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E. F. HULBERT

METHOD OF MAKING FIBER CONTAINERS

Filed Dec. 1, 1924

Fig. 1.

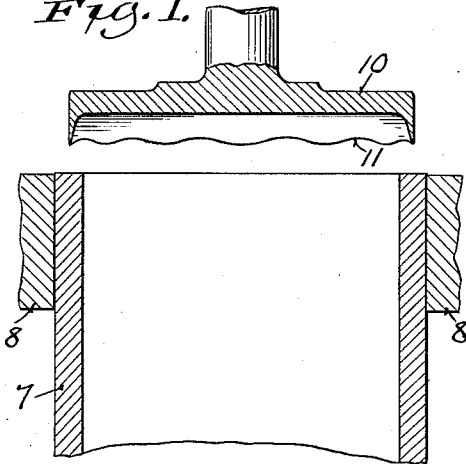


Fig. 2.

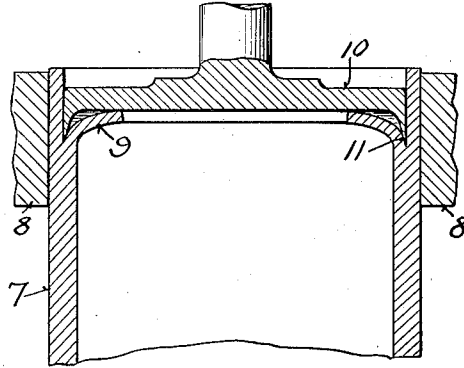


Fig. 3.

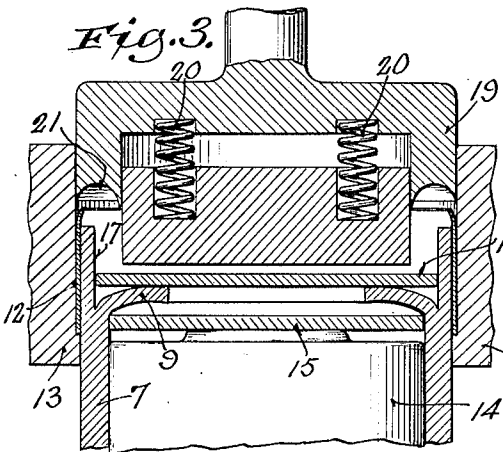


Fig. 4.

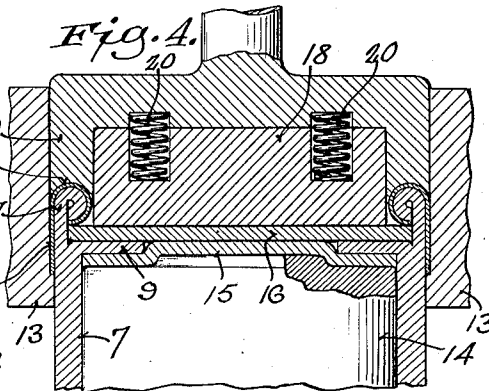


Fig. 5.

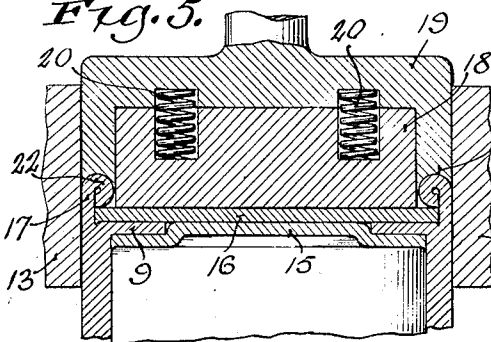
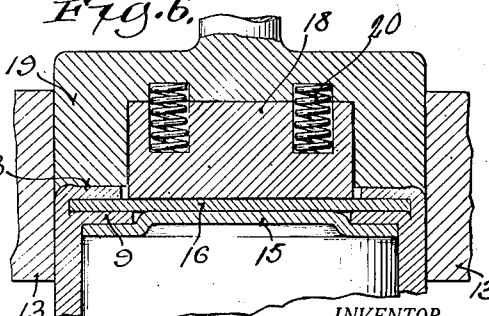


Fig. 6.



INVENTOR.

Edwin F. Hulbert

BY

Charles F. French

ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWIN F. HULBERT, OF MILWAUKEE, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE MASTER PACKAGE CORPORATION, OF DELAWARE.

METHOD OF MAKING FIBER CONTAINERS.

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The invention relates to a method of making closures for fiber containers, more particularly those having tubular siding, whether of cylindrical or polygonal cross section.

