Dec. 7, 1965 E. O. SCHWEITZER 3,222,023

JAR MOUNTING DEVICE

Filed Feb. 4, 1965

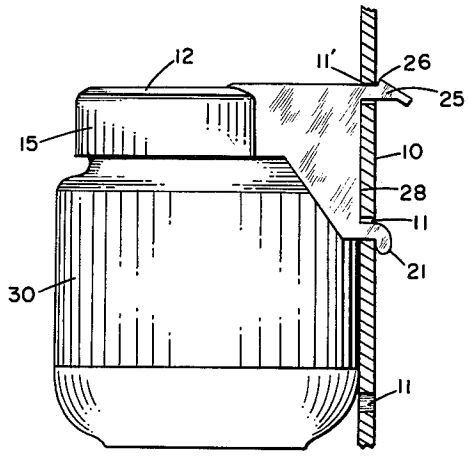


FIG. 1

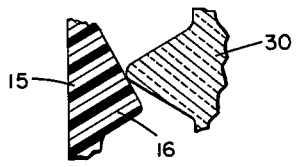


FIG. 5

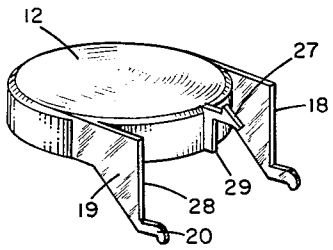


FIG. 3

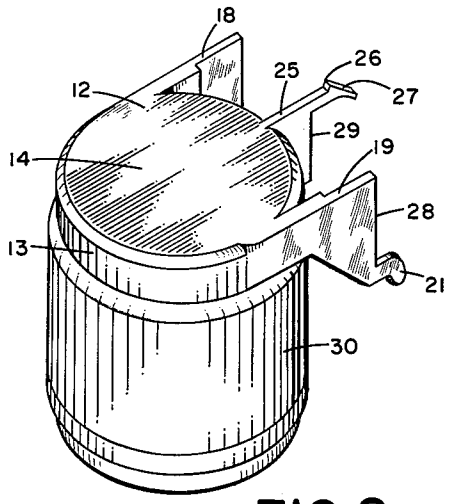


FIG. 2

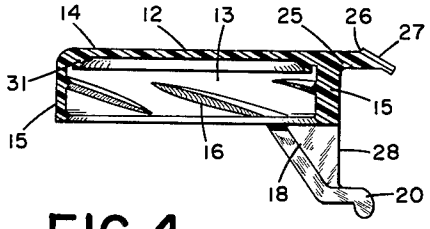


FIG. 4

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JAR MOUNTING DEVICE

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This invention pertains to a jar mounting device, and more particularly to a device for mounting a screw-top type jar to a vertically positioned perforated panel board.

Most homes have jars of nails, screws, washers, etc., in their basements and workshops, and in most homes the jars are merely resting on a shelf or on a table where they take up space better used for other purposes. In some better organized homes jar tops are nailed up against ceiling joists and the jars are screwed into the permanently mounted top when it is desired to store the jar out of the way.

Most homes have available the well known baby food jar, or can get them from friends or neighbors.

The present invention relates to an inexpensive, screw-type plastic cap which fits the usual baby and junior size baby food jars which are readily available, though the principle of this invention can be applied to screw type jars of any size merely by making the cap of this invention the proper size.

In my previous patent application Serial No. 339,364, filed January 23, 1964, for a Jar Mounting Device, I showed, described and claimed a mounting strip whereby baby food jars could be mounted on a ceiling, or on a long strip mounted on a vertical wall board, such as a perforated panel, known sometimes as "pegboard."

The present invention is adapted to mount individual jars to a vertically extending perforated wall board.

An object of the present invention is to provide an inexpensive plastic cap which can readily be mounted into a perforated wall board, and into which a screw-top jar can readily be inserted for storage of small items, and which jar can easily and quickly be detached from the cap to remove contents therefrom .

A further object of the present invention is to provide an inexpensive screw-type cap into which the usual screw-top baby food jars can readily be secured for mounting on a perforated wall board.

It is another object of the invention to provide a screw-type cap for baby food jars wherein the contents of the jars are virtually sealed when a cap is in place.

For a better understanding of the present invention, together with other and further objects thereof, reference is had to the following description taken in connection with the accompanying drawings, and its scope will be pointed out in the appended claims.

With reference to the drawing there is shown in FIGURE 1 a baby food jar mounted on a vertically extending perforated panel board by a screw-type cap of the present invention.

FIGURE 2 is an isometric view looking down on the cap and jar.

FIGURE 3 is an isometric view of the cap looking from the other direction.

FIGURE 4 is a sectional view taken through the cap.

FIGURE 5 is a fragmentary view showing the engagement of the glass and plastic threads.

With reference to FIGURE 1 of the drawing, the numeral **10** indicates a small portion of a sheet of perforated wall board, such as "pegboard" or the like. The board has holes **11** extending through it at regularly spaced intervals, both horizontally and vertically.

The cap of the present invention is indicated by reference character **12**. Preferably it is made of inexpensive, somewhat flexible plastic material such as polypropylene, so that it can be molded and snapped out

of the molding die. The cap comprises a cup-shaped central body portion **13** having a flat top face **14** and downwardly extending cylindrical side wall means **15**, the inner surface of which is threaded at **16** to engage the screw threads on a baby food jar or the like. The cap **12** has two integral outer arms **18, 19** which extend away from the cylindrical side wall **15** on opposite sides thereof, and each of these arms terminates with a hook means **20, 21**. The two hooks **20, 21** extend through horizontally spaced apart holes **11** in the perforated board **10**, and extend or project down behind the board, thereby to firmly secure the cap at two horizontally spaced apart locations.

