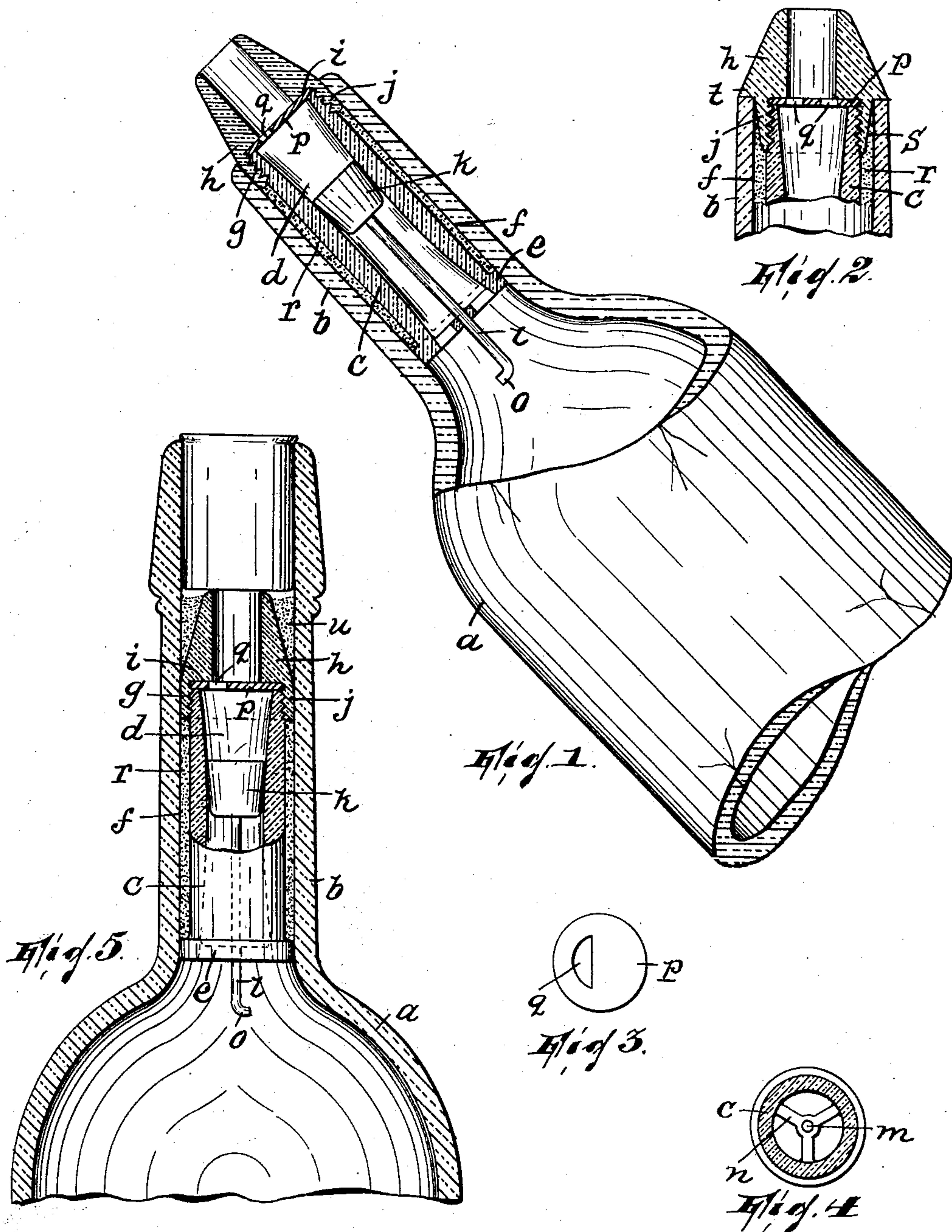


No. 771,477.

PATENTED OCT. 4, 1904.

F. KERN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 30, 1904.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRITZ KERN, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
EDWIN AEBERLI, OF HALEDON, NEW JERSEY.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 771,477, dated October 4, 1904.

