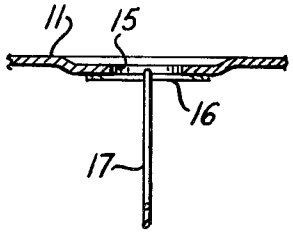


FIG. 4

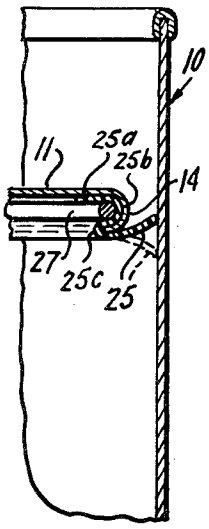


FIG. 6

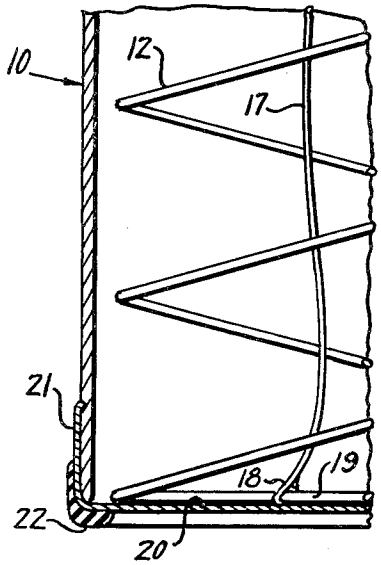


FIG. 3

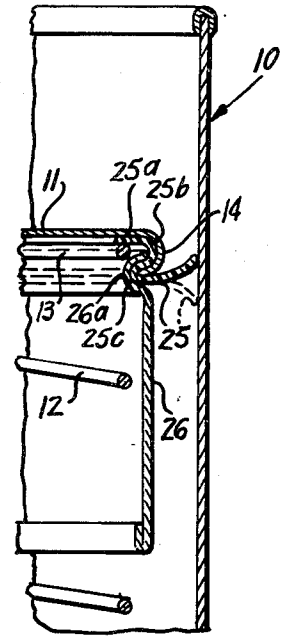


FIG. 5

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SLIVER CAN AND SEAL THEREFOR

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2 Claims. (Cl. 220—93)

This invention relates particularly to a seal for the metal lid of a sliver can or the like and has as its primary object the provision of a plastic, rubber, or other similar seal which will fill the customarily left clearance between the inside of a container and the outside diameter of a spring biased false bottom sometimes referred to in the trade as a lid to preclude sliver from going between the lid and the container.

As conducive to a clearer understanding of this invention, it may here be pointed out that sliver cans, sometimes called "roving cans" are customarily employed in the textile industry for collecting cotton, wool, or the like, from a coiling head. As the material leaves the coiling head it is in a very weak state, and is usually piled or coiled into a container, the container normally having a false bottom plate which is hereinafter termed a lid which is spring biased upwardly, thus maintaining a certain amount of tension of the sliver being placed in the can, thus giving a firm package. Additional, the spring and lid tend to keep the material at the top of the can so that in unloading this material there will be no tendency for the sliver to drag over the side of the container or to be lifted any great distance, as this action would cause the very weak untwisted fibers to stretch or break. Metal lids have been customarily used for this purpose, and certain types of lids having skirts thereon have also been employed recently, since the new high speed machinery requires more than the common dish lid. The piston spring serves to position the metal lid itself high enough against the coiler head so that in starting the sliver into the can the spring causes a slight pressure against the coiler head, thus keeping the sliver itself from slinging out of the path of the sliver being released by the coiler head. If the piston head top were not against the coiler head when starting the sliver would not stop on the top of the lid but would be thrown completely off the lid by centrifugal force.

Additionally, the skirt on the piston top lid serves the purpose of aligning the lid with the container, as well as keeping the top surface of the metal lid level as it is depressed when loading or raised when unloading.

In the case of conventional lids, the lid frequently tilts, permitting the sliver to pass between the lid and the container thus causing waste, as well as a difficult unloading problem because the sliver itself is pinched and broken. Since the containers themselves are frequently inaccurate in diameter, it is necessary to leave a clearance between the inside of the container and the outside diameter of the lid, for unless sufficient clearance is left the lid itself tends to bind and cause the spring to be of no value. A primary object of this invention is, therefore, the provision of a plastic seal surrounding the lid, either of conventional or piston type, to preclude sliver from passing between the top of the lid and the side of the container. Additionally, during depression of the lid the outer periphery of the seal turns toward the top, during depression and reverses its action during the unloading of the can. By virtue of the fact that the seal is in contact with the container an air cushion of sorts is created between the lower side of the container and the bottom of the lid, and the air seal itself produces an equalizing action on the lid.

