March 16, 1965 H. E. TALBERT 3,173,566

DRINK RATE REGULATABLE NON-SPILL STRAW ASSEMBLY

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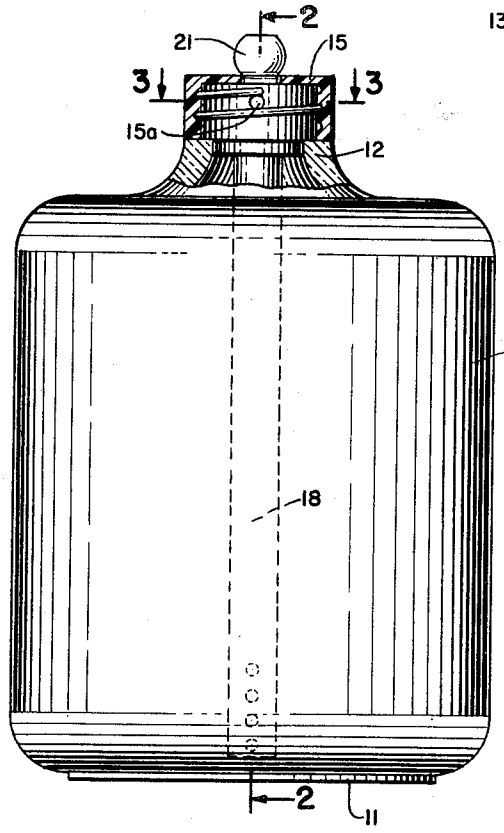

FIG. 1.

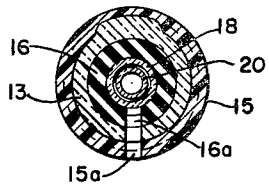

FIG. 3.

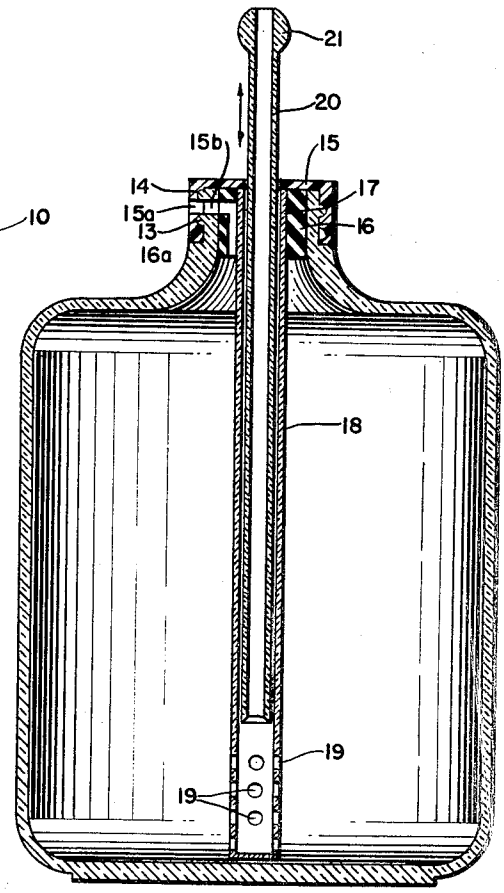

FIG. 2.

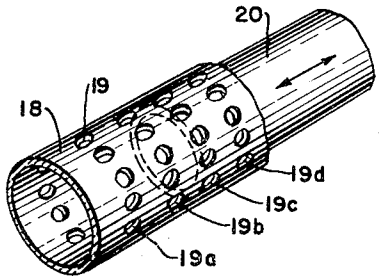

FIG. 4.

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DRINK RATE REGULATABLE NON-SPILL STRAW ASSEMBLY

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The present invention relates to a drink rate regulatable non-spill straw assembly, and has for an object to provide an inexpensive drinking straw regulating assembly for use with containers of various sizes and shapes and is not restricted in its broad aspect to any specific geometric form of container.

Another object of the present invention is to provide a drinking straw assembly the drinking rate of which may be regulated and which assembly will cooperate with the container to provide a non-spillable assembly particularly advantageous for use by both children and adults, indoors or out, in the home or in a motor vehicle or other transportation means, where to spill the contents of the container would be injurious to the surroundings or the clothes of the people using the same.

A further object of the present invention is to provide an assembly which may be prefabricated inexpensively of plastic material; for example, polyethylene, polypropylene, polystyrene or such other plastics as would possess the natural slippery or sliding characteristics to permit of the telescopic arrangement between a static tube and a telescopically slidable drinking straw with respect thereto.

The invention further contemplates a complete unit of both vessel and cover and straw assembly which may be made of plastic material for washing out and reusing or inexpensive on a throw-away basis.

