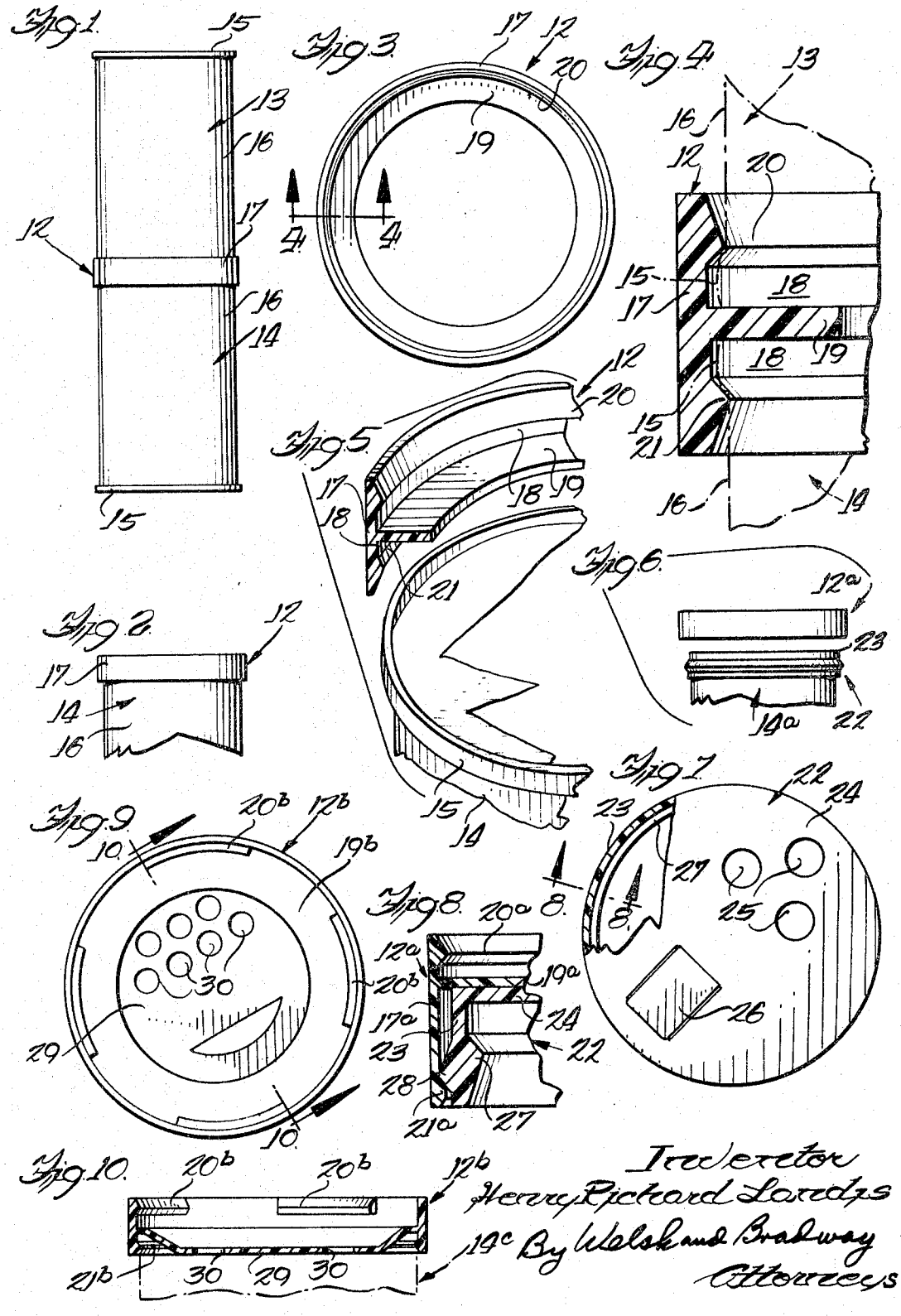
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HOLDER FOR FLANGED PARTS

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HOLDER FOR FLANGED PARTS

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This invention relates to a holder for tubular parts such as cylindrical cans having flanges projecting radially and outwardly from their ends, and the primary object of the invention is to provide a novel device for holding two such parts releasably in assembled relation.

