A. C. GUHL.

COLLAPSIBLE CAN.

APPLICATION FILED NOV. 13, 1919.

1,356,203. **Patented Oct. 19, 1920.**

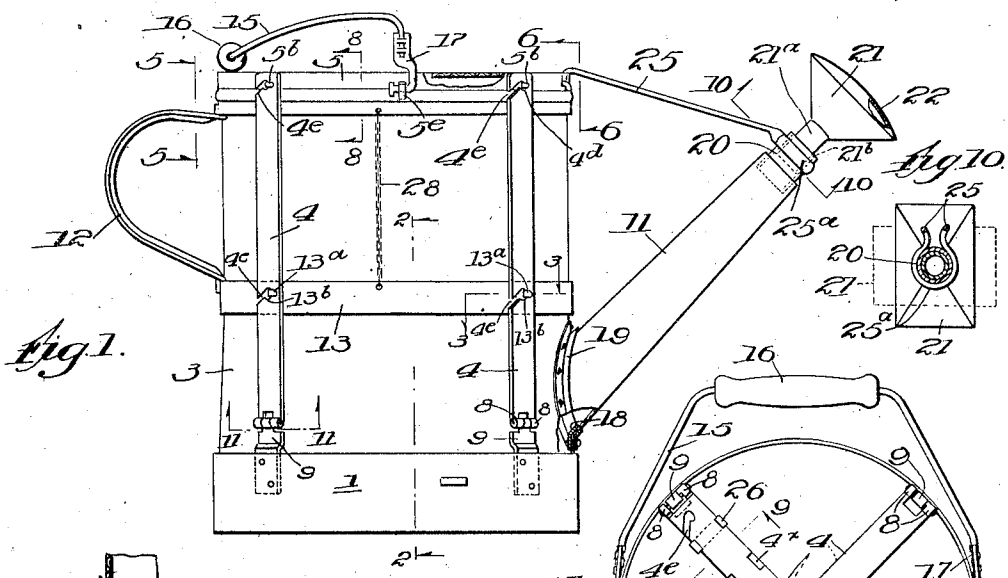


Fig. 1.



Fig. 10.

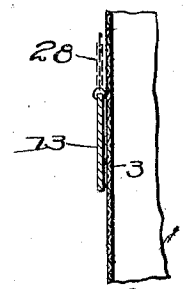


Fig. 2.

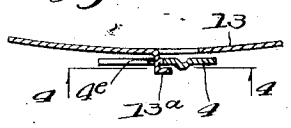


Fig. 3.

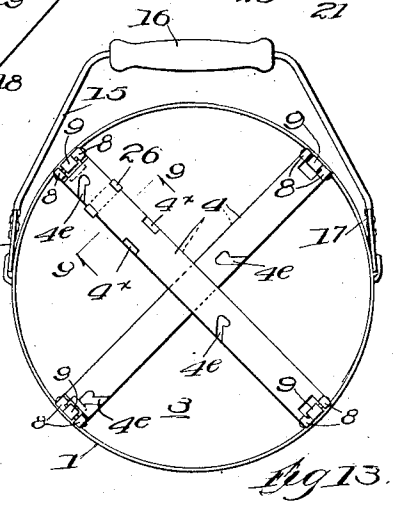


Fig. 13.

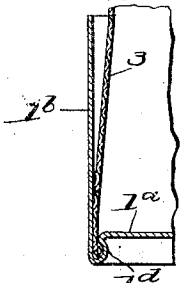


Fig. 14.

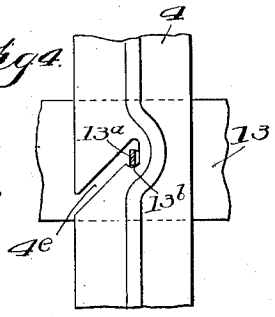


Fig. 4.

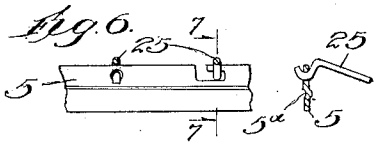


Fig. 6.

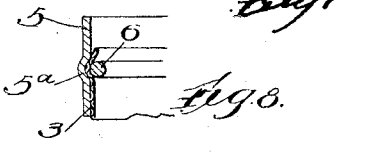


Fig. 7.

Fig. 8.

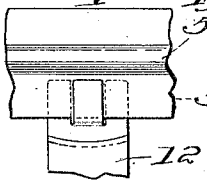


Fig. 5.

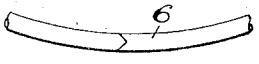


Fig. 12.



Fig. 9.

