

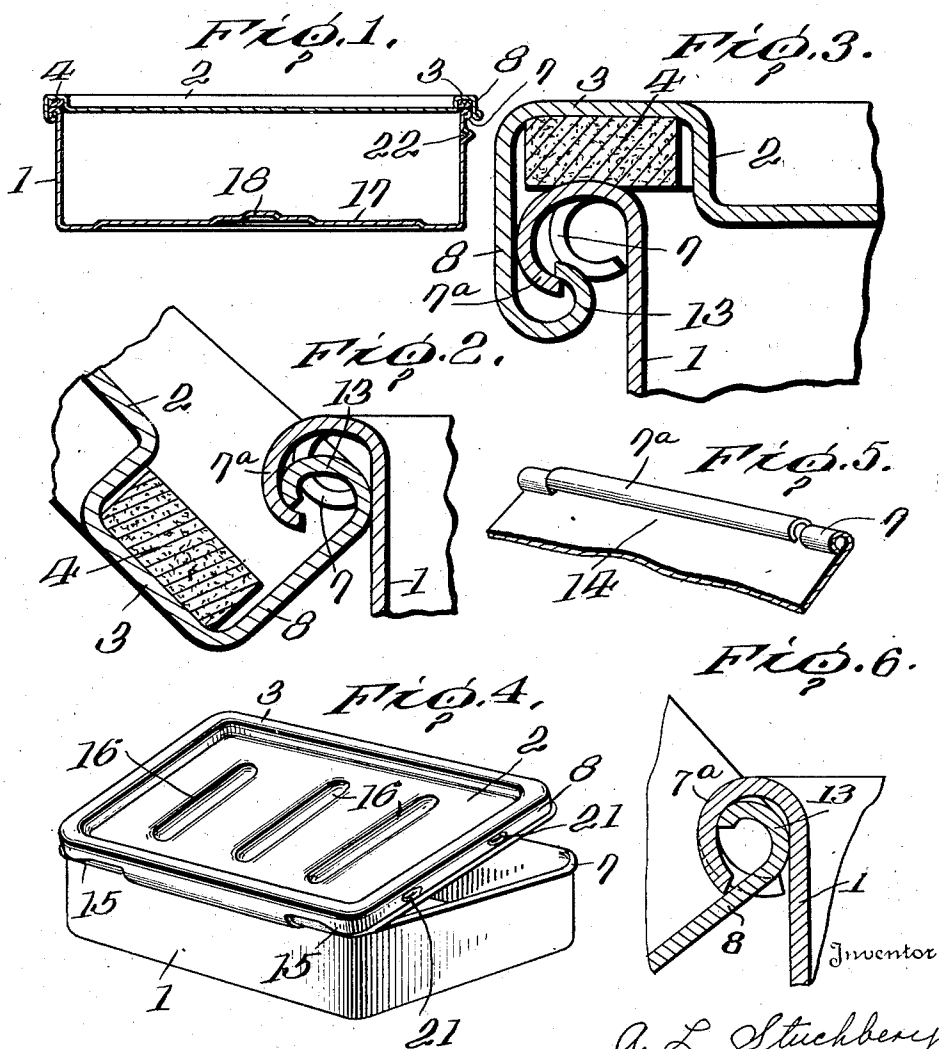
May 10, 1938.

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2,117,228

TIN BOX OR LIKE CONTAINER INTENDED TO BE VACUUMIZED

Filed Aug. 30, 1935



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UNITED STATES PATENT OFFICE

2,117,228

TIN BOX OR LIKE CONTAINER INTENDED
TO BE VACUUMIZED

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Application August 30, 1935, Serial No. 38,619
In Great Britain August 31, 1934

5 Claims. (Cl. 220—31)

This invention relates to tin boxes or like containers intended to be vacuumized.

Heretofore vacuumized tin boxes have been manufactured in which the lid of the box is provided with a peripheral groove in which is located a sealing medium which is located on the box by the lid so that the sealing medium is engaged by the wall of the body of the box at the mouth and a hermetic seal obtained thereat. For vacuumizing purposes such a box has been provided with a pin hole which is sealed when the air has been extracted, which seal is broken for the purpose of admitting air to release the lid.

The main object of the present invention is to provide a vacuumized tin box in which the lid is retained in relation with the body of the box when the box has been opened.

