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R. ZIONY

1,482,425

COLLAPSIBLE DRINKING CUP

Filed May 10, 1922

FIG I

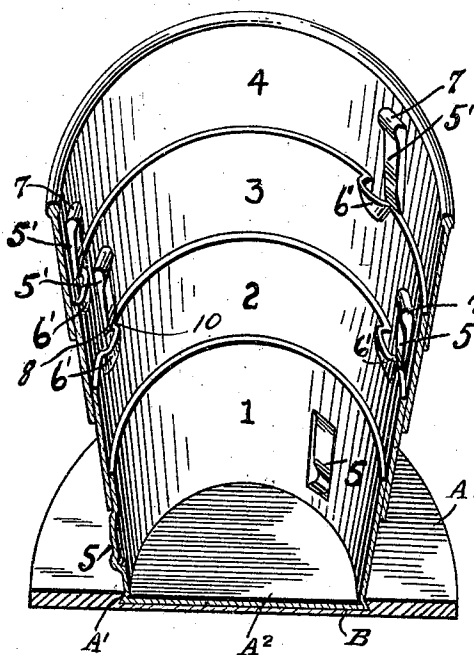


FIG II

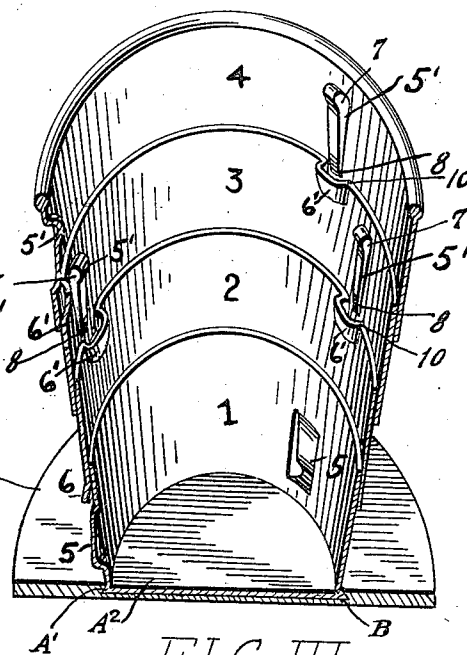


FIG III

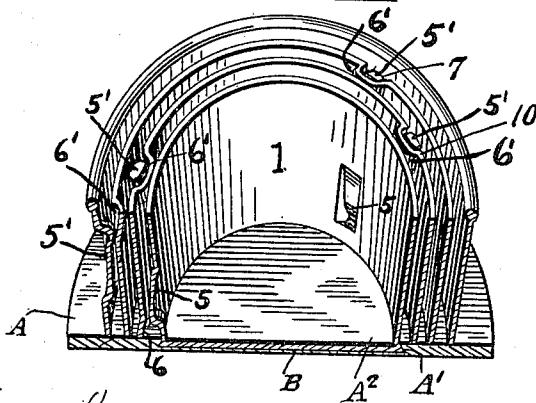


FIG V

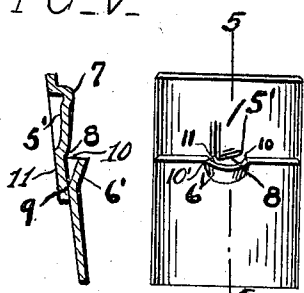


FIG IV

WITNESSES
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COLLAPSIBLE DRINKING CUP.

Application filed May 10, 1922. Serial No. 559,832.

To all whom it may concern:

Be it known that I, RAPHAEL ZIONY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Collapsible Drinking Cups.

My invention relates to collapsible containers of the telescoping type, and is adapted for use as a drinking cup, pail, can, or similar article or utensil, and while I have shown and shall hereinafter refer to the container as a drinking cup, it will be understood that the novel features of the invention may be embodied in the enumerated articles and utensils.

The primary object of my invention is the provision of a sectional, telescopic drinking cup of this character, which may be extended to full position for use and the sections positively locked and supported to insure a rigid structure. And while so extended and locked, leakage of the contents of the container is prevented and possibility of accidental collapse of the container is eliminated.

In carrying out my invention I provide the sections or tapering rings of the collapsible cup with co-acting means whereby, after the cup has been extended, a simple twisting or turning movement of the sections (except the bottom section) will cause the adjoining sections to be locked together to form a rigid structure. And by a reverse twisting or rotary movement, the sections may successively be unlocked in order that the cup may be collapsed and the sections returned to concentric position.

With these ends in view the invention consists in certain novel features of construction and combinations and arrangements of parts as will hereinafter be more fully pointed out and claimed.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention. It will be understood that I have shown one exemplification of my invention, and that changes and alterations may be made therein, within the scope of my claims, without departing from the spirit of my invention.

Figure 1 is a vertical sectional view of a drinking cup embodying my invention, shown partly in perspective, with the cup in extended position and the cup sections locked.

Figure 2 is a view similar to Figure 1, showing the telescoping sections before they are turned to interlocked position.

Figure 3 is a vertical sectional view in perspective showing the cup in collapsed position.

Figure 4 is a face view of a portion of two sections showing the locking elements.

Figure 5 is a vertical sectional view at line 5-5 of Figure 4.

