

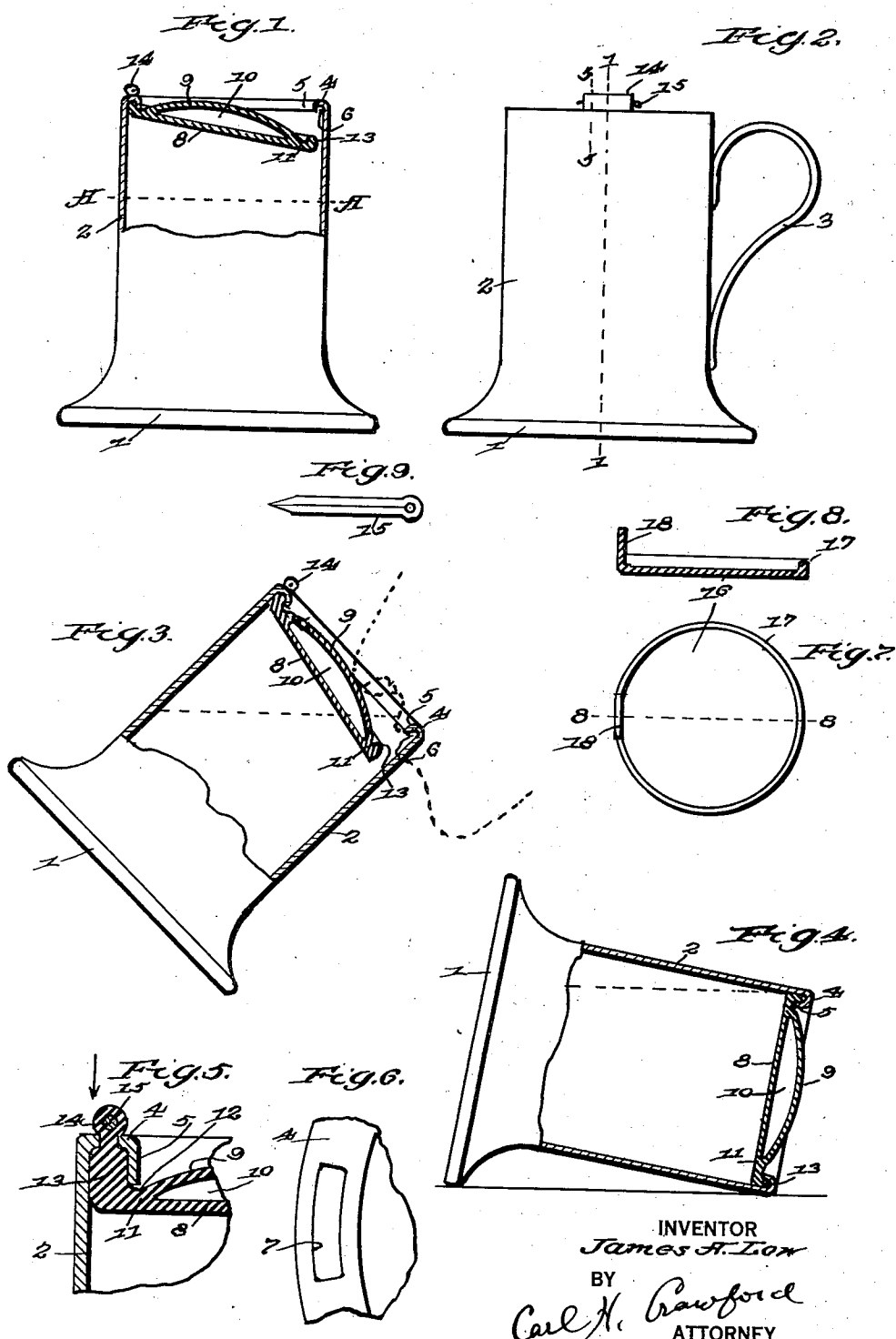
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DRINKING CUP

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DRINKING CUP

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3 Claims. (Cl. 65—13)

The object of this invention is to provide a novel drinking cup for use by children, invalids and mental defectives.

It is well known that these classes of people often upset drinking cups and spill the contents thereof by reason of incapacity or lack of the usual skill in handling such utensils, and it is a primary object of this invention to provide a cup with means for closing the same by impulse of the liquid contents thereof, whenever the cup has been upset or tilted from the vertical.

It is a feature of the invention to provide a lid for automatically closing the cup under the impulse of the contents thereof, and which lid will at all times afford the freest possible drinking access when properly manipulated by its handle, in the operation of drinking the contents thereof.

