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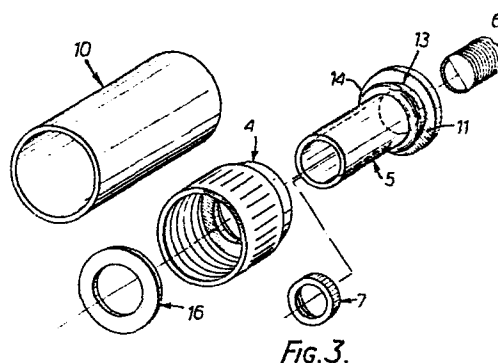
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54 Means for connecting a container to a dispenser.

57 Means for connecting a container to a dispenser such as an optic in a tamperproof fashion include a sleeve (5) for fitting within the neck of a bottle, an outer screw seal 4 for co-operating with the sleeve to form a fluid tight seal at the lip of the bottle and a shrink-fit tubular member 10 for binding the bottle and the screw seal 4. The screw seal 4 is secured to a shaft 6 of a dispenser by means of a thumb screw 6. Once the bottle is in place, it cannot be removed from the dispenser without the tamperproof seal formed by the tubular member 10 being broken.



1.

MEANS FOR CONNECTING A CONTAINER TO  
A DISPENSER

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The present invention relates to dispensing devices for liquor bottles and other bottles and includes means for tamperproofing the attachment of the bottle to the dispensing device so that the bottle may not be removed from the dispensing device without destroying a tamper indicating sleeve. More particularly the invention relates to an improved dispensing means including a bottle sealing cork or sleeve and a co-operating screw member which together with a shrink fit seal prevent unauthorised removal of the bottle from the dispensing device.

Dispensing devices are in wide use for withdrawing a measured quantity of a liquid from a bottle. One common usage of such dispensing devices is in taverns or restaurants where a measured quantity of liquor is removed from bottles in mixing drinks. In these situations, the bottles are attached to the dispenser and are then inverted on wall brackets so that the bar tender may easily draw a measured quantity of liquor from the dispenser which may be an automatic pouring device or an optical measuring device. Because of the relatively high value of the liquor and also in order to supervise the dispensing of it, meters are used on the dispensing devices to count the number of drinks withdrawn and certain mechanical locks have been provided to attach the bottles physically to the dispensers requiring keys for bottle removal.

Even with the use of the meters and the keyed locking devices, significant unauthorised of liquor is often experienced. The locking means of the

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liquor is often experienced. The locking means of the present invention provides an improved means for attaching the dispensers to the bottles. The bottles are screwed into place on the dispensers and then a plastic shrink seal is applied making it impossible to remove the bottles from the dispensers without destroying the sleeve and thus without a tampering indication.

5. The present invention enables the provision of an improved liquid dispensing device.

The present invention also enables the provision of a tamperproofed dispensing device preventing bottle removal without detection.

10. The present invention further enables the provision of a means for attaching bottles to dispensing devices utilizing a relatively simple and fool-proof tamper indicating device.

15. According to a first aspect of the present invention, there is provided means for connecting a container to a dispenser in a tamperproof fashion, the means being characterised by comprising a sleeve for fitting partially within a neck of a container, the sleeve being connected in use to a dispenser, an outer member for location outside the neck and being capable of engaging the neck of the container and of co-operating with the sleeve to form a fluid-tight seal and a shrink-fit sealing element capable of being shrunk into tight engagement with the container neck and the outer member.

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The outer member may comprise an inwardly directed flange to facilitate co-operating with the sleeve. The sleeve may comprise a groove with which the inwardly directed flange is capable of engaging. The groove may be formed between an outwardly directed flange and an outwardly directed bead.

The outer member may be internally screw threaded so that it can engage the neck of a bottle by being screwed onto the bottle. This will tend to be convenient in cases when the bottle possesses an external screw threaded, but any construction permitting engagement with the neck of the bottle can be used. The sleeve may be secured to a tube of the dispenser by a screw threaded means such as a nut.

