

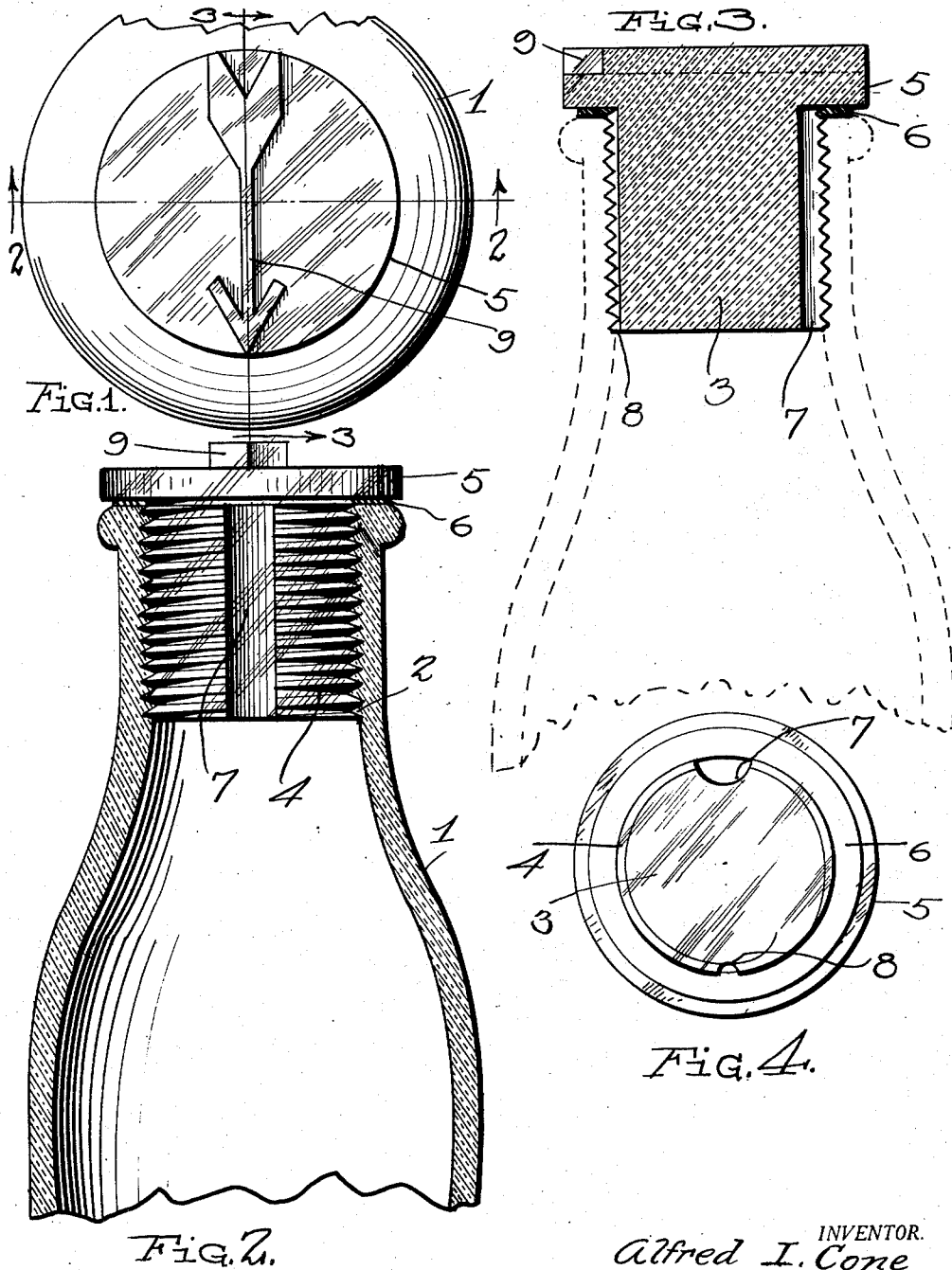
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THREADED BOTTLE STOPPER

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## UNITED STATES PATENT OFFICE

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## THREADED BOTTLE STOPPER

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This invention relates to certain new and useful improvements in bottle-stoppers and has for its primary object to provide a stopper constructed in a manner and so associated with a bottle neck to permit a liquid in the bottle to flow therefrom when the bottle stopper is partly rotated within the bottle neck.

A further object of the invention is to provide a bottle-stopper of the above type wherein the bottle stopper has threaded engagement with the bottle neck and has a peripheral flange at its upper end engaging a gasket surrounding the stopper shank for sealing the bottle when the stopper is fully closed, the shank of the bottle-stopper being longitudinally and oppositely grooved to permit liquid contents of the bottle to be discharged through one of the grooves when the stopper is partly rotated.