The cap includes a third or inner integral arm **25** located between the two outer arms **18, 19**, and this arm **25** extends radially outwardly from the cylindrical side walls **15** of the cap and terminates in a hook **26** which extends through a hole **11'** spaced above and between the holes **11** through which the hooks **20, 22** extend. Thus the three arms hold the cap to the board at three spaced apart locations, giving a stable, secure connection thereto. The hook **26** on the arm **25** extends upwardly behind the board **10** in order to snap the cap into place on the board. Preferably, in order to insert the hook **26**, the hook should be depressed slightly by the wall of the hole into which the arm **25** is inserted; slight flexibility of the arm **25** and of the whole body of the cap between arms **18** and **19** permitting slight flexure until the hook **26** is through the board, and the arm **25** and hook **26** then snap upwardly into place to firmly hold the cap to the board. To facilitate insertion of the arm **25** into hole **11'**, the surface **27** which engages the wall of the hole during insertion is inclined.

The arms **18, 19** which are inserted into their holes **11** prior to arm **25** being snapped into place do not have to flex, and consequently they can have a relatively greater vertical depth than does the relatively flexible arm **25**. The hook portions **20, 21** on arms **18, 19** preferably are located directly below straight edges **28** which, when the cap is in place as shown in FIGURE 1, abut against the wall board **10** for maximum stability. Also, the arm **25** has a straight edge **29** which lies in the plane of the two straight edges **28**, thereby providing three areas lying in a common plane for stable support against the board **10**. In the event that a large cap is desired, two or more inner arms can be provided.

The length of the mounting arms **18, 19, 25** is such that when a jar **30** is secured in place, the wall of the jar is in engagement with the front face of the wall board. If the bottom of the jar were spaced away from the wall board there would be a torque force on the cap that might over-stress the hook **26**. By abutting the bottom of the jar against the wall board **10** this force is taken against the board as a compressive force and the force on the hook **26** is thereby greatly reduced. Consequently, the jar **30** can hold a heavy weight without pulling the cap off of the wall board. Also, the length of the arms should be such that the hook portions engage the back wall of the board when the straight edges **28, 29** engage the front wall of the board. The hooks on the outer arms **18, 19** preferably are located well above the bottom of the mounted jar. Thus a force moment is created about the bottom of the jar which is against the board, thereby helping to securely hold a heavy jar.

In some instances a liquid might be stored in the jar **30**. To prevent evaporation, a sealing lip **31** is molded into the underneath face of the cap **12**, and when a jar is screwed into place the lip of the jar engages and slightly compresses this sealing lip **31**, thereby forming an air-tight seal between the cap and the jar.

The sealing lip **31** has another function. There are two main types of baby food jars, and one has a slightly smaller lip diameter by about .040". The lip of the smaller jar can fit inside the sealing lip **31**, forming a seal therewith, and permitting a good tight screw lock between the threads of the glass jar and the threads of the plastic lid. However, the larger jar has a screw thread which prevents a good locking engagement with the plastic threads if it is permitted to be inserted into the cap to the extent that its lip engages the underneath surface of the cap. The sealing lip **31** prevents this, and assures that both size jars will properly engage the threads of the plastic cap.

There is a very low coefficient of friction between the plastic cap and the glass jar. Consequently, it is impossible to make sure that the jar will stay in proper threaded engagement with the cap with ordinary threads. To make sure that proper engagement is at all times obtained, the thread **16** has a profile of about 30°, as shown in FIGURE 5. This gives a low locking angle of about 3.5° and gives a higher unit locking pressure which holds the glass jar tightly in the cap. Furthermore, the low thread angle permits removing the cap from a single piece mold.

While there have been described what are at present considered to be the preferred embodiments of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

I claim:

1. A mounting device for mounting a screw-type jar to a vertically extending perforated panel board, comprising, a cup-shaped plastic cap having a top face and downwardly extending cylindrical side wall means the inner surface of which is threaded to engage the screw threads on the jar, said plastic cap having two integral outer arms extending away from said side wall and on opposite sides of said cap and each arm terminating with hook means for extending through said perforated panel board and for engaging said board on the back surface thereof, and said plastic cap having a third integral inner arm located between the aforesaid two outer arms and extending radially outwardly from said side wall and terminating with hook means for extending through said perforated panel board and for engaging said board on the back surface thereof.

2. A mounting device as set forth in claim **1**, further characterized by the said outer arms also extending downwardly from said top face whereby their hook means are located a distance below the hook means on the said inner arm.

3. A mounting device as set forth in claim **2**, further characterized by the hook means on said outer arms extending below the said arms.

4. A mounting device as set forth in claim **3**, further characterized by the hook means on the said inner arm extending above the said arm whereby it engages the said perforated board above the perforation through which the said inner extending arm extends.

5. A mounting device as set forth in claim **4**, further characterized by the said outer arms having a depth in the direction normal to the surface of said top face sufficient that there is relatively no flexibility in that direction compared to the depth of said inner arm and its flexibility in the said direction.

6. A mounting device as set forth in claim **5**, further characterized by the lengths of the said three arms to the hook means being such that the side surface of a mounted jar adapted to be immediately adjacent the surface of the said panel board.

7. A mounting device as set forth in claim **5**, further characterized by the said jar cap being flexible between said outer arms whereby the entire edge of said cap at the location of said inner arm may be slightly depressed to insert the said inner arm into a hole in a mounting board.

8. A mounting device as set forth in claim **5**, further characterized by the hook means on said outer arms adapted to be located above the bottom of a mounted jar whereby a force moment is created about the bottom of a jar against the board.

9. A mounting device as set forth in claim **5**, further characterized by the profile of the thread inside the said cap being at about 30° to the vertical side wall of the cap.

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