

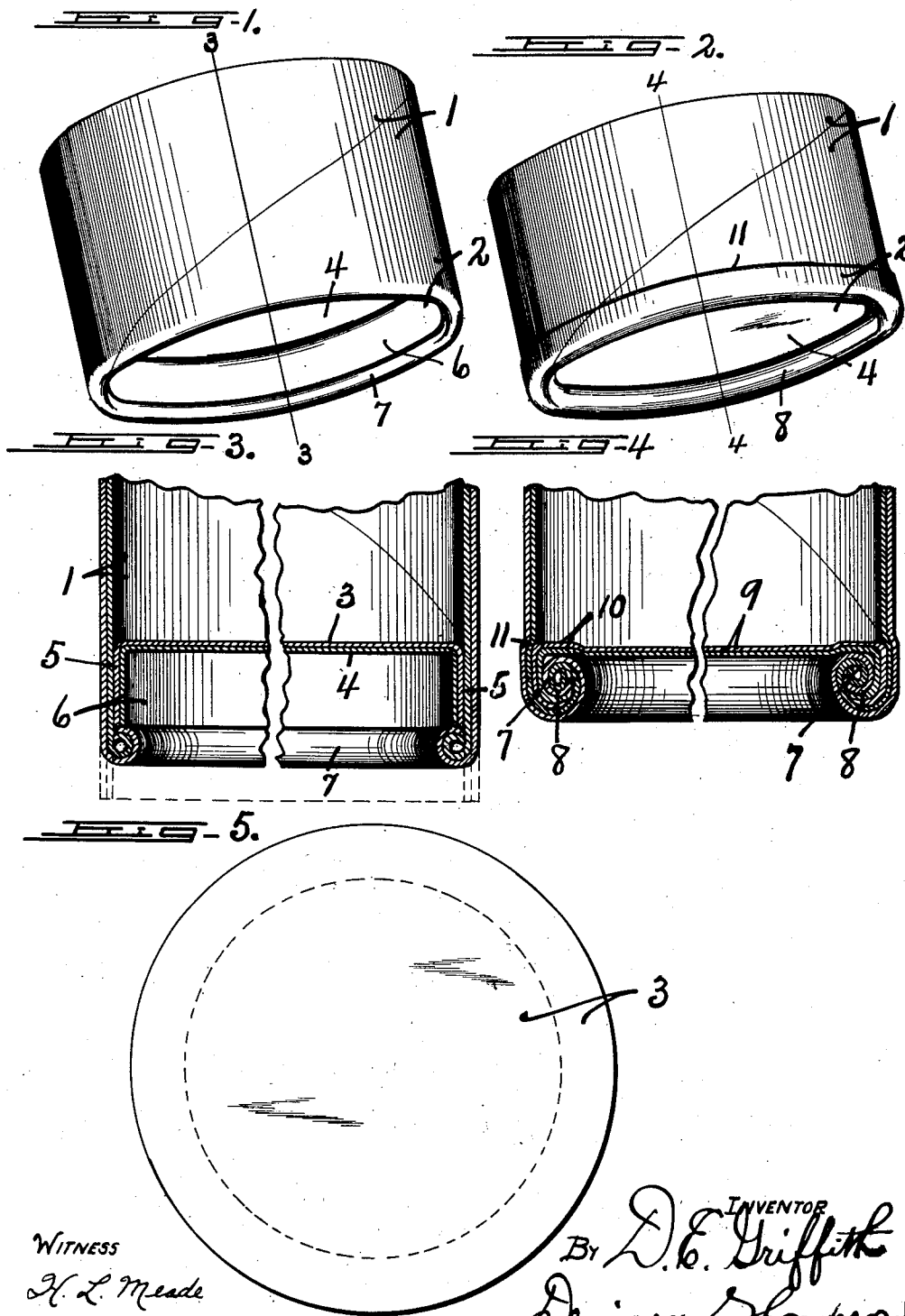
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PAPER OR FIBER CAN

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PAPER OR FIBER CAN

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This invention relates to certain new and useful improvements in paper or fiber cans, and pertains more particularly to the form and construction of an end wall thereof.