An additional object of the invention is the provision of an improved means of assembling the seal of this character, which is simple and inexpensive, which may

be applied to both the conventional and the piston type lids, and which may be assembled with existing lids, or manufactured as a unit at the factory.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawing wherein there are shown preferred embodiments of this inventive concept.

In the drawing:

FIGURE 1 is a side elevational view of the sliver can having a spring biased lid therein, showing the sliver coil on top, concealed portions thereof being indicated in dotted lines.

FIGURE 2 is a sectional view taken substantially along the line 2—2 of FIG. 1.

FIGURE 3 is an enlarged sectional view taken substantially along the line 3—3 of FIG. 2.

FIGURE 4 is an enlarged sectional view taken substantially along the line 4—4 of FIG. 2.

FIGURE 5 is an enlarged vertical sectional view showing a detail of construction of the bottom of the sliver can, and

FIGURE 6 is a side sectional view similar to FIG. 3, but showing a modified form of construction.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail, there is generally indicated at **10** a sliver can, or as it is sometimes called in trade, a roving can, card can, or drawing frame can. The can is provided interiorly with a lid **11**, lid **11** being biased upwardly by a relatively light coil spring **12**, the upper coil **13** of which lies within a partially reverted rim portion **14**, as shown in FIG. 3. The lid **11** is provided with a central opening **15**, across the underside of which is stretched a bar or wire **16** which is suitably secured thereto as by welding or the like.

A string or cord **17** is tied around the bar **16**, and looped as at **18** around the lowermost coil **19** of the spring **12** (see FIG. 5). The purpose of this string or cord is to adjust the height of the piston top out of the can. The string may, if desired, be attached to both sides of the bottom coil **19** and run over the bar, rather than being attached to either end. The lid top is thus held to the proper height required to work properly under the coiler head. The springs are usually coiled to an extra inch or two of height so that there is a slight tension on the string.

The bottom of the container or sliver can is closed by a bottom plate **20** having an upstanding annular rim **21** suitably secured to the side wall of the can. A reinforcement or coaster **22** may surround the periphery of bottom plate **20** as desired.

The above described material has heretofore been used in sliver cans, and it is to be noted that, as best shown in FIG. 3, the lid is, as previously stated, of lesser diameter than the interior of the can, to preclude binding of the lid upon itself when tilted by the uneven weight of a sliver S piled thereon or withdrawn therefrom.

In order to overcome the above difficulty, the present invention was developed and a preferred form of construction according to same is shown in FIG. 3. There is here provided an annular flange **25** of plastic, rubber, or similar material, which is received within the sliver can **10** and forms a sealing ring. This annular flange has its inner circumference reverted outwardly at **25***c* and then inwardly to form a flat top portion at **25***a*, an outturned bead **25***b* being formed between the reverted portions **25***a* and **25***c*. At the top of the skirt **26** of the piston there is formed a bead **26***a*, which receives the bead between the main body of the flange **25** and the first reverted section **25***c*. The uppermost coil **13** of the spring **12** is received between the top of the

beaded portion **26***a* of the skirt and the upper reverted section **25***a* of the annular flange. As the piston **26** moves downwardly the annular flange **25** assumes an upwardly arcuate position as shown in FIG. 3; conversely, as the piston moves upwardly, this flange assumes the downward position shown in dotted lines, thus providing an equalizing air cushion between the lid **11** and the bottom **20** of the can **10** at all times.

In the modification according to FIG. 6, the skirt **26** of the piston is here omitted, only the lid **11** here being used. An expansion ring **27** is positioned in the bead **25***b* on the annular flange **25** for expanding the bead radially outwardly into firm engagement with the circumferential bead **14** on the lid **11**.

From the foregoing it will now be seen that there is herein provided an improved lid for a sliver can, which substantially precludes catching or breaking of the sliver between the lid and the wall of the can, and which further accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. In a sliver can of the type having an internal spring pressed lid of lesser diameter than the interior of the can to prevent binding of the lid when biased upwardly by said spring, an annular flexible sealing ring extending radially from said lid and engaging the interior periphery of the can, a reverted edge on said lid, an upturned flange in said sealing ring engaging in the bight of said reverted edge, and a resilient ring clamping said flange in said bight.

2. In a sliver can of the type having an internal spring pressed lid of lesser diameter than the diameter of the can to prevent binding of the lid when biased upwardly by said spring, an annular flexible sealing ring extending radially from said lid and engaging the interior periphery of the can, a reverted edge on said lid, a skirt depending from said lid and having a groove forming a lip engaging said reverted edge, and an upturned flange on said sealing ring clampingly engaged between said lip and said reverted edge.

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