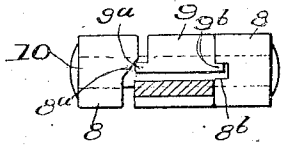


Fig. 11.

Witness:

Inventor:
August C. Guhl,
by Burton & Burton
his Attys.

UNITED STATES PATENT OFFICE.

AUGUST C. GUHL, OF CHICAGO, ILLINOIS.

COLLAPSIBLE CAN.

1,356,203. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed November 13, 1919. Serial No. 337,846.

To all whom it may concern:

Be it known that I, AUGUST C. GUHL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Collapsible Cans, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved device in the nature of a collapsible can, particularly in the form for use as a sprinkling can. It consists in the elements and features of construction shown and described, as indicated in the claims.

In the drawings:

Figure 1 is a side elevation of a can embodying this invention.

Fig. 2 is a section at the line, 2—2, on Fig. 1.

Fig. 3 is a detail section at the line, 3—3, on Fig. 1.

Fig. 4 is a detail side elevation on a magnified scale, showing the engagement of one of the struts with the encompassing ring.

Fig. 5 is a detail section at the line, 5—5, on Fig. 1.

Fig. 6 is a detail section at the line, 6—6, on Fig. 1.

Fig. 7 is a detail section at the line, 7—7, on Fig. 6.

Fig. 8 is a detail section at the line 8—8, on Fig. 1.

Fig. 9 is a detail section at the line, 9—9, on Fig. 13.

Fig. 10 is a detail section at the line, 10—10, on Fig. 1.

Fig. 11 is a detail section at the line, 11—11, on Fig. 1.

Fig. 12 is a detail side view of a segment of a retaining key ring for engaging the fabric body with the top metal member of the device.

Fig. 13 is a plan view of the device collapsed and with the detachable parts folded within it and invisible.

Fig. 14 is a detail section at the same plane as Fig. 2 showing a slight modification.

The structure shown in the drawings comprises a base receptacle member, 1, which may be struck from a sheet metal forming a closed bottom, 1^a, and cylindrical wall, 1^b, the bottom and cylindrical wall being infolded as shown at 1^d, constituting a reverse fold upon the side wall for gripping in such reverse fold the lower edge of the cylindrical fabric body 3. To the upper edge of the base receptacle member, 1, there are hinged struts, 4, 4, 4, 4, adapted to be unfolded or erected, as seen in Fig. 1, outside the fabric body member for retaining said body member stretched or in erect and expanded and distended form when the article is in use. The upper ends of the struts are joined to a top ring, 5, to which also the upper margin of the fabric body, 3, is joined, such junction being most conveniently effected by forming an interior groove, 5^a, in the ring, 5, and providing for fitting within said ring a retaining key ring, 6, the margin of the fabric body being grasped between the ring, 5, and the key ring, 6, the latter being sprung into place for so engaging the fabric body, and being adapted to be sprung out of place to release the fabric body from the ring when it is desired to collapse the structure and store the several parts in the base receptacle, as hereinafter more particularly explained. The hinge connection of the struts, 4, to the base receptacle wall is made in such form as to hold the struts erect when they have been swung to erect position. This hinge is shown in Fig. 11, comprising the two members, 8 and 9, the member, 8, comprising two exterior ears or lugs, and the member, 9, consisting of a single intermediate ear or lug, the member, 9, having outwardly projecting from its opposite sides, respectively of the lug, a cam projection, 9^a and a locking projection, 9^b the cam projection, 9^a, coöperating with a cam slope, 8^a, upon the inner edge of the adjacent lug of the hinge member, 8, for crowding the hinge member, 9, laterally along the hinge pintle, 10, in the last increment of the swinging movement of the strut toward erect position, so that in said last increment the projection, 9^b, is engaged in a recess, 8^b, of the ear of the hinge member, 8, opposite that which has the cam slope, 8^a. For swinging the strut down to closed or folded position shown in Fig. 13, the user will slide the strut a little to one side from its erect position, disengaging the projection, 9^b, from the recess, 8^b, whereupon the strut may be folded down into the base receptacle, as seen in Fig. 13. The capacity of this base receptacle is sufficient to permit the fabric body, 3, to be collapsed into and it is sufficient

also to contain in it the fabric spout, 11, hereinafter described, the pouring handle, 12, as well as the top ring, 5, and a mid-height ring, 13, which is provided for restraining the fabric body from expansion midway in its height and for stiffening the struts. This ring is dimensioned for sliding within the erected struts and is adapted to be engaged with them at mid-height of the device by means of hooks, 13^a, struck out from the ring, 13, and engaging notches, 4^e, cut into one edge of the strut with an upwardly-oblique slope, the notch having at its upper end a downwardly-extending recess or secondary notch, 13^b, into which the hook, 13^a, tends to drop, effecting the engagement of the ring with the strut and holding the ring at the proper position in the height of the strut. The top ring, 5, is engaged with the struts, 4, in a similar manner,—that is, by the obliquely-upward notches, 4^e, having at their upper ends at the lower side a recess or secondary notch, 4^d, in which a hook, 5^b, struck out from the ring, 5, are engaged in a manner already described in respect to the ring, 13.