5 Heretofore, it has been customary to form the end wall of a fiber can of a single disk of paper having its edge interlocked or seamed with the side wall of the can, and in some cases, an additional disk has been inserted in the can structure above or below the disk with the seamed edge, but so far as I am aware, no one has ever produced a paper can in which the end wall is formed of two or more disks, the edges of at least two of the disks being simultaneously flanged and then seamed, molded or interlocked with the end of the side wall.

Many advantages arise from this latter construction: in flanging two disks together, each forms the flange by itself and there is less strain on the folded edges of each disk than there would be in the case of a single ply disk having the same thickness as the aggregate thickness of the two disks, thus lessening the tendency to break the fibers of the disk at the bend where moisture might penetrate more readily into the bodies of the disks.

Further, two disks, each of a given thickness, are more impervious to moisture than a single disk of the aggregate thickness of the two. The space between the two breaks the capillary attraction, thereby deterring penetrating of moisture, and with this arrangement both sides of both disks may be treated with paraffine or other substances to advantage.

Further, by using two disks, the edges of which are simultaneously flanged, it is possible to use a treated or coated board for the outside disk, or to apply an oil-resisting material between the disks without the treated or coated board or inserted material coming in contact with the contents of the can.

45 Further, by crimping or molding two disks simultaneously, atmospheric conditions will not materially affect the tightness of the closure, as is the case with a second disk inserted but not crimped or molded, and which may, therefore, shrink and become

loose, and in this connection two disks simultaneously flanged tend to the formation of a tighter closure, due to their greater flexibility.

Further, the use of two disks simultaneously crimped or molded produces a dead air space between them, thus materially increasing the insulating properties.

There is also an economical advantage. If the end wall is a single ply it should be formed of a disk equal in thickness to two thicknesses of the stock required for the side wall of the can so that the same stock used for the side wall cannot be used for the end wall, making it necessary to carry two thicknesses of board, whereas, if the end is made of two disks of the same aggregate thickness as the side wall, the same stock can be used for the end wall disks as is used for the side wall plys.

Other objects and advantages will appear from the following description taken in connection with the accompanying drawing, in which:—

Figure 1 is a perspective view of a portion of a paper can in process of manufacture.

Figure 2 is a perspective view of the completed can section.

Figure 3 is a section on line 3—3, Figure 1.

Figure 4 is a section on line 4—4, Figure 2.

Figure 5 is a plan view of one of the two similar end wall disks.

The cylindrical side wall 1 of the can 2 may be formed in any usual manner as by spiral or convolute winding of suitable paper stocks; purely for the purpose of illustration, the invention is herein illustrated as applied to a can having a side wall formed by spirally winding two overlying plys of paper stock, but the invention is not limited to any construction or method of forming such side wall. The two disks 3 and 4 of similar size and shape and of a thickness equal to the thickness of the stock from which the side wall plys are formed are simultaneously flanged to form the annular overlying flanges 5 and 6 adapted to fit tightly within the cylindrical side wall 1 of the can.

In initial assemblage the edges of the

flanges 5 and 6 terminate short of the end of the can and the double ply side wall has its lower edge spun over to form a bead 7 which may perhaps preferably terminate adjacent the lower edges of the flanges 5 and 6.

Figures 1 and 3 illustrate the can at this stage of manufacture.

The lower end of the side wall, including the bead 7 is then simultaneously with the flanges 5 and 6, folded inwardly and upwardly and molded from the interlocked seam illustrated at 8, with bead 7, folded within the edges of flanges 5 and 6.

Figures 2 and 4 show the bead 7 folded around and locking the lower edge portions of flanges 5 and 6 in position.

Preferably during the molding operation, the central portion 9 of the double ply end wall is pressed downwardly or the rim portion 10 of the end wall is pressed slightly upwardly so as to form an annular peripheral recess in the end wall for receiving the upper edge of the interlocking seam portions 8 to assist in locking the seam together.

