May 12, 1964 R. J. DELLINGER 3,132,760

CLAMPING DEVICE FOR JAR COVER

Filed March 29, 1963

Fig. 1.

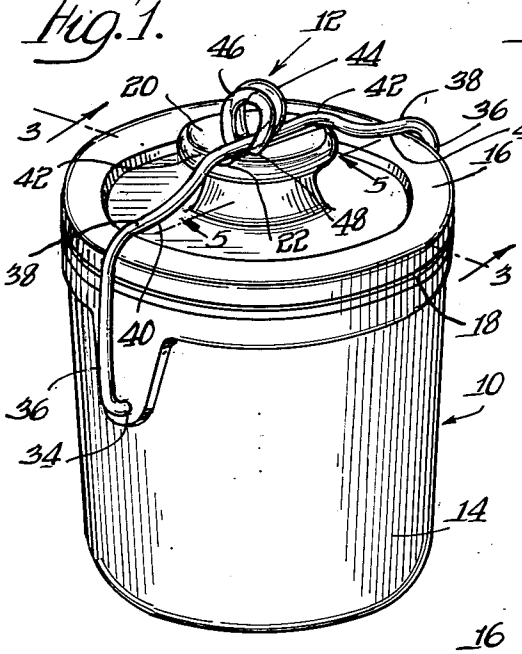


Fig. 2.

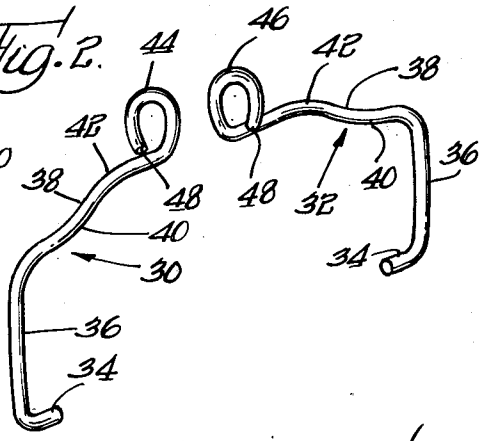


Fig. 3.

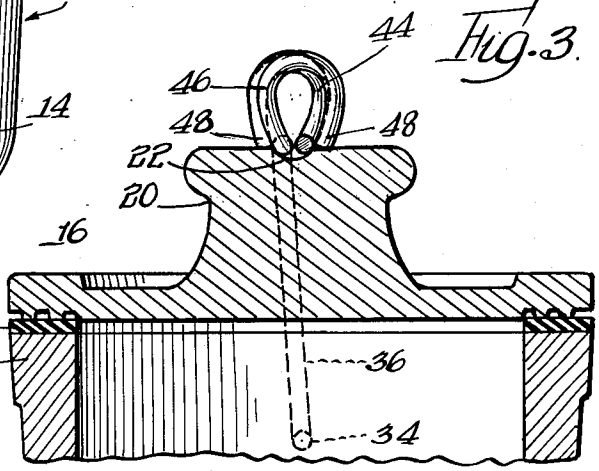


Fig. 5.

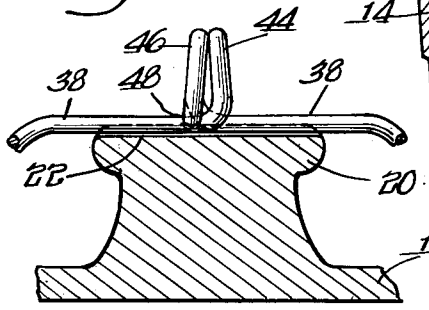


Fig. 4.

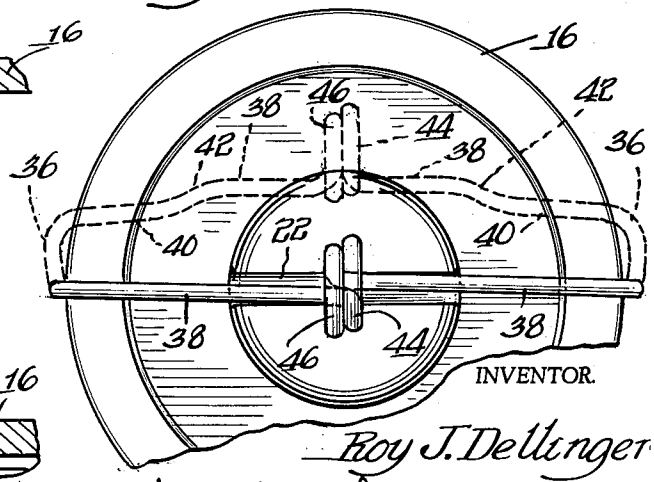
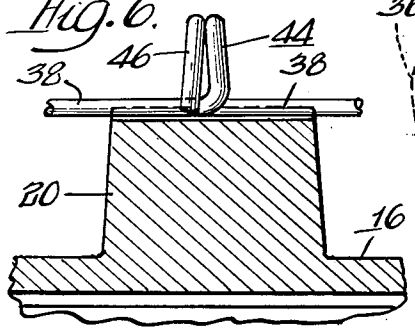


Fig. 6.