The sealing element may be tubular and may be formed of a material which shrinks as it dries and/or which shrinks as it is heated. The sealing element may be made of cellulose.

According to a second aspect of the present invention, there is provided means for connecting a container to a dispenser, the means being characterised by comprising a sleeve for fitting partially within a neck of a container, the sleeve being connected in use to a dispenser, and an outer member for location outside the neck and being capable of engaging the neck of the container and of co-operating with the sleeve and of co-operating with the sleeve to form a fluid-tight seal.

Preferred aspects of the second aspect are as for preferred aspects of the first aspect mutatis mutandis.

5. For a better understanding of the present invention and to show how it may be put into effect reference will now be made, by way of example, to the accompanying drawings, in which:-

10. Figure 1 is a perspective view of a dispensing means in accordance with the invention prior to the application of the tamperproofing shrink seal;

Figure 2 is a perspective view of a dispenser in accordance with the invention including a meter and illustrating a tamperproofing seal connecting the dispenser and a bottle;

15. Figure 3, is an exploded perspective view illustrating the tamperproofing portion of a dispenser in accordance with the invention;

20. Figure 4 is an enlarged perspective view illustrating the preferred embodiment of the sleeve and screw seal portions of a dispenser in accordance with the present invention;

Figure 5 is a sectional view of the assembled sleeve and screw seal in accordance with the invention; and

25. Figure 6 is a perspective view of the tamperproofing means of the invention used with remotely mounted bottles, as for example, on a computerised dispensing device.

30. Figure 1 illustrates a typical mounting for a bottle 1 on a wall bracket 2 with a dispenser 3 as used in taverns or restaurants. The bottle 1 is screwed into a screw seal 4 at the top of the dispenser 3 as the mouth of the bottle 1 is sealed with a sleeve 5. Both

- the screw seal 4 and the sleeve 5 are firmly attached to the dispenser 3 and are not removable therefrom by lifting the bottle 1 or otherwise. The sleeve 5 is firmly attached to the liquid shaft 6 of the dispenser 3 by a thumb screw 7. The dispenser 3 below the metal screw seal may consist of any one of a number of known devices which automatically dispense a predetermined volume of liquid when a glass is raised against the dispenser control bar 17 or it may include optical means to permit the bar tender to measure a predetermined amount of liquor by manipulating the glass against the dispenser control bar 17.

- Figure 2 illustrates a similar installation where a dispenser 8 has a drink counting meter 9 and also where a shrink seal 10 has been applied as will be further described below.

The tamperproofing means as applied to a typical dispenser will now be further described with particular reference to Figures 3 to 5.

- As illustrated in Figure 4, the upper portion of a conventional dispensing device comprises a meter 9 for counting the number of drinks dispensed. The screw seal 4 is firmly attached to the meter so that an opened bottle 1 may be screwed into the screw seal 4.

- Figure 5 illustrates the sleeve 5 which seals the mouth of the bottle 1 when the bottle is turned into the screw seal 4. A preferred embodiment of the sleeve 5 is formed of moulded plastics as a unitary item. It includes a radially extending flange 11 at its bottom which is engaged within the complimentary flanged portion 12 of the screw seal 4. A channel 13 is formed between the flange 11 and a radially projecting bead 14 on

the sleeve 5. Preferably the diameter of the sleeve 5 in the channel is slightly greater such as, for example, a few millimetres greater than the diameter of the opening in the metal sleeve at its inwardly projecting flange

5. 15. When the sleeve 5 and the screw seal 4 are assembled as illustrated in Figure 5 by pressing the sleeve 5 into the screw seal 4, they become tightly inter-locked to form both a mechanical and a fluid seal with the bottle 1. A ring-like gasket 16 is preferably inserted adjacent to the bead 14 to engage and to form a seal with the bottle 1 rim when the bottle 1 is screwed into the screw seal 4 as illustrated in Figure 4. Before the bottle 1 is screwed into the screw seal 4 and onto the sleeve 5, a tubular shrink seal 10 is slipped over the neck of the bottle 1. When the bottle 1 is screwed into position, the seal 10 is drawn downwardly and over the skirt or side portion of the screw seal 4.