A more detailed object is to provide a novel holding device for retaining two parts assembled in axially aligned relation by gripping the flanges of the respective parts releasably.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a side elevational view of two containers retained in assembled relation by a holder embodying the novel features of the present invention;

FIG. 2 is a fragmentary side elevational view similar to FIG. 1 with one container removed;

FIG. 3 is an enlarged plan view of the holder;

FIG. 4 is an enlarged fragmentary sectional view taken along the line 4—4 of FIG. 3;

FIG. 5 is a fragmentary exploded perspective view of the holder and one container with one edge of the holder shown in section;

FIG. 6 is a reduced fragmentary side elevational view of the modified holder and flanged part;

FIG. 7 is a top plan view of the modified flanged part of FIG. 6 partially broken away and shown in section;

FIG. 8 is an enlarged fragmentary sectional view taken along the line 8—8 of FIG. 7 and showing the modified flanged part with the modified holder of FIG. 6;

FIG. 9 is a top elevational view of another modified holder; and

FIG. 10 is a sectional view taken along the line 10—10 of FIG. 9.

The present invention is shown in the drawings for purposes of illustration embodied in a holder **12** which is especially adapted for holding two tubular parts **13** and **14** releasably assembled together in axially aligned relation. The parts have flanges **15** projecting radially and outwardly from tubular side walls **16** adjacent the ends of the walls and, in the form shown in FIGS. 1 through 5, 9 and 10, are cylinders of circular right section of the type normally used to contain food and having flanges at both ends. When assembled together with the holder, two containers form a double unit convenient to handle and merchandise.

In general, the holder **12** comprises a tubular wall **17** having an inner surface **18** complementary in shape to the outer edges of the flanges **15** on the containers **13** and **14** to be assembled and adapted to telescope closely with the flanges. The telescoping movement is limited by a stop **19** which projects radially and inwardly from the holder wall intermediate the ends of the wall to engage the ends of the containers and position the containers with respect to the holder. Also projecting radially and inwardly from the wall on opposite sides of the stop are holding members **20** and **21**. These members are spaced from the stop to receive the flanges and hook around and engage the flanges to hold the containers against the stop. With the holder formed of resilient material the tubular wall and holding members stretch to receive the flanges of a container and the members snap behind and grip the flanges. A suitable material is polyethylene.

The flanges **15** on the containers being circular, the tubular wall **17***a* of the holder **12** is cylindrical and its inner surface **18** is of a complementary circular cross sectional shape. The stop **19** is a flat rib which, to simplify the dies for formation of the holder as a plastic injection molded part, preferably is continuous and extends completely around the periphery of the holder. To further simplify the construction and reduce material needed, the rib extends radially only a portion of the way to the center of the holder ring. The holding members **20** and **21** are formed as inwardly projecting flanges and also are preferably continuous. Herein, the holder flanges taper inwardly and their spacing from the rib is correlated with the thickness of the flanges on the containers to achieve a tight fit with the container flanges, both holder flanges being spaced the same distance from the rib so that the holder is symmetrical about the rib. To provide a pleasing appearance, the cylindrical tubular wall has a smooth outer surface.

In the use of the improved holder ring **12**, the flange **20** on one side of the center rib **19** is stretched over the flange **15** on a container **13** until the end of the container engages the rib and the flange on the holder snaps behind the container flange. With the container flange fitting tightly in the recess between the holder flange and the rib, the holder grips the container firmly. A second container **14** then is inserted within the other holder flange **21** until the end of the container is against the other side of the rib and the other holder flange snaps behind the container flange. The two containers then are held securely together so that one may be lifted with the other but is easily releasable therefrom by stretching the associated holder flange and pulling the containers apart.

The improved holder also may be utilized with other flanged parts such, for example, as a cap **22** for one of the flanged containers. Such a cap and a modified holder **12***a* for the same are shown in FIGS. 6, 7 and 8. The cap is of inverted cup shape with a cylindrical side wall **23** and a top wall **24**. If desired the latter may have circular perforations **25** and a movable funnel member **26** for dispensing the contents of a container **14***a* which is closed by the cap. An internal flange **27** on the side wall co-operates with the top wall to define a recess to receive the container flange in the manner of the preferred holder described above.