It is a further object to provide a hinged lid and to so arrange and construct the hinged connection so that it will not interrupt the continuous closing engagement of the lid with the cup, and whereby leakage at such hinged connection cannot result when the cup has been overturned.

A further feature of the invention resides in a hinged connection which does not involve the usual butts and pintle, and which is easily and readily assembled and disassembled, so that the lid can readily be attached to, or detached from the cup, whereby all parts will be rendered sanitary by reason of the ease with which they may be cleaned.

A further feature resides in a hinged connection which will normally and preferably flexibly hold the lid in a semi-closed position so that it will actually close with the shortest possible movement, and will still afford the freest possible access for drinking purposes.

The invention has many other objects and features which will be more fully described in connection with the accompanying drawing and which will be more specifically pointed out in and by the appended claims.

In the drawing:

Fig. 1 is a vertical sectional view of the cup taken on line 1—1 of Fig. 2, and showing the lid in a normal position.

Fig. 2 is a view in side elevation of the cup.

Fig. 3 is a view partly in section and partly in elevation showing the manner in which a person may drink from the cup.

Fig. 4 is a similar view showing how the lid closes when the cup has been overturned or upset.

Fig. 5 is an enlarged sectional view on line 5—5 of Fig. 2, showing the improved hinged connection.

Fig. 6 is a plan view of a portion of the rim and showing the hinge opening therein.

Fig. 7 is a plan view of a modified form of lid.

Fig. 8 is a sectional view thereof on line 8—8 of Fig. 7.

Fig. 9 is a view of an enlarging pin.

Like characters of reference designate similar parts throughout the different figures of the drawing.

The invention is illustrated as applied to a drinking cup of conventional form as regards its general shape, the same including a bottom portion 1 and an upright cup wall 2, which may be of annular form in cross section. Any suitable form of handle 3 may be provided so that the user can grasp it and manipulate the cup.

Reference will next be made to a novel feature which is shown to be a part of this otherwise conventional cup.

The rim of the cup is inturned and consists of an upper portion 4, which may be horizontal when the cup is in the Fig. 1 position. This inturned rim also has a downwardly extending portion 5, which is in spaced relation to the wall 2 of the cup, and hence there is formed a groove that opens downwardly inside the cup, which groove is indicated at 6. It may also be stated that this groove, in the form shown, is annular and of substantially uniform cross section. In the upper wall portion 4 I provide an opening 7, which is segmental in form, and the purpose of which will hereinafter be described in connection with another part of the device.

Reference will next be made to an improved lid that forms a part of this invention.

As shown in Figs. 1 to 6, the lid is hollow and consists of a lower wall portion 8, which is preferably flat and circular, and an upper wall portion 9, which is convex, said wall portions forming an intermediate dead air space 10. This construction affords a degree of buoyancy for the lid which facilitates its quick response to the impulse of the liquid contents in shifting the lid into a cup closing position. It further provides an elevated portion, namely, the wall 9, for engagement by the nose of the user, as will be clear by reference to Fig. 3, which will be later described.

At the circumferential junction 11 of the walls 8 and 9, the upper portion is annularly recessed at 12, and an upwardly projecting flange 13 is provided. If the cup is cylindrical, as shown, then this annular recess 11 and flange 13 will be circular and the shape of the same is such that when the lid is closed the flange 13 will project into and fill the downwardly facing groove 6, as clearly shown in Fig. 4, and the part 5 will engage the recessed portion 12, as shown in Fig. 5. I prefer to make the lid of a flexible material such as rubber, which is light in weight, easily cleaned and sufficiently limp and pliable enough to coact effectively with the rigid material of which the cup is made.

It is a feature of this invention to provide a hinged or like movable connection between the cup and the lid that is so constructed and disposed that such connection will not interfere with the continuous annular engagement of the flange 13 with the groove 6. In other words, when the lid is closed it is of course desirable that no leakage shall take place at the point of the hinge connection. I therefore provide the flange 13 with an extension 14, which performs the function of a hinge lug, and which is adapted to be extended through the opening 7, as shown in Figs. 2 and 5, and which lug of course will be flexible. In its upper or terminal portion, said lug is provided with an aperture through which an enlarging pin 15 may be projected. This lug 14 will have a width substantially equal to the length of opening 7, and its thickness may be uniformly equal to the width of opening 7 to facilitate its insertion therein or withdrawal therefrom. The pin 15, which may be a cotter pin, will sufficiently enlarge the upper end of lug 14, as shown in Fig. 5, so that it will be retained in the hinged connection shown. Further, it also functions to lengthwise tension the lug 14, to draw the flange portion 13, from which it projects, closely into engagement with the wall portion 4, which forms shoulders against which the flange 13 abuts.