Further, the side wall of the can is preferably molded to form a shoulder 11 against which the edge of the end wall seats to prevent upward movement of the end wall.

This construction of end wall has been shown as applied to the bottom of a comparatively small can, but is obviously applicable to the formation of the end wall of a cover for the can which has a cylindrical side wall in effect similar to the side wall 1.

The essential feature of this invention resides in an end wall of a paper can formed with two separate disks having their edges simultaneously flanged to form annular flanges which are tightly fitted within the cylindrical side wall with the lower edge of the side wall interlocked to the annular flanges of the end wall by simultaneously molding or spinning both the side wall and the annular flanges of the dual end wall to form a locked seam substantially as illustrated. As above suggested the outer disk 21 may be formed of a treated or coated board to exclude moisture or the contacting surfaces, the disks 3 and 4 may be so treated or a moisture-resisting material may be inserted between the disks without the treating material coming in contact with the can content. Both sides of both disks may, with advantage, be treated with a substance such as paraffine, and altho I have shown and described the invention as applied to a specific form and construction of device and have illustrated preferred details of the same, I do not desire to restrict myself to the form of the can or the exact details of construction and arrangement of locking seam, as various changes and modifications may be made within the scope of the appended claims.

I claim:

1. The method of forming a paper can

comprising forming a tubular side wall consisting of two thicknesses of paper, forming an end wall by the provision of two disks having their edges flanged and in contact with each other, the outer flange being of an external diameter approximately the same as the internal diameter of the side wall of the can, inserting the end wall within the side wall, forming the lower edge of the side wall with an internally extending bead lying upon itself adjacent the edge of said flanges on the end wall and then molding the beaded portion of the side wall about and with the lower edges of the flanges on the end wall to form a composite bead consisting of the bead on the side wall, a portion of the side wall adjacent said bead and a portion of the flanges on the end wall.

2. The method of forming a paper can comprising forming a tubular side wall consisting of multiple thicknesses of paper, forming an end wall by the provision of two disks having their edges flanged and in contact with each other, the outer flange being of an external diameter approximately the same as the internal diameter of the side wall of the can, inserting the end wall within the side wall, forming the lower edge of the side wall with an internally extending bead lying upon itself adjacent the edge of said flanges on the end wall, and then rolling the bead on the side wall about and with the flanges on the end wall until the outer surface of the side wall is in substantial contact with the outer surface of the end wall to form a composite bead consisting of the bead upon the side wall, a portion of the side wall adjacent the bead and portions of the flanges on the end wall.

3. A paper can comprising a tubular side wall consisting of two thicknesses of paper, an end wall formed of two disks having their edges flanged axially in overlying relation with the outer disk fitting tightly within the side wall of the can and the lower edge of the side wall of the can provided with a bead lying upon itself adjacent the free edges of the flanges and confining the edges of the flanges between the bead and the adjacent portion of the side wall with the bead in substantial contact with the outer surface of the end wall.

4. A paper can comprising a tubular side wall consisting of two thicknesses of paper, an end wall formed of two disks provided with overlying annular peripheral flanges fitted tightly within the side wall and the lower edge of the side wall formed with a bead lying upon itself adjacent the edges of the flanges and within the end portions of the flanges and having a portion of the periphery of the bead in substantial contact with the outer surface of the end wall.

5. A paper can comprising a tubular side wall consisting of two thicknesses of paper,

an end wall formed of two disks provided
with overlying annular peripheral flanges
fitted tightly within the side wall and the
lower edge of the side wall formed with a
5 bead lying upon itself adjacent the edges
of the flanges and within the end portions of
the flanges and having a portion of the pe-
riphery of the bead in substantial contact
with the outer surface of the end wall, and
10 said end wall formed with an annular re-
cess for receiving said bead.

In witness whereof I have hereunto set my
hand this 21st day of January, 1930.

DICKINSON E. GRIFFITH.

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