J. J. SHEA.

ASEPTIC CUP.

APPLICATION FILED JUNE 11, 1910.

1,018,013.

Patented Feb. 20, 1912.

Fig. 1.

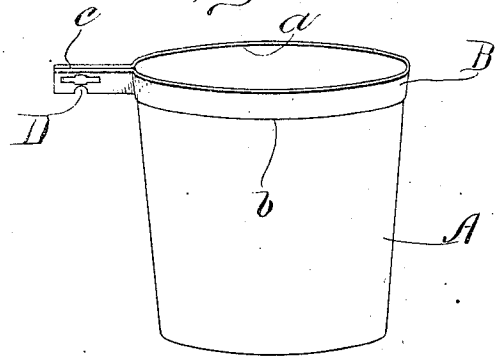


Fig. 2

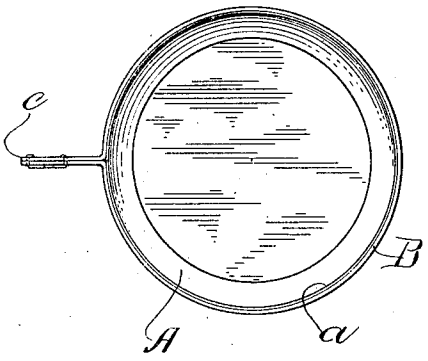
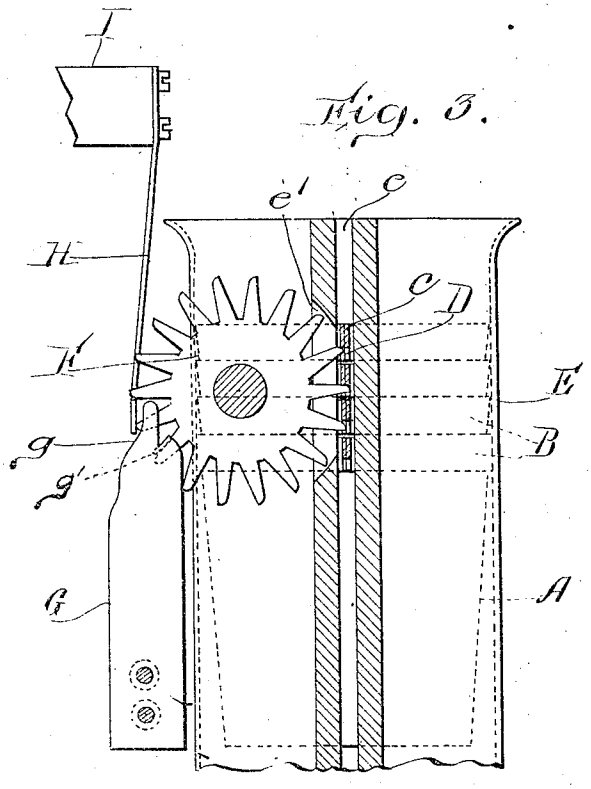


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN J. SHEA, OF BEVERLY, MASSACHUSETTS.

ASEPTIC CUP.

1,018,013. Specification of Letters Patent. Patented Feb. 20, 1912.

Application filed June 11, 1910. Serial No. 566,318.

To all whom it may concern:

Be it known that I, JOHN J. SHEA, a citizen of the United States, and resident of Beverly, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Aseptic Cups, of which the following is a specification.

My invention relates to aseptic or prophylactic paper drinking cups for individual use at public drinking places, such as railroad depots, cars, public fountains, etc.

There are two requisites which must be possessed by cups of the general character described to adapt them for use in vending machines. First, they must be adapted for close packing, preferably nesting, so that a comparatively large number may be contained within the necessarily small space provided for the storing of the cups within the machine; and second, they must be so constructed as to insure their ready selection and separation by appropriate mechanism one by one from the nested column or stack.

It is the object of my invention to provide an aseptic cup which shall possess the requisite adaptability for nesting and for ready selection and separation by appropriate mechanism one by one from the column or stack.

A machine for vending the aseptic cups described and claimed herein is made the subject matter of a separate application for patent filed by me June 11, 1910, serial No. 566,317, and for a full description of such machine reference is made to said application. I have, however, for the purpose of clearly describing and illustrating the present invention, shown in Fig. 3 of the accompanying drawings so much of the cup-vending machine as is essential to a full understanding of the adaptability of my improved cup for use in said machine.