According to the present invention a box or like container intended to be vacuumized comprises a lid constructed to close the container hermetically and hinged to the body of the container along a line outside the seal formed between the lid and the body of the container when the container is closed by means of a hook or tongue formed by or on a flange on the lid and enclosing or embracing an outside curl or bead formed on and extending partly or wholly around the body of the container. The inside edge of the curl on the body of the container where the curl is embraced by the hook or tongue is formed with a slot whereby it is open in nature to permit tilting of the lid by the end of the hook on the lid passing up between the inside edge of the curl and the body of the container during the tilting movement so that the tongue is guided by the side walls of the slot when the lid is tilted.

By such arrangements the lid is rigidly secured to the box and side movement is substantially eliminated.

In such constructions, it is convenient to use a lid of which the peripheral wall is beaded from each side of the tongue round the box, the bead then acts as a stop when the lid is tilted back by engaging the wall of the body of the box, thereby limiting the tilting movement in the lid.

The edge of the lid opposite the hinged joint and/or the edges between may be provided with protuberances to catch under the bead or a rib on the body of the box to retain the lid closed when once the vacuum is destroyed.

Conveniently the lid is formed with a peripheral channel to locate the sealing medium, the

outer wall of which is extended to form a hook or the curl of the joint constructed according to the invention, and that part of the lid within the channel is preferably dished, or corrugated or panelled to give strength to the lid to resist the tendency of the lid to collapse inwardly when the box is vacuumized.

In order that the invention may be more clearly understood, reference will now be made to the accompanying drawing, which shows by way of example preferred embodiments thereof.

In the drawing:—

Fig. 1 is a side sectional elevation of a form of construction,

Fig. 2 is a transverse section on an enlarged scale of the hinge with the lid in its open position,

Fig. 3 is a similar view of the hinge with the lid in its closed position,

Fig. 4 is a perspective view of the box showing the lid partially opened,

Fig. 5 shows a portion of the hinge of this modified construction as will hereinafter appear, and

Fig. 6 is a detail in section showing a modified form of construction of hinge.

In the drawing like reference numerals designate the same or similar parts.

Referring to Fig. 1 of the drawing, the tin box comprises a body portion 1 and a lid 2 which is provided with a peripheral channel 3 in which is located a sealing medium, such as a rubber ring 4, by means of which a hermetic seal is made between the lid and the container when the latter is vacuumized.

The top container may have a raw edge which bites into the rubber ring 4 when the container is vacuumized, but is preferably curled as shown at 7 in the drawing to give a smooth extended seating for the rubber ring 4.

The lid is provided with a depending peripheral flange 8 and is hinged to the body of the container as will hereinafter appear and a curl or bead is formed on the lower edge of the flange on the lid.

The lid is hinged to the container by means of a hook formed from the peripheral flange 8 of the lid as a depending extension thereof, as shown at 13 in the drawing, and the body of the box is provided with an outside curl or bead 7, which, in the example shown, extends wholly around the body of the box. However, this curl or bead 7 need only extend along the area underlying the hook 13 on the lid.

The curl or bead 7 on the body of the container

is open in nature where it underlies the hook 13 and permits the end of the hook to pass up between the inside edge of the curl 7, and the body of the container thereby giving the necessary clearance required to permit the tilting of the lid 2, the hook 13 on the lid being formed as shown to permit the free end of the hook to pass snugly within the curl 7 formed on the body of the container.

As shown at 14 in Fig. 5, the open nature of the curl 7 on the container is obtained by slotting the curl where it is embraced by the depending hook 13 on the lid, the cuts forming the side walls of the slot being continued into the curl so that the curl can be opened slightly as shown at 7 to receive the hook on the lid. Alternatively the metal forming the curl in the region of the hinge may be cut away, as at 7b, to form the slot for receiving the hook on the lid. The curl may be forced out at and near the hinge, as previously described, to accommodate hooks of varying radii on the lid. The hook 13 on the lid is guided by the side walls of the slot.

By such arrangements the lid is rigidly secured to the box and side movement is substantially eliminated.

It will be apparent from Fig. 3 of the drawing that there is a considerable amount of play between the members of the hinge which enables the lid to find its own seating and to form a perfect seal.

In the construction shown in Fig. 4, the curl 10 and flange 8 on the lid is cut away adjacent the hinge, as shown at 15, so as to allow the fullest possible opening movement of the lid. However, as mentioned above, the curl 10 may continue round the whole of the lid, in which case it acts as a stop to limit the opening movement of the lid by abutting against the wall of the container. The flange 8 on the lid, except at the hinged portion, may be provided with protuberances 21 which engage under the curl 7 on a bead on the body of the container to hold the lid closed when the vacuum has been broken.

