Sept. 29, 1931. H. A. EGGERSS 1,824,986

CONTAINER

Filed July 11, 1930

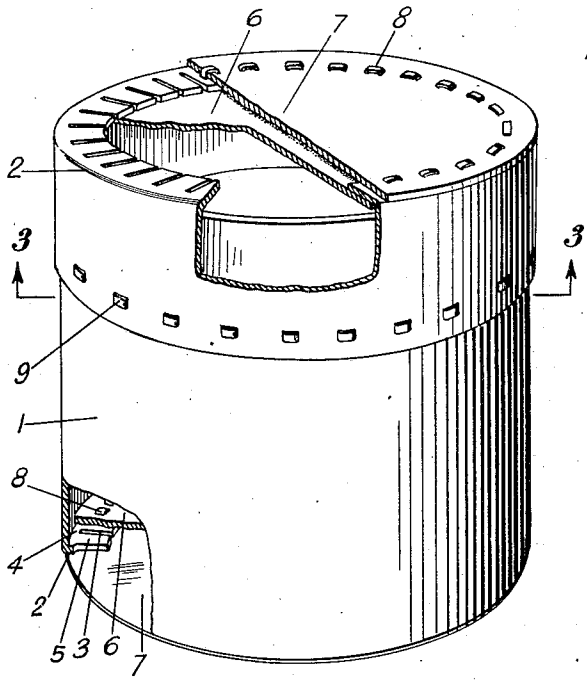


Fig. 1

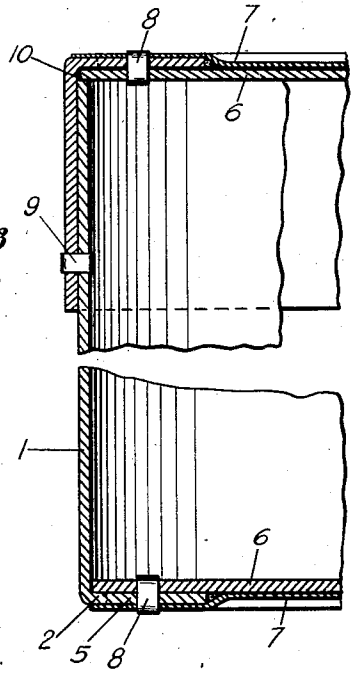


Fig. 2

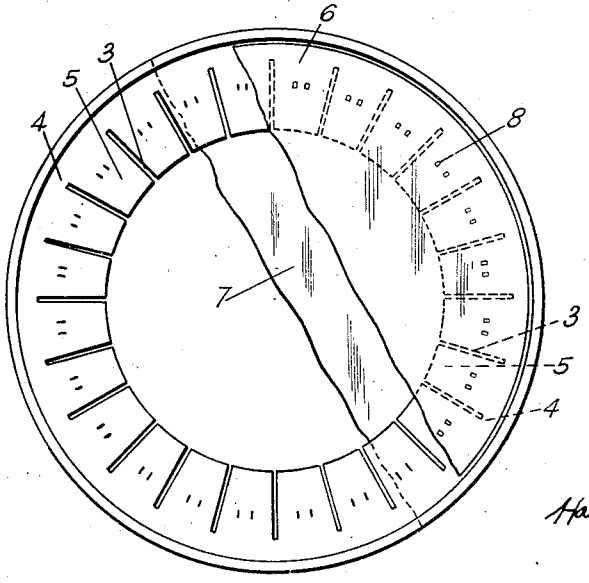


Fig. 3

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UNITED STATES PATENT OFFICE

HANS A. EGGERSS, OF VAN WERT, OHIO

CONTAINER

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My invention relates to containers. It is particularly applicable to that type of container which is made of fiber board or similar material. It relates especially to the end structure of the container of this type.

In the past, numerous containers of fiber board or similar material have been made. However, due to the manner of forming these containers and of applying the end closures thereto, certain serious weaknesses have resulted which are greatly accentuated whenever such containers are devoted to the reception and shipment of comparatively heavy products. For example, where a container of fiber board of similar material is filled with heavy material and dropped upon its "chime", the strain to which it is thereby subjected is unusually great and prior structures have been of such a nature that they could not be satisfactorily used for the reception and shipment of heavy weights of material.

One of the objects of this invention is to provide a container of fiber board, pulp board, paper or straw board which will be of such rigid structure that it may be utilized for the shipment of heavy materials and will resist bending or breaking strains under all conditions of handling with an even greater degree of strength than the average barrel.

Another object of this invention is to provide a container with an end structure which is of such a nature that the stronger portions of the container supplement the weaker portions thereof in such a way as to produce more than the necessary resistance to strains.

Another object of this invention is to provide a container which is sufficiently tight in all parts thereof to ensure against any leakage therefrom of any nature and to effect the desired results with a comparatively cheap structure.

In its preferred embodiment, my invention comprises a container which is made up of a tubular body portion entirely free from joints extending therethrough, this being preferably effected by overlapping plies or convolutions of material. At its lower end, this tubular body portion has an inturned integral flange. This integral flange is provided with a plurality of radial slots which extend inwardly from the free edge thereof but which terminate short of the line of juncture between the vertical wall of the body portion and the inturned flange. Within the tubular body portion and superimposed upon this inturned flange is a disk of material similar to the material from which the body portion is constructed, this disk being of such diameter that it will closely fit within the body portion and will receive support from the side walls thereof. It will also receive support from that portion of the inturned flange which is located between the ends of the slots therein and the line of juncture with the vertical side wall of the body portion. A second disk is also provided beneath the inturned flange and these two disks are stitched or stapled to the intermediate flange. The structure of the top of my container is substantially similar.