Now it will be clear from Fig. 5, that this hinged connection is above and remote from the sphere of annular engagement of the flange 14 with the walls of the groove 6, so that no leakage could possibly occur as a result of this hinged connection. Further, partly because of the material at the juncture 11, and partly because of the lengthwise tension to which the lug 14 is subjected, the tendency will be to hold the lid in a semi-closed position, normally, as shown in Fig. 1, so as to reduce the extent of its actual movement into a full closing position as shown in Fig. 4. Yet this semi-closed position of the lid will not in any manner interfere with the user drinking from the cup, as shown in Fig. 3.

It will also be noted that as a result of the hinged connection and the added fact that a portion of the flange subjacent lug 14 is always engaged with groove 6, the lid will necessarily be held in a position such that all portions of flange 13 will align with groove 6 when the lid is closed. It may also be noted that the hinge is disposed diametrically opposite that portion of the rim to which the lips of the user are applied in drinking from the cup. In the event that the cup has been filled to a greater extent than indicated by the dotted line A—A, in Fig. 1, or if for any reason other than that, the lid should seek a position too near a closing position, the nose of the drinker would engage the projecting upper wall 9 of the lid, and cause the latter to remain in a sufficiently open position to facilitate drinking.

In Figs. 7 and 8 I have shown a modified form of lid composed of a single thickness of material, of whatever form desired, as indicated at 16. The flange 17 and lug 18 function in the same manner as like parts in the preferred form just described.

I will next describe how the improved cup functions when it is accidentally or carelessly overturned or upset, as shown in Fig. 4.

Because of the semi-closed position of the lid, the liquid contents would suddenly engage the broad area of the lid, as the cup turned over, and because such accidental occurrences gener-

ally happen quickly, the liquid contents would suddenly impact against the lid and instantly close the same because there would be no resistance against such closing movement. It will be observed that the portion subjected to the greatest moment of bending flexure would be the juncture of the two walls 8 and 9, nearest the lug 14. Further, it will be noted that since a substantial segmental length of the flange 13, extending in opposite directions from the lug 14, is always in engagement with the walls of groove 6, it will be clear why I am able to support the lid normally in a semi-closed position, and at the same time take advantage of the desirability of a lid that is fairly limp instead of requiring one made of a semi-rigid material. Further, it will be noted that by means of this construction, I am able to avoid the expense and difficulty of attaching any metal to the lid in order to form a hinge connection.

It is believed that my invention will be fully understood from the foregoing description, and while I have herein shown and described specific forms of the invention, I do not wish to be limited thereto except for such limitations as the claims may import.

I claim:—

1. In a child's or invalid's drinking cup, a cup body having an inturned rim of substantially uniform cross section forming a downwardly opening groove, said rim having a hinge forming opening in an upper portion thereof, a flexible internally disposed lid adapted to close said cup body by moving upwardly therein under impulse from the liquid contents when said cup body is tilted from the vertical, and said lid having an upwardly projecting flange adapted to seat in said downwardly opening groove and prevent leakage or spilling of the contents, said flange having a flexible hinge lug projecting therefrom and adapted to extend through said opening and the upper end of said lug having an aperture therethrough, and an enlarging pin adapted for insertion through said aperture to retain a hinge connection and bulge the upper portion of said lug and lengthwise tension the latter to thereby flexibly hold said lid in a normally semi-closed position.

2. In a child's or invalid's drinking cup, a cup body having an inturned rim provided with a hinge forming opening, a flexible internally disposed lid for said cup body adapted to close the latter by moving upwardly therein under impulse from the liquid contents thereof when said cup body is tilted from the vertical, and said lid having a flexible hinge lug adapted to be extended through said opening to align the margin of said lid with said inturned rim, and means for detachably retaining said lid in hinged connection with said cup body.

3. In a drinking cup of the class described, a cup body having an annular rim provided with an inturned downwardly opening groove portion, a flexible lid adapted to close said cup body by upward movement therein and having an upwardly extending flange adapted to seat in said groove portion when said lid is shifted by the liquid contents into a closing position, and means including a portion of said flexible lid for retaining a portion of said flange in said annular groove portion to normally hold said flexible lid in a semi-closed position and thereby reduce the extent of closing movement of said lid when the cup body is over-turned.

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