Nov. 19, 1940. W. WALSH 2,222,160

INTERNAL FITTING FOR JARS, BOTTLES, CANS, BOXES, SHOWCASES, AND OTHER HOLLOW ARTICLES

Original Filed April 11, 1938

Fig. 1.

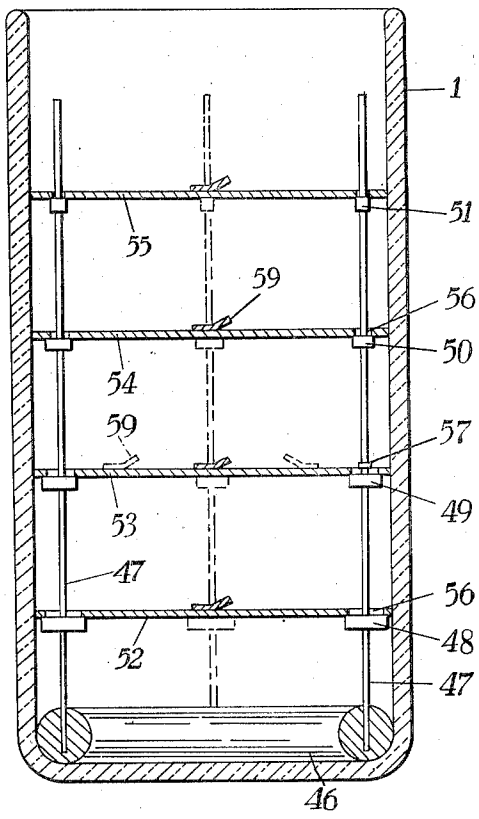


Fig. 3.

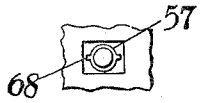


Fig. 2

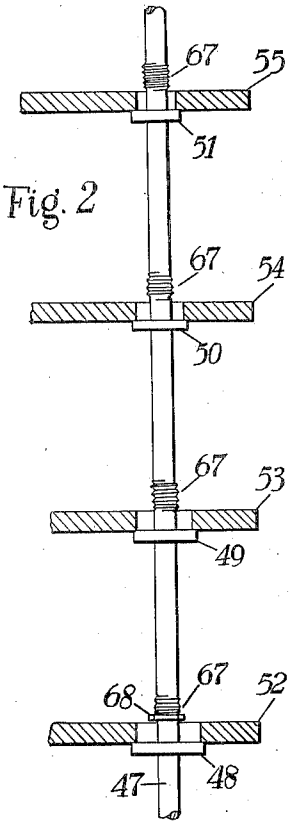


Fig. 4.

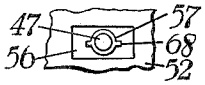


Fig. 6.

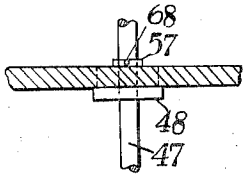
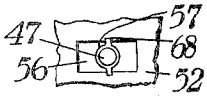


Fig. 5.



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INTERNAL FITTING FOR JARS, BOTTLES, CANS, BOXES, SHOWCASES, AND OTHER HOLLOW ARTICLES

William Walsh, London, England

Original application April 11, 1938, Serial No. 201,396. Divided and this application January 5, 1939, Serial No. 249,502. In Great Britain May 7, 1937

4 Claims. (Cl. 211—148)

This application is divided out from my main application Serial No. 201,396 filed the 11th day of April, 1938.

This invention is concerned with an internal fitting for hollow containers, which expression is intended to include, where used in this specification and in the appended claims, containers such as jars, bottles, cans, boxes, showcases, etc.

It is an object of my present invention to provide means whereby a container can be divided up into compartments by means of shelves or partitions which are readily removable and which enable the contents of the container in the various compartments to be kept separate and prevented from intermingling.

Another object of the invention is an internal fitting for containers which is suitable for use where the container is to be used for the transport, storage or display of chemicals (e. g. crystalline minerals), and where it is desired to prevent contact between various layers of chemicals, or the settling down or gravitation of heavier materials to the bottom of the container.

A still further object of the invention is the provision of a fitting readily adaptable to various sizes of containers and by means of which the volumes of the compartments formed can quickly be changed and fragile articles can be safely packed.

With these objects in mind my invention comprises an internal fitting for hollow containers comprising a plurality of shelves or partitions adapted to be arranged transversely of the container and to be detachably supported or retained in the container in spaced relationship by a plurality of upright members extending in the general direction of length of the container, each of said upright members being supported by a common base member and being arranged to extend through a plurality of said shelves or partitions thereby permitting the insertion or removal of the shelves or partitions in a direction substantially perpendicular to the planes in which they are disposed when mounted in the container.

The invention will be more completely understood from the following detailed description which is given in conjunction with the accompanying drawing in which:

Figure 1 is a vertical section through a container having an internal fitting according to the present invention.

Figures 2, 3, 4, 5 and 6 illustrate on an enlarged scale the method of securing the shelves of Figure 1 in position.

Referring now to the drawing and firstly to Figure 1 the reference 1 indicates a container of circular cylindrical form fitted with partitional means comprising a series of spaced shelves which are here in the form of circular discs 52, 53, 54 and 55. Disposed upon the face of the container 1 is a supporting member or fitting 46 which takes the form of a ring base member carrying four uprights 47 preferably of thin light metal provided with spaced projections or collars 48 to 51 of decreasing width for supporting the shelves 52 to 55.