The modified holder **12***a* is similar to the preferred holder **12** in the provision of a cylindrical wall **17***a* and the arrangement of one flange **20***a* on one side of the stop **19***a*. The latter, however, instead of being simply a rib projecting only part of the way across the ring, is an imperforate wall which completely covers the top wall **24** of the cap. Also the flange **21***a* on the other side of the stop is spaced farther from the stop than the first flange to co-operate with an outwardly projecting flange **28** on the lower portion of the cylindrical wall **23** of the cap.

The modified holder **12***a* operates in a manner similar to the preferred construction if the cap **22** is considered as corresponding to the lower container **14** of FIG. 1. With the holder assembled on the cap and the cap on one container **14***a*, the upper flange **20***a* is ready to receive the bottom flange **15** of another container. If desired, the modified holder may be utilized as a snap cover for the perforated top wall **24** of the cap after the containers have been separated.

In another modified holder **12***b* shown in FIGS. 9 and 10, the stop **19***b* is extended to form a wall **29**. Rather than being imperforate, however, this wall is formed with perforations **30** for dispensing the contents of an opened container **14***c* fitting releasably within one of the flanges

20*b* and 21*b*. Although continuous flanges are preferred, an interrupted construction may be used as in the case of the upper flange 20*b* in FIGS. 9 and 10. In other respects, this modified holder is like the preferred holder 12 of FIGS. 1 to 5.

It will be apparent that the improved holder 12 described above provides a convenient and inexpensive means for securing two flanged objects together to form, in effect, a single package. Not only is the holder simple to manufacture and manipulate, but it also may form either an imperforate closure (FIG. 8) or a perforated closure (FIGS. 7, 9 and 10).

I claim:

1. The combination of longitudinally aligned tubular parts having flanges projecting radially and outwardly adjacent ends of the parts and holder comprising a tubular wall having an inner surface complementary in shape to said flanges and adapted to telescope closely with the flanges, an intermediate wall extending radially and inwardly from said inner surface intermediate the ends to form a closure, said intermediate wall constituting a stop to engage said ends of said parts and limit the telescoping movement of said flanges with respect to the inner surface, a first retaining member projecting radially and inwardly from said inner surface on one side of said stop and spaced from the stop to hook behind said flange of a part engaging that side of the stop to hold the part assembled releasably to the holder, and a second retaining member projecting radially and inwardly from said inner surface on the other side of said stop and spaced from the stop to hook behind said flange of another part engaging that side of the stop to hold the part assembled releasably to the holder, one of said tubular parts constituting a cap adapted to fit over one end of an elongated flanged container and having a perforated end wall for dispensing the container contents and an internal flange adapted to engage behind a flange on the container to hold the cap assembled releasably on the container.

2. The combination of two tubular parts aligned longitudinally and having flanges projecting radially and outwardly from adjacent ends of the parts and a holder comprising a tubular wall having an inner surface complementary in shape to said flanges and adapted to telescope closely with the flanges, intermediate stop means projecting radially and inwardly from said inner surface intermediate the ends of said tubular wall to engage said ends of said parts and limit the telescoping movement of said flanges with respect to the inner surface, a first retaining member projecting radially and inwardly from said inner surface on one side of said stop means and spaced from the stop means to hook behind said flange of a part engaging that side of the stop means to hold the part assembled releasably to the holder, and a second retaining member projecting radially and inwardly from said inner surface on the other side of said stop means and spaced from the stop means to hook behind said flange of another part engaging that side of the stop means to hold the part assembled releasably to the holder.

3. A holder for longitudinally aligned cylindrical parts having flanges projecting radially and outwardly adjacent ends of the parts, said holder comprising a cylindrical wall of flexible material having an inner cylindrical surface complementary in size and shape to the outer edges of said flanges and adapted to telescope closely with the flanges, an intermediate wall extending radially and inwardly from said inner surface intermediate the ends of the surface to form a closure, said intermediate wall providing a stop to engage the ends of parts having said flanges telescoping with said inner surface, a first flange projecting radially and inwardly from said surface on one side of said intermediate wall and spaced axially from the wall to hook behind and retain said flange of a part engaging the wall on said side of the wall, and a second flange projecting radially and inwardly from said inner surface on the other side of said intermediate wall and spaced axially from the wall to hook behind and retain said flange of a part engaging the wall on the other side of the wall.