20. The tubular seals 10 are preferably a commercially available cellulose seal of this type which shrink a significant amount when dry. Such seals are available which when wet, as supplied, fit loosely over both the bottle 1 neck and the screw seal 4 and which shrink a significant amount to grip tightly both 25. the screw seal 4 and the bottle 1 neck and which engage both the bottle 1 and the seal 4 so tightly that the bottle 1 may not be removed from the dispenser without rupturing the shrink seal 10.

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- Therefore, there is no way to remove liquor from the bottle 1 after it has been attached to the dispenser 3 in the above described manner without destroying the shrink seal 10 and thus without clearly indicating
5. that the dispensing apparatus has been tampered with.

- One suitable shrink seal useful in the above described bottle attaching operation is a shrink drying seal sold under the trademark CELON, supplied by the Thatcher
10. Glass Manufacturing Co. Inc. of 375 Park Avenue, New York, New York, 10022 USA. Such seals are normally from the package liquid so that they are wet when removed from the package and applied to the bottle being sealed. Within a minute or so the seals dry and shrink to tightly engage the
15. bottles and dispensers. Such seals require no heat during application. In certain other applications where heat is permissible a heat shrunk tube may be used and such tubes are readily available as commercially distributed products.

20. Figure 6 illustrates the tamperproofing coupling applied to a differing dispensing device. In this embodiment, the screw seal 20 is firmly attached to a tube 21 which is a portion of a remote dispensing system such as a computer controlled drink mixing device or other device.



In these devices, a number of bottles 22 are mounted at a remote location and the liquor is dispensed by computer operated controls through tubes 21 and 23 etc. The improved tamperproofing means includes the outer screw seal 20 and an inner sealing sleeve 24 attached to the dispensing tube and by a nut 25. A shrink seal 26 similar to that described above, is slipped over the bottle 22 neck before the bottle 22 is screwed into the screw seal 20. Thereafter, the shrink seal 26 is slipped into engagement with both the bottle 22 neck and the screw seal 20 so that it shrinks in place and provides a tamperproofing connection of the type already described.

It will be seen that an improved tamper proofing device has been provided for drink dispensers and other similar dispensing devices. The tamperproofing means of the invention is relatively simple and foolproof and is easily applied without the use of any special tools or keys or locking devices.

CLAIMS :

1. Means for connecting a container to a dispenser in a tamperproof fashion, the means being characterised by comprising a sleeve (5) for fitting partially within a neck of a container, the sleeve being connected in use to a dispenser (3,6), an outer member (4) for location outside the neck and being capable of engaging the neck of the container and of co-operating with the sleeve (5) to form a fluid-tight seal and a shrink-fit sealing element (10) capable of being shrunk into tight engagement with the container neck and the outer member.
2. Means as claimed in Claim 1, characterised in that the outer member (4) comprises an inwardly directed flange (12).
3. Means as claimed in Claim 2, characterised in that the sleeve (5) comprises a groove (13), the inwardly directed flange (12) of the outer member (4) being capable of engaging with the groove.
4. Means as claimed in Claim 3, characterised in that the groove (13) is formed between an outwardly directed flange (11) and an outwardly directed bead (14).
5. Means as claimed in any one of Claims 1 to 4, wherein the container is a bottle whose neck is externally screw threaded, characterised in that the outer member (4) is internally screw threaded and can

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engage the neck of the bottle by being screwed onto the neck.

6. Means as claimed in any one of Claims 1 to 5, characterised in that the sleeve (5) is securable to a tube of the dispenser by a screw threaded means (7).

7. Means as claimed in any one of Claims 1 to 6, wherein the sealing element (10) is tubular.

10. 8. Means as claimed in any one of Claims 1 to 7, characterised in that the sealing element shrinks when dried.

9. Means for connecting a container to a dispenser, the means being characterised by comprising a sleeve (5) for fitting partially within a neck of a container, the sleeve being connected in use to a dispenser, (3,6) and an outer member (4) for location outside the neck and being capable of engaging the neck of the container and of co-operating with the sleeve (5) and of co-operating with the sleeve to form a fluid-tight seal.

