

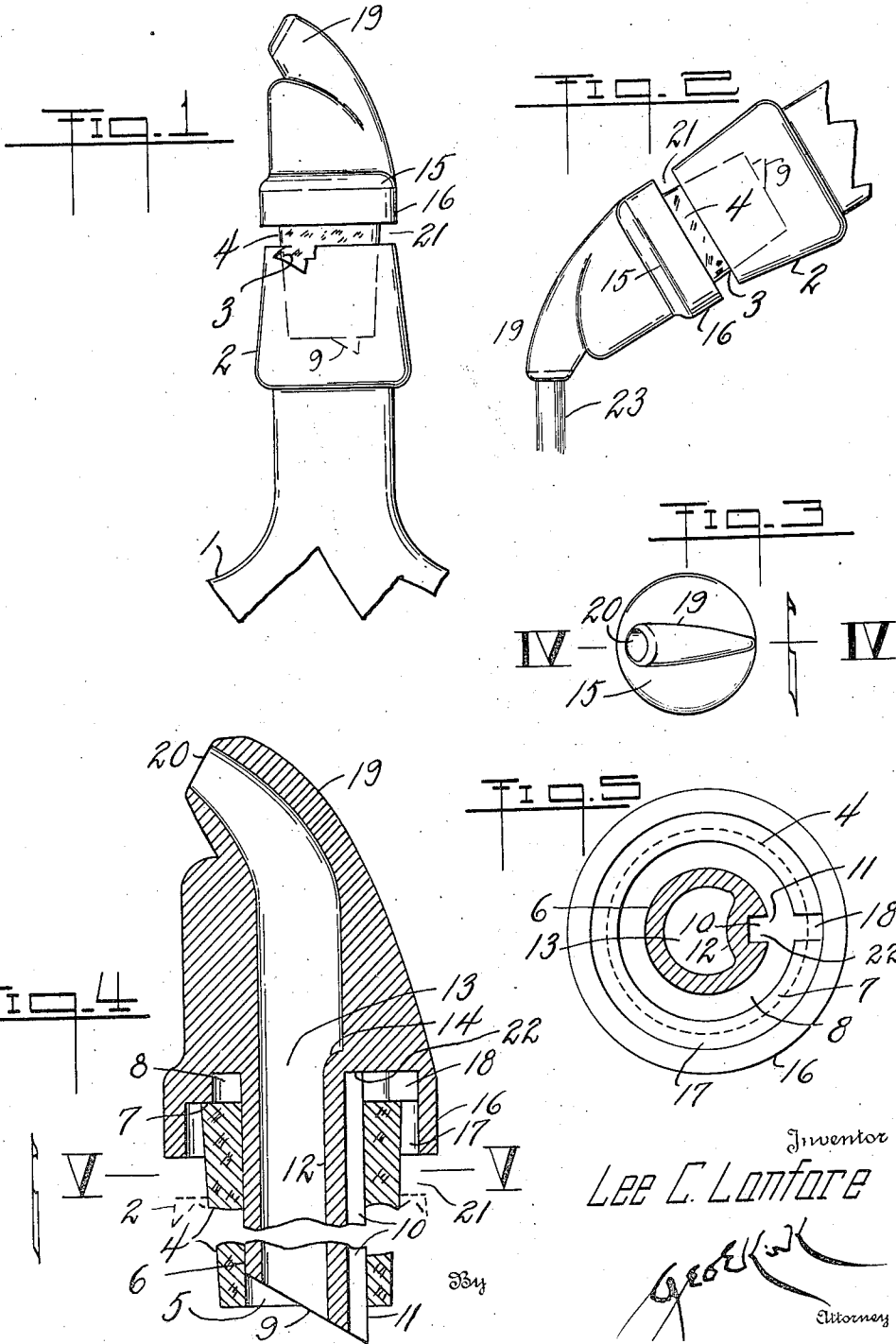
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LIQUID POURING

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# UNITED STATES PATENT OFFICE

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## LIQUID POURING

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1 Claim. (Cl. 215—79)

This invention relates to handling of liquids from, to or between vessels, one or more of which may be closed for releasing air or gas balance, in thereby promoting flow continuity.