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CLAMPING DEVICE FOR JAR COVER

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6 Claims. (Cl. 215—89)

This invention relates to a cover clamping device or assembly for a jar or the like in which it is desirable to maintain a substantially air-tight seal between the cover of the jar and the main body of the jar which holds a product which is to be sealed, such as bulk butter, cheese, etc. The present invention has its most important application in jars of the type usually made of earthenware and which have a non-threading cover which rests on an annular resilient gasket positioned on the top rim of the jar.

To maintain the desired seal, the jars above referred to sometimes employ a generally inverted U-shaped wire clamping device, the bottom portions of which rotatably connect with the side walls of the jar body and the top portion of which overlies the cover and carries a camming attachment which exerts a downward pressure on the cover. These wire clamping devices are usually fabricated of heavy gauge spring steel wire, and the disengagement thereof often requires the application of considerable force. Also, these clamping devices are bulky and unattractive, and create a danger of injury to the person applying or removing the clamping devices from the jar cover as when the clamping pressure is applied or released by rotation of the camming attachment.

It is an object of the present invention to provide a releasable clamping device for a jar of the above mentioned type which, while exerting sufficient force on the jar cover to effect an air-tight seal with the jar body, is both readily removable from engagement with the jar cover and replaceable thereon with minimal finger pressure and without danger of injury to the operator.

It is also an object of the present invention to provide a releasable clamping device which, upon release from its clamping position on the cover of the jar, can readily be freed from any contact with both the jar cover and the jar body, thereby enabling the cover to be removed from or replaced on the jar body without interference from the clamping device or any portion thereof.

It is a further object of the present invention to provide a releasable clamping device as above described which is light in weight, inexpensive to manufacture, and can be utilized with facility by substantially anyone.

In a preferred construction of the present invention, the releasable clamping device comprises a pair of resilient, wire, clamp-forming members each of which has a substantially horizontal, inwardly extending, bottom portion for releasalby rotatably engaging with laterally disposed openings in the upper portion of the side walls of the jar body. Each of the clamp-forming members, when viewed in their operative position on the jar, further has an upwardly extending portion joining a generally horizontally extending cover-overlying portion. The horizontally extending cover-overlying portion of each clamp-forming member has at the inner end thereof a spring-forming extension, most advantageously in the form of an open bend or loop extending transverse to the general direction of extent of the cover-overlying portion of the clamp-forming member. The spring-forming extensions of the clamp-forming members are positioned over the central portion of the cover and are releasably interlockable resiliently to cause the cover-overlying portions of the clamp-forming members to exert a downward pressure against the cover. The clamp-forming members are released from their interlocked position simply by pulling the clamping member transversely from

engagement with the jar cover. The removed clamp-forming members can, if desired, readily be interlocked and applied to the jar cover by reversing the procedure used to remove them from the cover. The construction of the clamp-forming members described above enables them to be made from short lengths of inexpensive wire rod material, such as aluminum wire.

The above and other advantages and features of the present invention will become apparent upon making reference to the following specification, the claims and the drawing wherein:

FIG. 1 is a view in perspective of an embodiment of the clamping device of the present invention mounted on an earthenware jar;

FIG. 2 is an exploded perspective view of the clamp-forming members of the clamping device illustrated in FIG. 1;

FIG. 3 is a fragmentary vertical sectional view taken substantially along line 3—3 of FIG. 1;

FIG. 4 is a fragmentary top plan view of the embodiment of the present invention illustrated in FIG. 1, showing the clamping device illustrated in FIG. 1 being moved from a clamping position to a released position as represented in dotted lines;

FIG. 5 is a fragmentary vertical sectional view taken substantially along line 5—5 of FIG. 11; and

FIG. 6 is a fragmentary vertical sectional view corresponding to the view shown in FIG. 5 of the clamping device mounted on another form of the cover of the jar illustrated in FIG. 1.