10. In a bottle fed liquid dispensing system having a dispenser tube communicating with the bottle an improved tamperproofed connecting means comprising the combination of a bottle sealing sleeve surrounding the dispensing tube for engaging the bottle neck; means attaching the sealing sleeve to said tube; a threaded screw seal for engaging the bottle neck and said screw seal.

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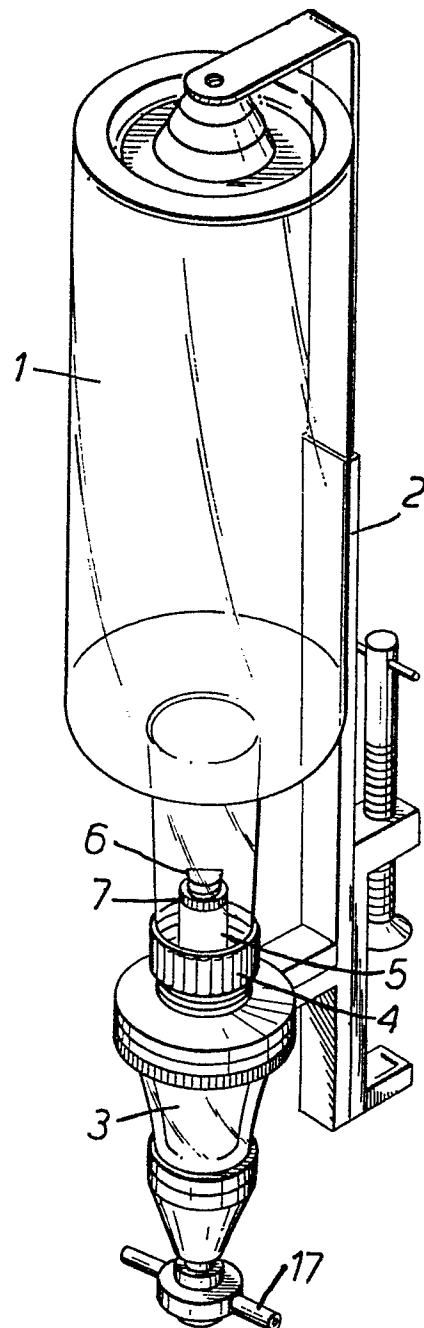


FIG. 1.

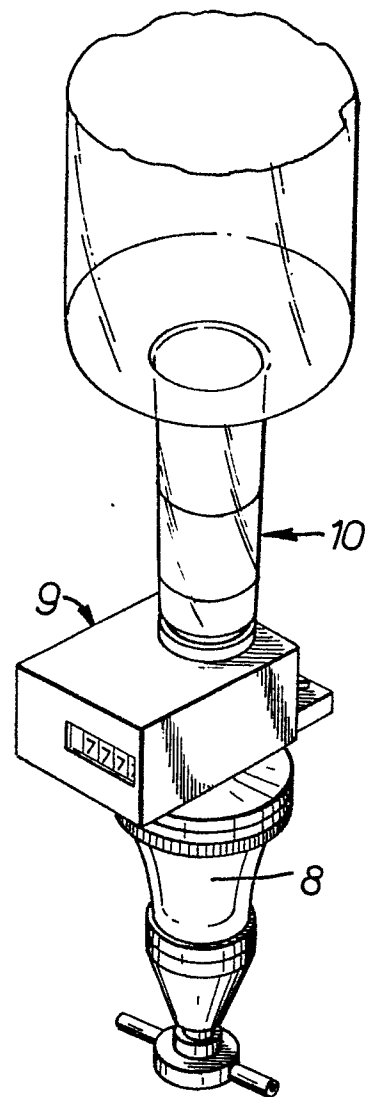


FIG. 2.