In the form of the invention as shown in the drawings I utilize a comparatively broad base or circular disk A composed of suitable material and provided with a countersunk center or recess B in which the bottom ring or section 1 of the cup is fixed, as by means of the flange A' on the bottom A² of the section 1.

Four telescopic sections, or tapering rings, are illustrated in the drawings and designated 1, 2, 3, and 4, but it will be understood that a greater or less number of sections may be utilized if desired. These telescopic sections or tapering rings increase in diameter from the bottom section 1 to the top section 4, and they may be stamped from light metal to proper size and shape, or other suitable material may be used in the composition of these sections. When the cup is extended the sections are in frictional contact, but in many instances, and due to frequent causes, while the friction is sufficient to prevent leakage, the friction is not adequate for the support of the sections to hold the cup extended.

For this purpose I provide positive locking means, comprising co-acting members on adjacent sections, which when brought into proper relationship will lock the sections of the extended cup into a rigid structure.

It will be seen that the bottom section 1 is provided with a plurality of vertically disposed, exterior protuberances or heads 5, spaced at regular intervals around the section. The second section 2 is provided with a complementary set of interior sockets 6, which, when alined with the exterior heads 5 will permit the section 2 to telescope over the section 1 when the cup is collapsed. When the cup is extended the section 2 is

turned slightly to move the head and socket out of alinement or register in order that the head may be engaged with the section 2 to retain the latter in uplifted position.

5 Sections 3 and 4 are each provided with a series of interior vertically disposed heads 5' adapted to be locked with the upper enclosed edges of the sections 2 and 3 when the cup is extended.

10 Intermediate sections 2 and 3 are fashioned with exterior recesses or sockets 6' complementary to the sets of heads 5', and these sockets are adapted to receive their heads when the sockets and heads are alined and the cup is collapsed. Thus it will be apparent that with the complementary series of sockets and heads in alined position, the extended cup may be collapsed by pressure on the top section to telescope the sections, and the bosses 7 of the heads are seated in the sockets.

In locking the sections of the extended cup, the sections are successively turned, and this relative, successive movement of the sections is limited. Thus the locking ends of the heads are fashioned with transversely extending, inclined shoulders 8, which when the cup is extended are situated partly outside their sockets, and adapted to engage with the edge, 10, of the sockets as 6' at the rim of a section. As one section is turned with relation to another section this inclined shoulder acts as a wedge at the point 10 to tighten the sections of the cup and render them leakproof. The end, 11, of the inclined shoulder, 8, is disposed at all times within its socket and thus by contact at the point 10 the shoulder limits the relative movement of the adjoining sections when they are turned, and the motion of one section is successively imparted to a succeeding section, until all are locked together.

Upon reverse rotary movement or turning of the sections to collapse the cup, the point 11 of the shoulder 8 contacts with the wall of a socket at 10', and the rotary motion is thus imparted successively to the sections. When all the sections have been freed from the wedging action of the inclined edges or shoulders, the sections may be telescoped to compact concentric position.

It will thus be apparent that by holding the bottom section of the container in one hand, the top section may be grasped by the other hand and pulled, and as each succeeding section is frictionally engaged with the preceding section, the sections are successively drawn out to extend the container. Then by a twist of the wrist, the sections are successively locked together by wedge action and the container is ready for use. The sockets are of such size in relation to the angle of taper of the cup as to be completely covered by the adjacent section or

ring, thus insuring against possibility of leakage when the cup is extended.

In collapsed or telescoped position, the bosses 7 of the heads are seated in the sockets, while the greater portions of the heads are located between the walls of the concentric sections. While the heads and sockets are referred to as being stamped from the walls of the sections, it will be obvious that these elements may be fashioned in other manner, and it will also be apparent that the dimensions of the sockets and heads, and the number utilized, may be varied. The size of the sets of sections may also be varied, depending upon the nature of the receptacle or container and its uses, and other changes may be made within the scope of my appended claims.

In claims 1, 2, and 3, "telescoping section" refers to the narrower section which passes through and inside the adjoining "telescoped section."

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. The combination in a collapsible container composed of telescopic tapering sections, of an interiorly projecting head on a telescoped section and a complementary socket portion on the edge of the adjoining telescoping section to permit collapsing whereby when the container is extended and its sections relatively turned, the projecting head on one section engages against the edge of the adjoining section and the sections are locked together.

2. The combination in a collapsible container composed of telescopic tapering sections, of an exteriorly projecting head on a telescoping section and a complementary socket portion on the edge of the adjoining telescoped section to permit collapsing whereby when the container is extended and its sections relatively turned, the head on one section engages against the edge of the adjoining section and the sections are locked together.

3. The combination in a collapsible container composed of telescopic tapering sections, of a head on one section and a complementary socket portion on the edge of the adjoining section, the head formed so as to engage the edge of the adjoining section in extended position and to keep coupled with its socket in collapsed and partly collapsed positions.

4. The combination in a collapsible container composed of telescopic tapering sections of a head on one section and a complementary socket portion on the edge of the adjoining section, the head having a shoulder inclined to the horizontal, adapted to engage the wall of its socket as described.

RAPHAEL ZIONY.