More specifically, the bottle-stopper is provided with a pair of diametrically opposite longitudinally extending grooves of relatively different width and depth so that liquids of different viscosities selectively contained in the bottle may be caused to flow in controlled quantity through the desired groove in the bottle-stopper while the other inactive groove forms an air inlet to the bottle to steady the flowing operation, a combined finger-piece and indicator, preferably in the form of an arrow, being formed integral with the top wall of the stopper, and so disposed relative to the two grooves of different dimensions to determine the groove to be used as a liquid outlet.

The difference in the relative width and depth of the two longitudinal grooves affords considerable latitude in controlling the rate of flow through the outlet according to the degree of rotation of the stopper and the given groove selected for the operation. The finger-piece indicator enables the operator to turn the stopper without having the fingers coming into contact with liquid which may be adhering to the side of the stopper flange and also shows the relative positions of the larger and smaller grooves.

With the above and other objects in view that will become apparent as the nature of

the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:—

Figure 1 is a fragmentary top plan view of a bottle and stopper constructed in accordance with the present invention, showing the finger-piece with the groove-indicating arrow on the top wall of the stopper;

Figure 2 is a fragmentary vertical sectional view taken on line 2—2 of Figure 1, showing the bottle-stopper threaded into the neck of the bottle;

Figure 3 is a cross-sectional view taken on line 3—3 of Figure 1 with the bottle illustrated by dotted lines and showing the diametrically opposite longitudinally extending grooves in the bottle-stopper; and

Figure 4 is a bottom plan view of the bottle-stopper showing the diametrically opposite grooves of different widths and depths.

The bottle 1 disclosed may be of any shape or form desired and may contain any character of liquid regardless of its viscosity, and the stopper placed therein is designed to permit a ready and regulated flow of the liquid from the bottle. The stopper is of the screw type and the neck of the bottle is internally threaded as at 2 to accommodate reception of the stopper.

The stopper comprises a body portion 3 that may be constructed of any preferred material, such as wood, hard rubber or glass, the body portion 3 being in the form of a cylindrical shank externally threaded as at 4 to engage the threads 2 upon the bottle neck. An outwardly directed annular flange 5 is carried by the upper end of the bottle-stopper 3 and overlies the upper end of the bottle as illustrated, a sealing gasket 6 being interposed between the upper end of the bottle and the flange 5 to effect an airtight closure for the bottle.

The gist of this invention resides in the provision of a pair of diametrically opposite longitudinally extending grooves in the peripheral wall of the body portion 3 of the stopper, the two grooves being designated by

the reference numerals 7 and 8. The groove 7 is wider and deeper than the groove 8 for purposes set forth. A raised finger-piece or handle 9, in the form of an arrow, is carried by the upper wall of the stopper with the headed end of the arrow directed toward the larger groove 7, while the tail end of the arrow is directed toward the smaller groove 8 so that when the stopper 3 is partially rotated within the bottle, the finger-piece or arrow 9 will indicate the relative positions of the large and small grooves.

With a stopper of the above type, it is possible to selectively fill the bottle with liquids of different viscosities and still attain an easy and steady flow of liquid therefrom. Heavier liquids will flow more readily through the larger groove 7 when the stopper 3 is partly rotated within the bottle 1 and air is permitted to enter the bottle through the smaller groove 8.

In a like manner, should the bottle 1 be filled with a lighter liquid, the same can be made to flow in more readily controlled quantity through the smaller groove 8 while air is then admitted to the bottle through the larger groove 7. The arrow-shaped finger piece 9, while facilitating the unscrewing of the stopper within the neck of the bottle, also indicates the relative positions of the large and small grooves 7 and 8 respectively to readily determine the groove to be used as a pouring outlet when the viscosity of the liquid contents of the bottle is known. It is to be understood that the grooves 7 and 8 may be each relatively proportioned to permit a given container or bottle for use with a wide range of liquids of different viscosities and to obtain a controlled and easy-flowing discharge of the liquid.

While there is herein shown and described the preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be had therein without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A bottle-stopper for a bottle having an internally threaded neck, comprising a stopper having an externally threaded shank and diametrically opposite narrow longitudinal grooves formed in the shank and of relatively different depths and widths.

2. A bottle-stopper comprising a cylindrical screw plug having diametrically opposite narrow longitudinal grooves of relatively different depths and widths.

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