This invention has utility when incorporated in integral self-filling or unitary plastic fixtures for insertion in neck openings of bottles, with provision of a pouring stopper, and has to do more particularly with a dispensing of beverages or liquors.

Referring to the drawing:

Fig. 1 is a side elevation, with parts broken away, of an embodiment of the invention as in assembly at the neck opening of a liquor bottle;

Fig. 2 is a view of the device of Fig. 1 tilted to pouring position;

Fig. 3 is a plan view of the device of Fig. 1, looking down on the unit;

Fig. 4 is a section on the line IV—IV, Fig. 3, showing the ducts or pouring passage as well as the vent passage in association with a stopper or cork; and

Fig. 5 is a section on the line V—V, Fig. 4, showing the seating of the tube for a cork sleeve of the stopper type.

### *The bottle neck mounting*

Liquor bottle 1 is shown having neck 2 with opening 3 therein. In the instances wherein the pouring type of stopper is desired, there may be inserted in this opening 3 a tapered compressible section 4 having central opening 5 therethrough as a seating place for the pouring device.

### *The plastic fixture unit*

Into this central tubular opening 5 of the stopper or cork 4 may be thrust cylindrical portion 6 for the outer terminus of this stopper 4 to abut shoulder 7 and leave therebeyond an inner recess or chamber 8, communication to which is had from interior tapered terminus 9 on the tubular portion 6 by way of slot 10 having open outer side 11 toward the inner side of the chamber 5 of the cork and being closed on its inner side by rib 12 along the inside of way 13 from the taper or slant portion 9. This rib 12 has terminus 14 on the inside of this duct in the region of intermediate enlargement or cap portion 15 about the chamber 8, and from which toward and about the tube 6 there extends skirt or flange 16 having clearance 17 about the compressible stopper or cork 4. This clearance 17 has communication by notch 18 directly with the chamber 8 and thence to the vent duct 10 entirely independent of the passage 13 which, as beyond the enlargement 15, has spout portion 19 to delivery port 20.

### *Method of placement*

The compressible element 4 having internal

cylindrical opening 5 may have such thrust into position along the tubular portion 6 of the plastic unit for this stopper element to abut the shoulder 7. The unit as thus assembled may be inserted in working position with the bottle, say of liquor, by jamming the stopper 4 into the opening 3. In practice, this may leave slight clearance 21 between the free end of the skirt 16 and the top or neck of the bottle 2.

### *Use*

In normal position the vessel or bottle 1 or the like is in upright position. As there may be occasion to dispense, the tendency of the one mixing the drinks or serving is to upend or tilt the vessel 1 rather quickly, thereby causing the liquid to lunge with an impinging action against the inner end of the stopper 4 of the closure with a flow in major volume through the duct or tubular portion 13 and way 19 for discharge by the port 20. This impinging flow is for a much less quantity into the vent duct 10. As such strikes wall 22 of the chamber 8, flow is retarded, and as the pouring angle is retained, the liquid from this vent 10 is in the chamber 8 normally clear of its entrance by the vent 10 for the vent 10 to function by way of the adjacent notch 18 and clearance 17, thereby allowing air balance say by inflow into the vessel 1. This means there is a continuity in stream 23 at the initial tilting or pouring.

In practice, in the event the one should effect impinging operations, two or three in number, the capacity of the chamber 8 is effective therefor. At once the vessel is righted, this chamber 8 drains back into the container as to the liquid charge therein. There is accordingly avoidance of any contamination. There is less exposure of the contents than at the port 20. In having the composition say of plastic as of the urea or cellulose type, there is burnish or high polish finish not reacting to beverage or weathering exposure.

What is claimed and it is desired to secure by United States Letters Patent is:

A plastic unit closure embodying a tubular section, a spout section, and an intermediate cap portion therebetween including a skirt toward and about the tubular section away from the spout section, said skirt having therein a ledge adapted to limit the extent of stopper entrance thereinto, there being further communication provision from such ledge outward inside the skirt, and inward along the tubular section away from the spout, to the end that there is provided a vent with an intermediate chamber adjacent the ledge.

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