Referring to the drawings, which illustrate an embodiment of my invention,—Figure 1 is a perspective view of my improved cup; Fig. 2 is a plan view of the same; and Fig. 3 is a sectional view, partly in elevation, of the container and feeding mechanism of a cup-vending machine, a column of nested cups beng shown in dotted lines within the container.

A is the body of the cup which is made of paraffined paper of tapering form to permit the nesting of a plurality of similar cups. About the rim of the body there is secured in any suitable manner a band B. Said band is preferably made of relatively stiff card board and the blank of which it is made is a strip of curved form so that when secured to the rim of the body it has the tapering or conical form of the latter. Nevertheless, the taper is so slight and the relative thickness of the body and band are such that the external circumference of the band at its lower edge *b* is greater than the internal circumference of the mouth of the cup *a*, so that when a plurality of similar cups are nested, the shoulder formed by the lower edge *b* of such band rests upon and is supported by the upper edge of the cup next below it. The function of the band B is twofold. First, it serves to strengthen and stiffen the cup at the rim and to hold the rim in proper shape, and second, it serves as a spacer and support to prevent too close nesting of the cups.

In my improved cup the loose nesting of the cups is absolutely insured by the fact that when the cups are nested the shoulder formed by the lower edge *b* of the band B rests against the upper edge of the cup next below it the bands thus constituting spacers for the several cups in the nested column or stack, thus preventing all possibility of the sticking or binding of the cups by reason of too close nesting, or by reason of the softening of tightly packed paraffined surfaces by execssive heat or other causes. Furthermore, in order to be successfully used in a cup vending machine the cups must be not only loosely nested to insure their removal one by one from the machine, but there must also be means to guide the cups and to feed them one by one to the delivery opening. For this purpose I provide my improved cup with a guide tab C, which is in a substantially vertical plane, and preferably formed integral with the band B by securing the free ends thereof together throughout substantially their entire length. The lower edge of the guide tab C is cut away as by a notch D so that when a plurality of similar cups are nested there is a clearance between the adjacent guide tabs.

Referring now to Fig. 3, E is a container adapted to hold a column of nested cups of the construction above described and provided with a groove *e* in which the guide tabs C loosely fit. F is a star wheel the spurs of which project into the groove *e* through the opening *e'* and engage the

notches D in the guide tabs C. G is a spring pawl provided with a cam surface g and having on its under side a lug g' which engages the star wheel F and locks the same against rotation so that the column of nested cups is supported by said star wheel. H is a spring arm secured by a post I to a suitable actuator (not shown).

The operation of the machine is as follows: When the actuator is depressed the nose of the spring arm H travels along the cam surface g of the pawl G lifting said nose clear of the spurs of the star wheel F and when said nose has passed below said star wheel, slips from said cam surface so that at the finish of said downward movement of said actuator the nose of said spring arm H rests against the face of said pawl G. Upon the upward movement of the actuator the spring arm H passes over the face of said pawl G and presses it back so that the lug g' slips off the star wheel thus unlocking it. Continued upward movement of the actuator causes the nose of said spring arm to rotate said star wheel a distance of one spur and then to slip from said pawl permitting said pawl to spring back into normal position so that the lug g' engages the star wheel F and locks it against rotation. By reason of the engagement of the spurs of the star wheel F with the notches D of the guide tabs C, this rotation of the star wheel feeds the column of cups forward a distance of one spur and advances the bottom cup of the column so that it may be readily withdrawn by suitable mechanism from the container.

For a more full and detailed description of said cup vending machine I refer to the aforesaid application for patent therefor. The above brief description will, I believe, make sufficiently clear the adaptability of my improved cup for use therein.

I claim:

A paper drinking cup, comprising a tapered body and a band secured about the rim thereof, the external circumference of the band at its lower edge being greater than the internal circumference of the mouth of the cup whereby when a plurality of similar cups are stacked in nested relation, the shoulder formed by the lower edge of each band will rest on the upper edge of the cup next below it, the bands thus constituting spacers for the several cups in the stack, and a guide tab fast to said band in a substantially vertical plane, said tab being cut away on one edge whereby when a plurality of similar cups are stacked in nested relation there is a clearance between the adjacent guide tabs.

Signed by me at Boston, Massachusetts, this sixth day of June 1910.

JOHN J. SHEA.

Witnesses:
CHARLES D. WOODBERRY,
JOSEPHINE H. RYAN.