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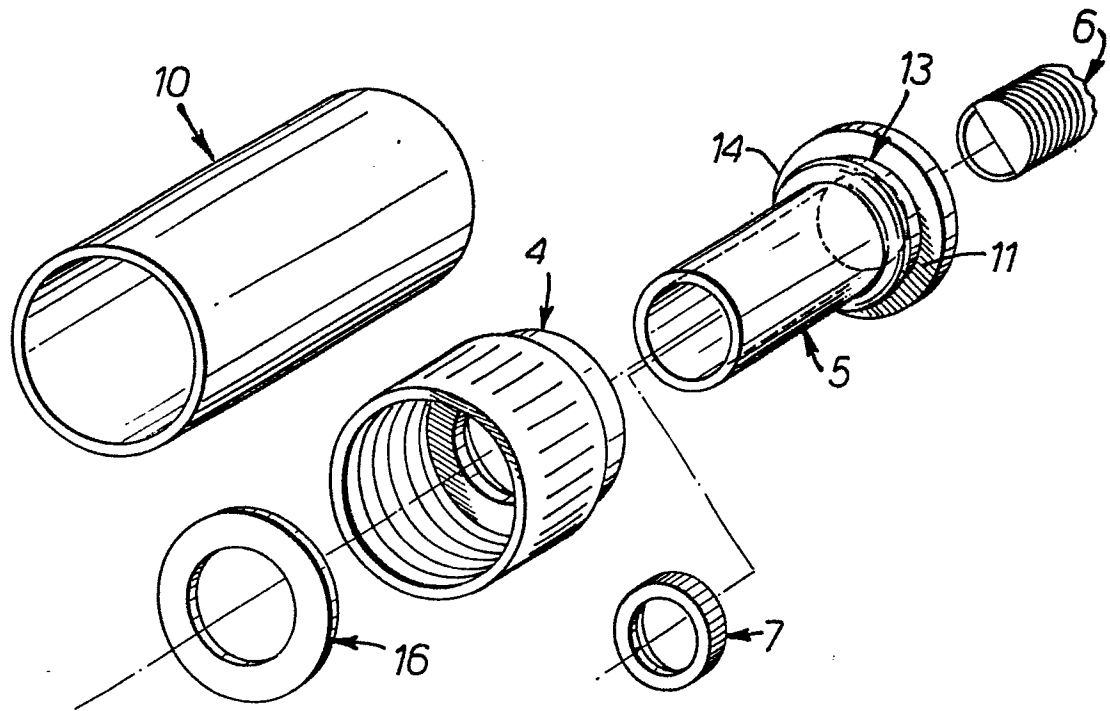


FIG. 3.

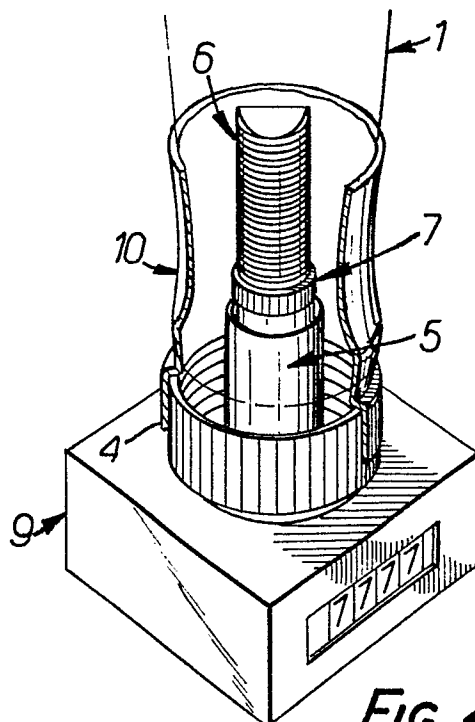


FIG. 4.

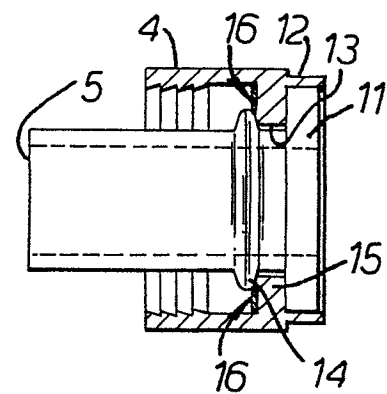


FIG. 5.