The preferred embodiment of my invention is shown in the accompanying drawings wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a perspective view partially broken away of a container built in accordance with my invention.

Figure 2 is a detail in section illustrating my structure.

Figure 3 is a section taken on line 3—3 of Figure 1.

In the drawings, the body portion of my container is shown at 1. This body portion is tubular in form and is preferably constructed of a plurality of plies or convolutions of fiber board which are disposed in such overlapping relation that there exists no joint extending entirely through the body portion. These convolutions are preferably partly or entirely held together by properly applied adhesive.

At its lower end, this tubular portion is bent to provide an inwardly extending annular flange 2 having a plurality of radial slots 3 formed therein. These radial slots 3 extend from the innermost extremity of the flange but terminate a material distance short of the line of juncture of the flange with the vertical wall of the container to form a non-

slotted shelf that may be designated 4. The slots 3 are of comparatively narrow width with the result that there are formed a plurality of inwardly extending tabs 5 of maximum width.

The bottom of this container is provided with a disk 6 which is disposed within the tubular body portion and superimposed upon the non-slotted shelf 4 and the tabs 5 of the annular flange 2. The disk is of such diameter that it closely fits the internal wall of the tubular portion and is mainly supported by the non-slotted shelf portion 4, with such laterally support as is supported by the vertical inner wall of the body portion.

The bottom of the container is further provided with an exterior disk 7 that is of somewhat thinner material. This disk 7 is preferably connected to the tabs 5 and to the disk 6 by means of adhesive. Furthermore, the disks 6 and 7 and the tabs 5 are secured together by means of a plurality of stitches 8 which are preferably formed of flat metal tape. One of these stitches is provided for each tab and extends transversely thereof so as to offer the simultaneous resistance of its legs to any strain which might tend to break the bottom out of the container or cause other breakage therein.

The structure of the top of my container is substantially identical in form with the bottom structure thereof. It will also be understood that this top may be secured to the body portion of the container in any suitable manner. As shown in the drawings a plurality of stitches 9 can be used extending through the side walls of the top and the body portion 1, or metal strapping for wiring placed around package; one or more ties to be used as found necessary for the service required.

It will be seen from this description that I have provided a container which may be made of fiber board, pulp board, paper or straw board and which is so formed that the "chime" thereof presents unusual elements of strength. Furthermore, this result is accomplished without complication of the structure and, in fact, by extremely simple means. The disk 6 and also the corresponding disk in the top of the container are mainly supported directly upon the integral wall formation of the tubular body portion, that is, upon the non-slotted shelf portion 4 instead of upon the comparatively weaker tabs 5. Furthermore, this interior disk in the top structure is further supported directly upon the upper wall of the tubular body portion as at 10, which gives an added element of strength at this "chime". In addition, the provision of individual stitches extending transversely of the tabs further strengthens the structure and is supplemented by the connection of the disks to each other and to the tabs by adhesion.

Having thus described my invention what I claim is:

1. A container end structure made of fiber board or similar material comprising a cylindrical body portion, an inwardly extending integral annular flange on one end thereof comprising an unbroken shelf and a series of tabs of maximum width disposed in the same plane, a disk of fiber board or similar material within said body portion and having a vertical support from said inwardly extending annular flange and a lateral support from the vertical inner wall of said body portion, and means for securing said disk and said annular flange together.

2. A container end structure made of fiber board or similar material comprising a cylindrical body portion, an inwardly extending annular flange on one end thereof forming an unbroken shelf and having a plurality of radial slots formed therein to produce a series of tabs of maximum width disposed in the same plane, a disk of fiber board or similar material within said body portion and having a vertical support from said inwardly extending annular flange and a lateral support from the vertical inner wall of said body portion, and means for securing said disk and said annular flange together.

3. A container structure made of fiber board or similar material comprising a cylindrical body portion, an inwardly extending annular flange on one end thereof forming an unbroken shelf and having a plurality of radial slots formed therein to produce a series of tabs of maximum width disposed in the same plane, a disk of fiber board or similar material within said body portion and having a vertical support from said inwardly extending annular flange and a lateral support from the vertical inner wall of said body portion, means for securing said disk and said annular flange together, and a closure of like structure which fits over the upper end of said body portion and has its base in direct contact therewith.

4. A container end structure made of fiber board or similar material comprising a cylindrical body portion, an inwardly extending annular flange on one end thereof and having a plurality of comparatively narrow radial slots formed therein to produce a series of tabs of maximum width disposed in the same plane, such slots having the ends thereof which are nearest the vertical wall of the container spaced a substantial distance therefrom so that an unbroken annular shelf is interposed between the tabs forming a part of said annular flange and the joint of such annular flange with said cylindrical body portion, a disk of fiber board or similar material within said body portion, said disk being comparatively rigid and having a vertical support from the annular shelf of said annular flange and a lateral support from the vertical

inner wall of said body portion, a disk on the outside of said annular flange, and securing staples for securing both of said disks and said annular flange together, the staples extending transversely of the tabs which form a part of said annular flange.

In testimony whereof I hereby affix my signature.

HANS A. EGGERSS.