Referring now to the drawing and in particular to FIG. 1, there is illustrated a susbtantially air-tight jar **10** having an embodiment of the clamping device **12** of the present invention mounted thereon. The jar **10** has a jar body **14** for the contents of the jar and a cover **16**, the under surfaces of the periphery of the cover and the rim of the jar body advantageously having interposed therebetween a resilient sealing member such as gasket **18**. The jar body and the cover of the jar **10** are made of earthenware materials but may be fabricated of glass or other suitable materials. The gasket **18** desirably is made of rubber or rubber-like material and may constitute a separate unit of the jar or be secured as by vulcanization to the cover of the jar.

The cover **16** has a centrally disposed raised portion **20** advantageously having a shape suggestive of that of a door-knob to enable it to be easily gripped by a person removing or replacing the cover. The portion **20** is provided with a transverse trough or groove **22** the function of which will become clear as the description proceeds.

The unique clamping device **12** of the present invention desirably comprises a pair of wire clamp-forming members **30** and **32** which advantageously are fabricated of a light weight, resilient metal such as aluminum. Each of the clamp-forming members **30** and **32**, when viewed in their operative position on the jar **10** and as illustrated in FIG. 2, has a substantially horizontal, inwardly extending portion **34** for engaging with transverse diametrically opposed holes (not shown) in the side walls of the jar body **14**. The portions **34** serve as a pivot for rotation of the clamping device into and out of engagement with the groove **22** in the raised portion **20** of the cover **16**.

Each of the clamp-forming members **30** and **32** is further provided with an upwardly extending portion **36** joined to the portion **34**. At its upper extremity, the portion **36** of each of the clamp-forming members **30** and **32** is joined to an upwardly inclined, inwardly extending, cover-overlying portion **38**, which in the embodiment of the invention illustrated, is bent as at points **40** and **42**

to conform to the knob-headed raised portion 20 and the groove 22 of the cover 16. Each of cover-overlying portions 38, in turn, desirably are joined respectively to an upwardly extending spring-forming portion in the form of a bend or loop 44 and 46 located substantially or generally in a plane transverse to the general direction of extent of their respective cover-overlying portion 38. The bends or loops 44 and 46 are curved in opposite directions and are bent back slightly from their approximate point of emergence from the inner extremity of their respective cover-overlying portion 38. The terminal or free ends 48 of the bends or loops 44 and 46 are positioned in spaced apart relation with respect to the adjacent segment of the cover-overlying portion 38, the distance therebetween advantageously being slightly less than the diameter of the wire of which the clamping device is fabricated so that the curved end of each loop extends part way around the cover-overlying portion of the clamp-forming member of which it is not a part so that the clamp-forming members are securely interlocked with one another.

The simplicity of the unique clamping device of the present invention lends it to facile use by even the least mechanically inclined. In placing the device on a container, such as jar 10 of FIG. 1, the clamp-forming members 30 and 32 are first interlocked. This is achieved by bringing the respective inwardly directed, cover-overlying portion-facing sides of the bends or loops into contact with one another as clearly shown in FIGS. 4, 5 and 6. In this releasably interlocked position, as above explained, the free ends 48 of the bends or loops 44 and 46 engage with a segment of the respective cover-overlying portions 38 of the clamp-forming members 30 and 32, and adjacent segments of the said portions 38 are brought into abutting relation. While maintaining the bends or loops 44 and 46 in the described position, first one portion 34 and then the other portion 34 of the respective clamp-forming members 30 and 32 are inserted into the holes in the side walls of the jar body 14. Using finger pressure on the interlocked clamp-forming members 30 and 32, desirably at the bends or loops 44 and 46, the device is moved over the knob-shaped raised portion 20 of the cover 16 until segments of the cover-overlying portions 38 are engaged in the trough or groove 22. In this position, the bends or loops 44 and 46 coact against each other in a coil spring-like manner resiliently to cause segments of the cover-overlying portions 38 of the clamp-forming members 30 and 32 to exert a downward pressure against the cover 16 and the sealing member 18 to provide the jar with a substantially air-tight seal.

If it is desired to remove the cover from the jar body, finger pressure need only be applied in one direction to the bends or loops 44 and 46, causing segments of the cover-overlying portions 38 to be disengaged from their releasable downward pressure exerting position in the groove 22. See FIG. 4. The bends or loops 44 and 46 are then unlocked, and the portions 34 removed from the holes in the side walls of the jar body. The cover 16 can then be raised from the jar body without interference.