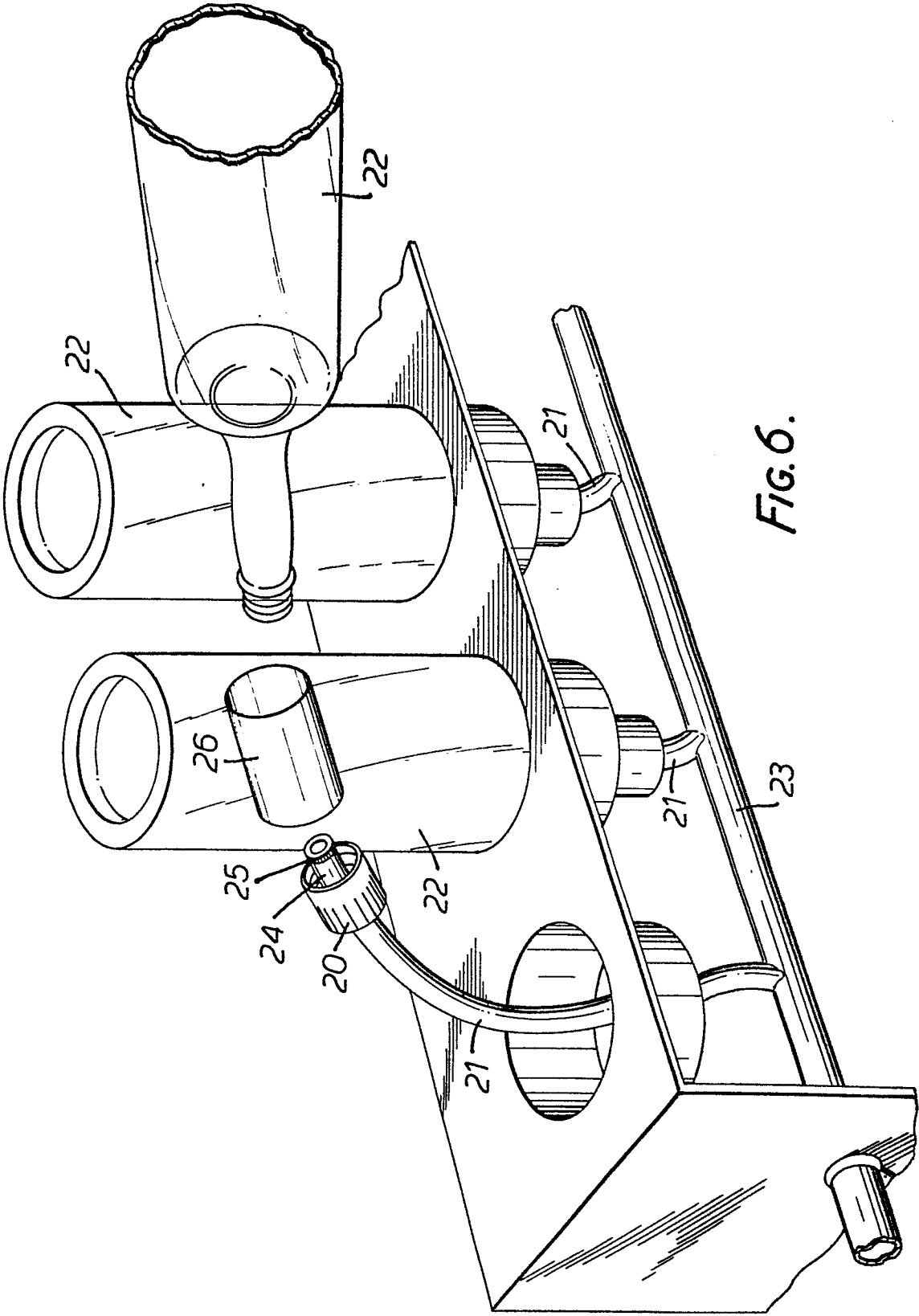


FIG. 6.