4. A holder for tubular parts having flanges projecting radially and outwardly adjacent the ends of the parts, said holder comprising a tubular wall having an inner surface complementary in shape to said flanges and adapted to telescope closely with the flanges, an intermediate wall projecting radially and inwardly from said inner surfaces to form a closure intermediate the ends of said tubular wall, said wall forming a stop to engage said ends of said parts and limit the telescoping movement of said flanges with respect to said inner surface, a first retaining member projecting radially and inwardly from said inner surface on one side of said stop means and spaced from the stop means to hook behind said flange of a part engaging that side of the stop means to hold the part assembled releasably to the holder, and a second retaining member projecting radially and inwardl yfrom said inner surface on the other side of said stop means and spaced from the stop means to hook behind said flange of another part engaging that side of the stop means to hold the part assembled releasably to the holder.

5. A holder for longitudinally aligned cylindrical parts having flanges projecting radially and outwardly from adjacent ends of the parts, said holder comprising a cylindrical wall of flexible material having an inner cylindrical surface complementary in size and shape to the outer edges of said flanges and adapted to telescope closely with the flanges, a continuous rib projecting radially and inwardly from said inner surface intermediate the ends of the surface and adapted to engage the ends of parts having said flanges telescoping with the inner surface, a first continuous flange projecting radially and inwardly from said surface on one side of said rib and spaced axially from the rib to hook behind and retain said flange of a part engaging the rib on said side of the rib, and a second continuous flange projecting radially and inwardly from said inner surface on the other side of said rib and spaced axially from the rib to hook behind and retain said flange of a part engaging the rib on the other side of the rib.

6. A holder for longitudinally aligned cylindrical parts having flanges projecting radially and outwardly from adjacent ends of the parts, said holder comprising a cylindrical wall of flexible material having an inner cylindrical surface complementary in size and shape to the outer edges of said flanges and adapted to telescope closely with the flanges, a rib projecting radially and inwardly from said inner surface intermediate the ends of the surface and adapted to engage the ends of parts having said flanges telescoping with the inner surface, a first flange projecting radially and inwardly from said surface on one side of said rib and spaced axially from the rib to hook behind and retain said flange of a part engaging the rib on said side of the rib, and a second flange projecting radially and inwardly from said inner surface on the other side of said rib and spaced axially from the rib to hook behind and retain said flange of a part engaging the rib on the other side of the rib.

7. For use with two containers having end portions of the same size and shape with flanges projecting radially and outwardly from their ends, a holder having a tubular outer wall of flexible material with an inner surface complementary in shape to the outer edges of said container flanges and adapted to telescope closely with the flanges, an intermediate rib projecting radially and inwardly from a portion of said inner surface intermediate the ends of the surface, a first flange projecting radially and inwardly from said inner surface and spaced from said rib on one side of the rib, and a second flange projecting radially and inwardly from said inner surface

and spaced from said rib on the opposite side of the rib, said first and second flanges hooking behind said flanges of said containers to hold the containers assembled releasably to the holder with the ends of the containers engaging said rib.

8. A holder for tubular parts having flanges projecting radially and outwardly from adjacent ends of the parts, said holder comprising a tubular wall having an inner surface complementary in shape to said flanges and adapted to telescope closely with the flanges, intermediate stop means projecting radially and inwardly from said inner surface intermediate the ends of said tubular wall to engage said ends of said parts and limit the telescoping movement of said flanges with respect to the inner surface, a first retaining member projecting radially and inwardly from said inner surface on one side of said stop means and spaced from the stop means to hook behind said flange of a part engaging that side of the stop means to hold the part assembled releasably to the holder, and a second retaining member projecting radially and inwardly from said inner surface on the other side of said stop means and spaced from the stop means to hook behind said flange of another part engaging that side of the stop means to hold the part assembled releasably to the holder.

References Cited by the Examiner

UNITED STATES PATENTS

2,292,310	8/1942	Wilkins	220—97 X
2,975,946	3/1961	Westgate	222—480
3,058,630	10/1962	Abt	222—484
3,177,015	4/1965	Brown	285—236
3,180,537	4/1965	Collins	222—143 X
3,223,297	12/1965	Nyden	222—485 X

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