Heretofore it has been the practice in the making of container closures to form the tubing or siding separately from the head and to attach the head or closure member to said siding by bands, fasteners, or other parts separate and distinct from the siding. The object of this invention is to provide a method by which the closure of the container is formed in part by the siding itself and is easily and quickly produced.

The invention further consists in the method and steps of the method hereinafter set forth, and their equivalents.

In the drawings: Fig. 1 is a sectional view showing the tubing in position for the first step of the method; Fig. 2 is a detail sectional view of the tubing after the first operation; Fig. 3 is a view of the apparatus with the container parts in position for the second step of forming the container; Fig. 4 is a view similar to Fig. 3 showing the second step completed; Fig. 5 is a view similar to Fig. 4 showing the second step completed where the container is not to be provided with a wear-band; Fig. 6 is a view similar to Fig. 4 showing the second step completed where the outer edge of the container is of slightly different form.

In carrying out my process, fiber tubing 7, either of pressed pulp or of a number of wrappings of paper or fiber sheets, and which may be of either cylindrical or polygonal shape in cross section, are placed in a suitable chuck 8 and held therein while one end is separated into inner and outer wall portions, preferably by cutting or splitting the siding so that the inner wall may be turned down and inwardly to form a closure flange 9 whose width and thickness may be varied to suit requirements. The splitting is done by any suitable tool and in the present instance, by way of illustration, I have shown a splitting knife or cutter 10 having an annular serrated cutting edge 11 which, in the case of cylindrical tubing, is revolved while it is advanced from the position shown in Fig. 1 into the tubing on its cutting stroke, thereby cutting the wall thereof and bending it down as shown in Fig. 2.

After the tubing has been split, as shown in Fig. 2, it may have a reinforcing wear-band 12 fitted to the outside thereof, as shown in Figs. 3 and 4, and placed in a suitable chuck 13 and upon a form 14, of a shape to conform with the inner side of the tubing, with an inner head member 15 against said form and an outer head member 16 placed in position within its outer end, said head members having a suitable coating of adhesive applied thereto. With the parts of the container in the position shown in Fig. 3 the head members 15 and 16 are pressed together and against the flange 9 and at the same time the extended part of outer wall 17 of the tube, together with the inner edge of the band 12, are rolled over into crimped engagement with the outer head member. For this purpose the relatively stationary form 14 cooperates with a reciprocating plunger formed with a head-engaging part 18 and an edge-forming part 19 which have relative movement by reason of springs 20 interposed between the main body part of the plunger and the part 18. For crimping the edge of the container the edge 21 of the part 19 is preferably of a concave form. With this apparatus, when the plunger is brought down upon the parts of the container, the heads 15 and 16 and flange 9 are pressed together between the plunger and the form 14 under considerable pressure, thereby uniting these parts into a practically unitary structure which may have the wear-band 12 crimped thereto at the same time or may have its outer edge 22 crimped as shown in Fig. 5, or the edge-forming part 19 of the plunger may be designed to turn the outer edge 23 down upon the outer head member, as shown in Fig. 6.

By the term "siding" in this specification I mean that portion of the container forming the side wall or walls of the body or cover of a container.

What I claim as my invention is:—

1. That step in the method of making fiber containers which consists in splitting the siding at one end and turning in the inner wall portion thus split from the siding to form a head-attaching portion.

2. The method of making fiber containers which consists in splitting an end portion of the siding into inner and outer wall portions, bending in the inner wall portion thus split from the body, and securing inner and

outer head members to said bent-in inner wall portion.

3. The method of making fiber containers which consists in splitting an end portion 5 of the siding into inner and outer wall portions, bending in the inner wall portion thus split from the body, securing inner and outer head members to said bent-in inner wall portion, and bending down the outer 10 wall portion against the outer head member.

4. The method of making fiber containers which consists in splitting an end portion 15 of the siding into inner and outer wall portions, bending in the inner wall portion thus split from the body, securing inner and outer head members to said bent-in inner wall portion and bending down the

outer wall portion and a metal sheathing applied thereto against the outer head mem- 20 ber.

5. The method of making fiber containers wherein a head is secured to the siding between inner and outer head members which consists in splitting an end portion of 25 the siding into inner and outer wall portions, bending in the inner wall portion from the body to form a closure flange, positioning said head members adjacent said flange gluing said inner and outer head 30 members together and to said flange under pressure, and bending down the outer wall portion against the outer head member.

In testimony whereof, I affix my signature.

EDWIN F. HULBERT.