The clamping device of the present invention while being simple to construct and manufacture is rugged and substantially fool proof in operation. It can easily withstand the rigors of handling both during packaging, shipment and unpacking without becoming dislodged. The clamping device is also compact and does not detract from the appearance of the jar assembly as in the case of prior bulky, unsymmetrical clamping devices.

It should be understood that numerous modifications may be made in the preferred form of the invention above described without deviating from the broader aspects of the invention.

What is claimed is:

1. A releasable clamping device for engaging with the cover of a jar and maintaining the cover in substantially air-tight relation with respect to the body of the jar comprising: a wire clamp-forming means having bottom side portions for rotatably engaging with the sides of a jar body, said clamp-forming means further having an upper portion for overlying and engaging with the cover and having a spring-forming looped portion in a plane which extends substantially transverse to said cover-overlying and engaging portion, said wire clamp-forming means when engaged on the cover acting resiliently to exert a downward pressure against the cover releasably to hold and maintain the cover in substantially air-tight engagement with the jar body.

2. A releasable clamping device for engaging with the cover of a jar and maintaining the cover in substantially air-tight relation with respect to the body of the jar comprising: wire clamp-forming members having bottom side portions for rotatably engaging with the sides of the jar body, each of said clamp-forming members further having respective portions for overlying and engaging with the cover and a spring-forming bend in a plane which extends substantially transverse to said cover-overlying and engaging portions, said bends when engaged on the cover of a jar acting resiliently to cause the cover engaging portions of the clamp-forming members to exert a downward pressure against the cover to releasably hold and maintain the cover in substantially air-tight engagement with the jar body.

3. In combination, a jar having a contents carrying jar body and a cover for said jar body, and a releasable clamping device for engaging with the cover of the jar and maintaining the cover in substantially air-tight relation with respect to the body of the jar, said device comprising: a pair of resilient clamp-forming members having bottom side portions for rotatably engaging with the sides of the jar body, each of said clamp-forming members further having respective portions for overlying and engaging with the cover and which terminate in a spring-forming loop extending substantially transverse to said cover-overlying and engaging portions, the respective loops of the clamp-forming members being releasably interlockable and coacting with respect to one another resiliently to cause the clamp-forming members to exert a downward pressure against the cover to releasably hold and maintain the cover in substantially air-tight engagement with the jar body.

4. In combination, a jar having a contents carrying jar body and a cover for said jar body, and a releasable clamping device for engaging with the cover of the jar and maintaining the cover in substantially air-tight relation with respect to the body of the jar, said device comprising: a pair of resilient clamp-forming members having inwardly extending bottom side portions for rotatably engaging with the sides of the jar body, each of said clamp-forming members further having an upwardly extending portion joined to an inwardly substantially horizontally extending cover-overlying portion, each of said cover-overlying portions being joined to an upwardly extending portion in the form of a spring-forming loop in a plane which extends substantially transverse to the cover-overlying portion, each of said transverse loops being releasably interlockable at a point on the cover and acting in a coil spring-like manner against each other resiliently to cause portions of the clamp-forming members to exert a downward pressure against the cover to releasably hold and maintain the cover in substantially air-tight engagement with the jar body.

5. A substantially air-tight jar having a jar body for the contents of the jar and a cover for said jar body, a resilient sealing member between the jar body and the cover for providing a seal between the jar body and the atmosphere when the cover is held tightly against the sealing member, and a releasable clamping device comprising a pair of resilient clamp-forming members having bottom side portions in rotatable engagement with the sides of the jar body, each of said clamp-forming members further having respective portions which both overlie and

engage with the cover and form at their ends an open spring-forming bend extending substantially transverse to the direction of extent of said cover-overlying and engaging portions, said transverse bends being releasably interlocked and acting resiliently to cause the clamp-forming members to exert a downward pressure against the cover to maintain the sealing member in tight engagement with the jar body to provide a substantially air-tight seal between the contents of the jar and the atmosphere.

6. The jar of claim 5 wherein each of the clamp-forming members of the clamping device have an upwardly extending portion joined to an inwardly substantially horizontally extending cover-overlying portion, each of said cover-overlying portions being joined to an upwardly extending portion in the form of a spring-forming loop in

a plane which extends substantially transverse to the cover-overlying portion, each of said loops interlocking adjacent a groove in a knob-shaped raised portion centrally disposed on the cover.

References Cited in the file of this patent

UNITED STATES PATENTS

102,453	Walter	Apr. 26, 1870
282,849	Cowl	Aug. 7, 1883
675,986	Sutton	June 11, 1901
1,088,133	Eichhorn	Feb. 24, 1914

FOREIGN PATENTS

8,340	Denmark	Mar. 12, 1905