There is provided a collapsible carrying handle, or bail, 15, consisting of a small wire cable and having a customary hand piece, 16. The wire cable is provided at its opposite ends with fittings, 17, adapted to be clenched onto the ends of the cable in a familiar manner which will be understood from the drawings without particular explanation, and having at its lower end a T-shaped terminal with the cross of the T vertical and the stem horizontal which is adapted to be engaged with a loop or eye, 5^c, which is struck out from the ring, 5, two such eyes being provided at diametrically-opposite positions on said ring for engagement of the two ends of the bail. It will be understood that the bail is thus rendered disengageable if it is desired to reverse its engagement so as to carry the collapsed can bottom upward to avoid disclosing the somewhat unseemly appearance which it presents when thus collapsed into its base receptacle.

There is provided a fabric spout 11, which is connected with the fabric body, 3, the latter having a lateral aperture adapted to register with the lower and larger end of the fabric spout, and the fabric spout being secured to the fabric body by means of metal clamping rings, 18 and 19, one applied upon the inside and the other upon the outside of both the fabric body and the fabric spout. Each of these rings consists of two flanges, one conformed to the contour of the expanded fabric body about the margin of the spout aperture and the other conformed to the expanded fabric spout about the end which is registered with that aperture, the two clamping rings having their corresponding flanges differing in size to the extent that one has its flanges dimensioned to fit within the fabric body and within the fabric spout and the other has said flanges dimensioned to fit outside the fabric body and outside the fabric spout, the difference in dimensions being such that the rings are adapted to clamp between them the fabric of the body and spout; and rivets are employed to connect the body-engaging flanges, being set through the interposed marginal portion of the fabric body around the spout aperture, the rivets thus securing these two flanges together serving to clamp the other two flanges tightly upon the fabric of the spout. The fabric spout has its outer and smaller end provided with a bushing, 20, which may be securely joined to the spout by being fitted within it, the inclosing ends of the fabric spout being exteriorly wound with wire or thread. This bushing is adapted to receive with telescoping fit, the cylindrical stem, 21^a, of a sprinkler head, 21, the snugness of the fit being sufficient to hold the sprinkler head in position and being obtained by providing a packing 21^b of cork or the like within the bushing. The sprinkler head is thus removable for storing it within the base receptacle when the can is collapsed; and it is also adapted to be turned about the axis of the stem when in use so as to cause it to deliver the spray from its perforated head, 22, either broadside,—that is, so as to spread over considerable area laterally, or in a vertically-spread manner, the apertured area of the sprinkler head being oblong to adapt it for these two methods of use. For holding the spout in proper extended position, notwithstanding its flexibility, there is provided a bridle, 25, which comprises a ring, 25^a, which grasps the projecting end of the bushing, 20, and extends from that ring in two arms both of which engage the top ring, 5, of the can, one of said engagements being disengageable as seen in Figs. 6 and 7, so that the bridle may be folded into the ring, 5, without being disengaged therefrom and thereby liable to be lost when the can is collapsed.

The struts, 4, are adapted to secure the fabric body in collapsed form in the base receptacle by lapping one across another when they are folded down inward over the collapsed body; and two opposite struts being both folded diametrically of the base receptacle and therefore longitudinally coinciding one above the other, are then connected by a clip or double-ended hook, 26, which is carried loosely on the lower one of the longitudinally coincident struts, and is engaged with the upper or last in-folded strut by entering the two hook ends through notches, 4^x, 4^x, with which said last strut is provided at a point in its length intermediate the notches for engagement of the top

and mid-height rings, the clip, 26, being then slid along the coinciding struts toward the free end of one and the hinged end of the other. The reaction of the collapsed fabric body which is necessarily compressed in the collapsed and irregularly folded condition by the infolded struts will cause the clip to be safely held against accidentally slipping along the engaged struts so as to become disengaged.

Fig. 14 shows a slight modification in respect to the manner of securing the fabric body to the base receptacle, consisting in making an annular crimp or tuck in the metal of the bottom at a short distance inward from the outer circumference as shown at 1^e, for gripping the lower end of the fabric body, instead of the fold, 1^d, at the circumference as seen in Fig. 2. This modification is preferable for the reason that there is thus afforded an annular space outside the full diameter of the expanded body to accommodate the top ring and the mid-ring when the device is collapsed, and the securement of the fabric body to the top ring by means of the key ring, 6, is rendered easier.