The base member 46 may either be so constructed as to be removable from the container, or if desired it may form an integral part of or be firmly secured to the base of the container.

If two uprights 47 are to be employed the supporting member 46 preferably takes the form of a horizontal base in which the two uprights 47 are mounted as shown.

The shelves are a close fit in the container 1 and are provided near their peripheries with apertures 56 corresponding in number to the uprights 47 and graded in size from disc to disc, being so related in size to the collars 48—51 that the lowermost disc 52 can be slipped down the uprights 47 and over the collars 49—51 but will rest supported on collars 48, and the next disc can be slipped down to rest on collars 49, and so on. This arrangement is more clearly illustrated in Figures 2, 3, 4, 5 and 6.

To retain each of the shelves 52—55 positively in position, and preferably when two uprights only are used, locking means are provided. These comprise a nut 57 of small size (shown by way of illustration in connection with disc 53 only) co-operating with a short thread 67 on the upright 47. The nut 57 is provided with lateral arms 68 which are capable of slipping through the apertures in the shelves above, when arranged in the longitudinal direction of these apertures, and when these arms are turned transversely to the main length of the aperture with which it co-operates, i. e., when the nut is screwed down so that the lateral arms make tight engagement with the sides of the apertures, the shelf is rigidly and positively held.

Tags 59, shown by way of illustration in connection with disc 53 only, can be provided to enable the discs to be removed from the container.

The fitting as illustrated is very suitable for use with articles or goods to be displayed, since the parts of the fitting are so designed as to be practically unnoticeable when the container has transparent walls, and is viewed from the exterior. Thus it may, with advantage, be applied to use

in showcases, in museums, laboratories, schools, or the like, for displaying minute articles. In such cases the container would preferably be rendered air-tight.

The fitting according to the construction illustrated can be utilised directly, or can be readily adapted for utilisation as the case may be, with containers of any shape in horizontal or transverse section, e. g. of circular or polygonal form. The shapes of the shelves will preferably, also be adapted to the form of the container and the shelves will preferably fit as closely as possible to the inner wall or walls of the container.

An internal fitting constructed according to the present invention has a wide field of utility. Such a fitting can be used in practically any container where it is desired to store or pack articles, substances, materials, and so on in compartments. For example, the fitting could be used in bottles for containing minerals of crystalline structure which are unhomogeneous or vary in density or hardness. Where such crystalline bodies are massed together they tend to deteriorate, either by breaking up by impact with one another or by conglomeration into particles of larger size, or by deliquescence. By employing a fitting according to the invention and dividing the container into a plurality of compartments, the load on the material in the lower compartment or compartments is relieved of the weight of the material in the upper compartment or compartments.

Where the materials to be stored, packed or exhibited easily deliquesce, the shelves or partitions can be made of absorbent material or be coated or covered with an absorbent layer of moisture-absorbent material.

The fitting or the various elements thereof can be of any suitable material. For example the shelves or partitions could be of glass, light or heavy metal, iron, steel, wood, artificial resin, stout cardboard or millboard, depending on the use and strain to which the fitting is liable to be subjected and on the materials with which it is to come into contact.

I claim:

1. An internal fitting for hollow containers comprising a common base member, a plurality of uprights mounted on said base member and having a plurality of spaced supporting collars along their lengths and a series of shelves or partitions, each having a plurality of apertures adjacent the periphery and decreasing in size from the lowermost shelf or partition to the uppermost shelf or partition, and said collars likewise decreasing in size such that the lowermost shelf or partition can pass over all but the lowermost collar on each upright, the next shelf or partition all but the two lowest collars of each upright and so on.

2. An internal fitting for hollow containers according to claim 1 wherein each upright is provided with a screw threaded arm adjacent each shelf, small nuts or like devices having lateral arms being provided and being adapted to screw on said threaded arms when the shelves or partitions are in position in the container so that said arms span the apertures in the shelves so as positively to lock them in position.

3. An internal fitting for hollow containers comprising a common base member, a plurality of upright members mounted on said base member and extending in the general direction of length of the container, each of said upright members being arranged to extend through apertures in a plurality of shelves disposed one above the other, a plurality of collars mounted upon said upright members at predetermined intervals for locking said shelves in position in spaced relationship, said apertures and said collars decreasing in size from the lowermost shelf to the uppermost shelf, the apertures in one shelf being slightly smaller than the collar upon which such shelf is supported but slightly larger than the collar supporting the next higher shelf.

4. An internal fitting for hollow containers comprising a common base member, a plurality of upright members mounted on said base member and extending in the general direction of length of the container, each of said upright members being arranged to extend through apertures in a plurality of shelves disposed one above the other, a plurality of collars mounted upon said upright members at predetermined intervals for locking said shelves in position in spaced relationship, said apertures and said collars decreasing in size from the lowermost shelf to the uppermost shelf, the apertures in one shelf being slightly smaller than the collar upon which such shelf is supported but slightly larger than the collar supporting the next higher shelf and locking means for securing said shelves to said collars.

WILLIAM WALSH.