The lid of the container may be provided with corrugations as shown at 16 in Fig. 4, or may be dishd to give strength thereto to resist the tendency of the lid to collapse inwardly when the box is vacuumized. The bottom may also be panelled similarly as shown at 17 in Fig. 1. The hole over which is placed the seal may be disposed in the lid of the container shown in Figs. 1 and 4, or may be disposed in the bottom in a recess 18 formed for receiving the removable seal.

Instead of providing a removable seal, a rib 22 may be provided on the wall of the container so that the lid may be levered off without first destroying the vacuum.

Although the embodiments described involve the construction of a hinged joint in which the head of the one member is engaged by a hook of the other, this is by way of example only, as other forms of hinged joint may be employed when openings are not formed in the body of the box outside the seal formed between the sealing medium in the lid and the mouth of the body of the box.

For example, a hinge pin may be secured to the body of the box on the outside or be secured in a curl on the lid, the curl being cut away to expose the pin and the tongue which engages the pin formed as an extension of the peripheral wall of the lid or by attaching tongue members

to the body of the box as will be well understood in the art.

Further, although the invention has been described in its embodiment in boxes in which the sealing medium is contained in the lid, the invention is also applicable in cases in which the sealing medium is retained on the body of the box about the mouth thereof.

Further, it should be noted that although the invention is described in its application to tin boxes, the invention applies also to other containers, whether made of metal, plastic material, such as that material known on the market under the registered trade-mark "Bakelite" or to containers of glass, whether transparent or opaque and in such constructions a neck ring is secured to the body of the container so that a lid may be attached to the ring and co-operate therewith to form a closure in exactly the same way as if the ring was the wall of the body of a tin box.

In using the term "ring" reference, of course, is only made to the endless form of the member attached to the container and not to its specific shape. Such member may be of hexagonal, oval, square or of other polygonal form.

Although the embodiments described are referred to as tins intended to be vacuumized this is by way of example of use only and not limitation as the constructions disclosed are suitable for ordinary packing purposes.

What I claim is:—

1. A box or like container adapted to be vacuumized, comprising a body portion having the upper edge portion thereof rolled outwardly, said rolled edge at one side of said container being provided with a slot opening into the edge of the rolled portion and extending lengthwise thereof and being provided with a limiting wall at each end of the said slots, a lid overlying said rolled edge of the container, a gasket attached to the lid and disposed so as to contact with said rolled edge, said lid having a depending flange shaped to provide a hinge member extending into the slot in the rolled edge on the body of the container between said limiting walls whereby said lid is guided in its tilting movements.

2. A box or like container adapted to be vacuumized, comprising a body portion having the upper edge thereof rolled outwardly, said rolled portion being provided with spaced transverse slots extending to the edge thereof, the rolled portion between said slots being partially opened to form a hinge member, a lid for said container provided with a depending flange extending into the partially opened rolled portion and shaped to form a hinge member enclosing the hinge member on the body portion of the container so as to permit said lid to be tilted on the body portion and guided in its tilting movements.

3. A box or like container adapted to be vacuumized, comprising a body portion having the upper edge thereof rolled outwardly, said rolled portion being provided with spaced transverse slots extending to the edge thereof, the rolled portion between said slots being partially opened to form a hinge member, a lid for said container provided with a depending flange extending into the partially opened rolled portion and shaped to form a hinge member enclosing the hinge member on the body portion of the container so as to permit said lid to be tilted on the body portion and guided in its tilting movements, said hinge portion on the lid being adapted to contact with the body of the container and serves as a

stop for limiting the opening movements of the lid.

5 4. A box or like container adapted to be vacuumized, comprising a body portion having the upper edge thereof rolled outwardly, said outwardly rolled portion being provided with spaced slots, the rolled portion between said slots having a cut away portion and being partially opened to form a hinge member, a lid for said container
10 provided with a depending flange shaped to form a hinge member extending into the cutaway

portion and enclosing the hinge member on said body portion of the container so as to permit said lid to be tilted on the body portion and guided in its tilting movements.

5 5. A box or like container as claimed in claim 4, wherein the spaced slots define end walls for the cut-away portion and extend into the outwardly rolled portion to permit the outward forcing of the metal between the said slots.

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