For convenience in lifting into place the mid-height ring, 13, it is connected to the top ring, 5, by means of two light chains at opposite sides, one only being shown in the drawings at 28 on Fig. 1.

I claim:—

1. In a device of the character indicated, in combination with a base receptacle member having a closed bottom, a tubular fabric body member extending down within the receptacle member and secured by a liquid-tight joint to the bottom thereof, and adapted to collapse within said receptacle member; struts foldably jointed at their lower ends to the inclosing wall of said receptacle member at the upper part thereof, and adapted to extend upward outside the fabric body and to fold down within said receptacle member above the fabric body collapsed therewithin, and a top ring dimensioned for entering within the receptacle member and engaging the upper end of the fabric body when the latter is fully extended and distended, and means for disengageably engaging said top ring with the upper ends of the struts.

2. In the construction defined in claim 1 foregoing, a mid-height stay ring for the fabric body dimensioned for fitting within the struts when the latter are erected, and means for disengageably engaging said ring with the struts at an intermediate position in their height.

3. In the structure defined in claim 1 foregoing, the base receptacle being adequate to accommodate in its cavity the fabric body when collapsed, and the struts being adapted to fold across one another above the collapsed body for retaining the latter in the receptacle.

4. In the structure defined in claim 1 foregoing, the base receptacle having the bottom provided with an annular tuck or fold in the metal, and the fabric body being joined to the bottom of the receptacle by having its lower end margin gripped in said metal fold.

5. In the construction defined in claim 1 foregoing, the depth of the base receptacle being adequate to accommodate in its cavity the fabric body when collapsed, the struts being adapted to fold across one another above the body for retaining the latter in the receptacle, and a clip slidably carried by one of the struts and adapted for sliding engagement with an oppositely folded and thereby overlapped strut to retain the two lapped struts in in-folded position for retaining the collapsed body in the receptacle.

6. In a collapsible can or the like, in combination with a collapsible fabric body having a lateral spout opening; a fabric spout dimensioned at its base for registering with said opening; metal clamping flanges for securing said clamping spout to the fabric body, each comprising one flange conformed to the contour of the expanded fabric body at the margin of the spout aperture, and the other flange conformed to the expanded fabric spout at its end which registers with said aperture, said two clamps being relatively dimensioned for clampingly engaging the body and the spout fabric between their respectively corresponding flanges, and rivets securing one of the flanges of each to the corresponding flange of the other through the interposed fabric.

7. In the structure defined in claim 1 foregoing, a fabric spout, and the means for securing it liquid-tight to the fabric body at the side thereof, said means adapted to permit the spout to be collapsed outside of the body, and the capacity of the base receptacle being adequate for containing the body and the spout collapsed therein.

8. In the structure defined in claim 1, a mid-height stay-ring for the fabric body dimensioned for fitting within the struts when the latter are erected; means for disengageably engaging said mid-height ring with the strut, and a pouring handle member having its upper and lower ends adapted for thrust engagement upward and downward respectively with the lower edge of the upper ring and the upper edge of the mid-height ring.

9. In the structure defined in claim 1, the means for engaging the struts with the top ring being hooks struck out from the top ring and a notch cut in from one lateral edge of each of the struts, extending obliquely upward, and having a down-

wardly-extending recess at the inner upper end for engaging the hook.

10. In the structure defined in claim 1, a mid-height stay-ring for the fabric body dimensioned for fitting within the struts when the latter are erected and means for disengageably engaging said ring with the struts, consisting of hooks struck out from the ring and a notch formed in one lateral edge of each of the struts, extending in an upwardly-inclined direction and terminating with a downward recess for engaging the hook.

11. In the structure defined in claim 1 foregoing, a flexible carrying handle or bail for the can, and means for detachably engaging its opposite ends with oppositely situated points on the top ring, said means consisting of a rigid fitting terminating each end of the flexible base, and itself having a T-shaped terminal, of which the cross is vertical when the handle is in position, and staple-like loops or eyes struck out from the upper ring for engagement of the T-shaped terminal.

12. In the structure defined in claim 1, the foldable joints at the lower ends of the struts consisting of hinges each of which comprises a pintle and hinge member of which one has two lugs folded to embrace the pintles, and the other has one such narrower than the space between the two lugs and positioned between them, said two lugs having one a circumferentially narrow angular notch, and the other a circumferentially more extended notch having a sloping shoulder opposite the narrow notch, the middle lug having narrow oppositely extending projections positioned for engagement of one of them with the sloping shoulder when the other is opposite the narrow notch.

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 11th day of November, 1919.

AUGUST C. GUHL.