Application filed June 30, 1904. Serial No. 214,704. (No model.)

To all whom it may concern:

Be it known that I, FRITZ KERN, a citizen of the Republic of Switzerland, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to non-refillable bottles; and it consists in certain improvements in means for rendering bottles non-refillable having for their principal objects to simplify and cheapen the construction and render the device attachable to any ordinary bottle.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a view showing a bottle with the improved device for rendering the same non-refillable mounted therein, said device and the neck portion of the bottle being shown in longitudinal section. Fig. 2 shows the mouth portion of the bottle and the corresponding portion of a slightly-modified form of the device in longitudinal section. Figs. 3 and 4 illustrate details; and Fig. 5 is a vertical sectional view of a bottle, having another modified form of the device mounted therein, the bottle and a portion of said device being shown in longitudinal section.

In the drawings, *a* is a bottle having a neck *b* of the ordinary form. In the neck is arranged a tubular shell *c*, which is shown in the drawings as made of glass, but which may be made of any other suitable material, the same having its bore *d* slightly tapering from each end toward the interior thereof. This shell is formed at its innermost end with an outwardly-projecting flange *e*, which snugly fits in the neck *b* and thus acts as a spacer between the outside surface of the shell and the inside surface of the neck, so that an annular space *f* is left surrounding the body portion of the shell. The outer end of the shell is

externally threaded, as at *g*; and has screwed onto it a nipple *h*, having a shoulder *i* opposed to the end of the shell. The threaded portion *j* of said nipple coacts with the flange *e*, as shown, in spacing the body of the shell from the bottle-neck. In the outer tapering portion of the bore *d* of the shell is arranged a conical valve *k*, having a stem *l*, which extends down through a hole *m* in the guiding-spider *n*, forming an integral portion of the innermost end of the shell, the lower end of the stem being bent off, as shown at *o* in Fig. 1, to prevent undue upward displacement of the valve.

p is a guard-disk interposed between the shoulder *i* and the outer end of the shell *c*, the same having an opening *q* disposed eccentrically in the disk.

In the construction shown in Figs. 1 and 2 the bottle is first filled and then the shell, with the valve attached, introduced into the bottle-neck, whereupon a filling of cement *r* is packed into the annular space *f*. The nipple *h* is then screwed into place after having first interposed the disk *p* in place between the end of the shell and the shoulder *i*. The nipple should be made so as to not too snugly fit the mouth of the bottle, with the object of permitting some of the cement to stand interposed between them, and thus hold the nipple in place. This last is preferably best effected by making the threaded portion of the nipple *h* externally tapering, as shown at *s* in Fig. 2, thus leaving a space for the cement between the mouth of the bottle and the portion of the nipple directly received thereby. Fig. 2 shows a disk *p*, having two openings *q* instead of only one, as above described. This figure also shows the nipple *h* formed with an external shoulder *t*, bearing against the end of the bottle-mouth.

The nipple in the constructions above described may itself receive any suitable stopper.

As shown in Fig. 5, instead of the nipple being arranged to protrude from the bottle-mouth and to receive the stopper it is down in the bottle-neck, thus leaving a space at the mouth portion of the bottle for the reception of the usual stopper. A cement filling *u* is

introduced in between the neck of the bottle and the mouth portion of the nipple, which latter is made tapering so as to form a sufficiently large annular space for this purpose. 5 The construction shown in Fig. 5 is otherwise the same as that illustrated in the other figures of the drawings.

Having thus fully described my invention, what I claim as new, and desire to secure by 10 Letters Patent, is—

The combination of a bottle, a tubular shell arranged in the neck thereof and having an exterior flange spacing the shell from the interior surface of the bottle-neck, a nipple

screwed on the outer end of the shell externally thereof, a filling of cement formed in the space between the shell and the bottle-neck, an upwardly-opening valve arranged in the shell, and an apertured guard secured against the outer end of the shell by said nipple, substantially as described. 15 20

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of June, 1904.

FRITZ KERN.

Witnesses:

JOHN W. STEWARD,
EDWIN AEBERLI.