A still further object of the present invention is to provide a telescopic drinking straw carried by a static tube in which the static tube is provided with a plurality of circumferentially disposed openings through the tube arranged in tier levels along the longitudinal axis of the static tube, which static tube cooperates with a telescopically slidable drinking straw, the draw rate of which may be varied from zero in its fully in position to maximum in its fully raised position. Parents may wish to regulate the drink rate of children, infants being capable of handling lesser quantities of liquid and the straw would be set, for example, just above the first tier of openings in the static tube, whereas for an adult by sliding the straw axially in a direction to withdraw the straw from the neck of the vessel, the drink rate volume would be increased.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views:

FIGURE 1 is a front elevational view with parts broken away and parts shown in section of a vessel having the drink rate regulatable non-spill straw assembly of the present invention;

FIGURE 2 is a vertical section taken on the line 2—2 in FIGURE 1;

FIGURE 3 is a horizontal section taken on the line 3—3 in FIGURE 1, and

FIGURE 4 is a fragmentary perspective view of the static tube and drinking straw assembly with parts broken away and parts shown in dotted lines of the assembly proximate the bottom of the vessel.

Referring more particularly to the drawings and for the moment to FIGURES 1 and 2, **10** designates a vessel having a bottom **11** and a neck **12**. The neck **12** may be provided with threads **13** which cooperate with complemental threads **14** in a cap or cover **15**. The cap or cover assembly consists of a stopper member **16** having an opening **17** therethrough, which opening is in fluid-tight frictional engagement with a static tube **18**. The static tube **18** proximate its bottom is provided with a plurality of circumferentially disposed openings **19** which are arranged in tiers.

Telescopically received within the static tube **18** is a drinking straw **20** of plastic material having an outside diameter substantially equal to the internal diameter of the static tube **18** whereby the straw **20** will be slidable longitudinally within the static tube **18** but will have such frictional fluid-tight sealing contact with the static tube **18** as to retain an elevational setting once it is determined what drink rate is desired and which at the same time will act as a seal against the contents of the vessel being fortuitously discharged should the drinker tilt, rock or cant the vessel during the act of drinking.

The cover **15** is provided with a vent opening 15^a which registers with a companion opening 15^b in the neck of the container which is placed in communication with a vent opening 16^a in the stopper assembly.

In order to protect the roof of the mouth against being jabbed when drinking in a vehicle, a sphere **21** is provided at the upper free end of the drinking straw **20** so that should a child be drinking from a vessel of the type shown in FIGURES 1 and 2 while the vehicle is traveling over a rough road, the straw assembly would be cushioned in the top of the mouth of the child or adult to reduce the likelihood of physical injury.

As best seen in FIGURE 4 the base of the static tube **18** has the openings **19** along various tier levels; for example, the minimum flow area would be tier 19^a, 19^b increasing flow as does 19^c until once the straw has been elevated above 19^d the maximum fluid flow would thus be obtained, the straw **20** being slidable longitudinally or axially within the static tube **18**.

In use the vessel **10** would be filled in advance of a trip or picnic with whatever beverage it was desired to take along; this would even permit of cocktails while on the golf course, and when the user desires to withdraw the contents, the cap or cover **15** would be rotated to place the opening 15^a in registry with the neck vent opening 15^b so that the vent 16^a would place the interior of the vessel **10** with atmosphere. The used would then withdraw the straw **20** as by grasping the sphere **21** and raising it from the travel position of FIGURE 1 to the drinking position of FIGURE 2, at which time the drink rate would be regulated to the desire of either the drinker or the parent of the drinker.

While the drawings show the container and the straw assembly as being made of plastic, it will be appreciated by those skilled in the art that this construction can be made of combinations of metal and plastic, or metal, or all plastic, or glass and plastic, or glass and metal.

While in the one embodiment illustrated, the vessel is shown as having a neck, and particularly a threaded neck, it will be appreciated that a receptacle of the milk shaped type would be within the purview of this invention as long as the cover was in fluid-tight relationship with the vessel and a vent opening for admission of atmosphere were provided. The static tube assembly would of course be rigidly secured to the cover whether it be threaded or frictionally retained to the vessel mouth.

Although I have disclosed herein the best form of the invention known to me at this time, I reserve the right to all such modifications and changes as may come within the scope of the following claims.

What is claimed is:

1. A drink rate regulatable non-spill straw assembly for use with a vessel comprising

(*a*) cover for the mouth of the vessel having an opening therethrough adapted to seal the mouth of the vessel against loss of the contents other than through

the opening while admitting vent air into the container to permit fluid withdrawal,

(*b*) a static tubing carried by said cover in registry with and in fluid-tight seal with the opening of said cover, said tubing extending into the vessel to proximate the bottom thereof, said static tubing having a plurality of circumferentially disposed tiers of openings through the wall thereof, and

(*c*) an adjustable drinking straw telescopically received within said tubing in snug frictional fluid sealing peripheral relationship with said static tube so that upon withdrawing the drinking straw the fluid draw rate of the drinker may be regulated by placing the base of the drinking straw at the desired tier level of openings on said static tubing.

2. A drink rate regulatable non-spill straw assembly for use with a vessel as claimed in claim 1, wherein the vessel has a threaded neck and the cover has complemental threads for said neck, the threads of both said neck and cover having air vent openings therethrough which may be brought into registry during drinking use to provide vent air to the interior of the vessel.

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