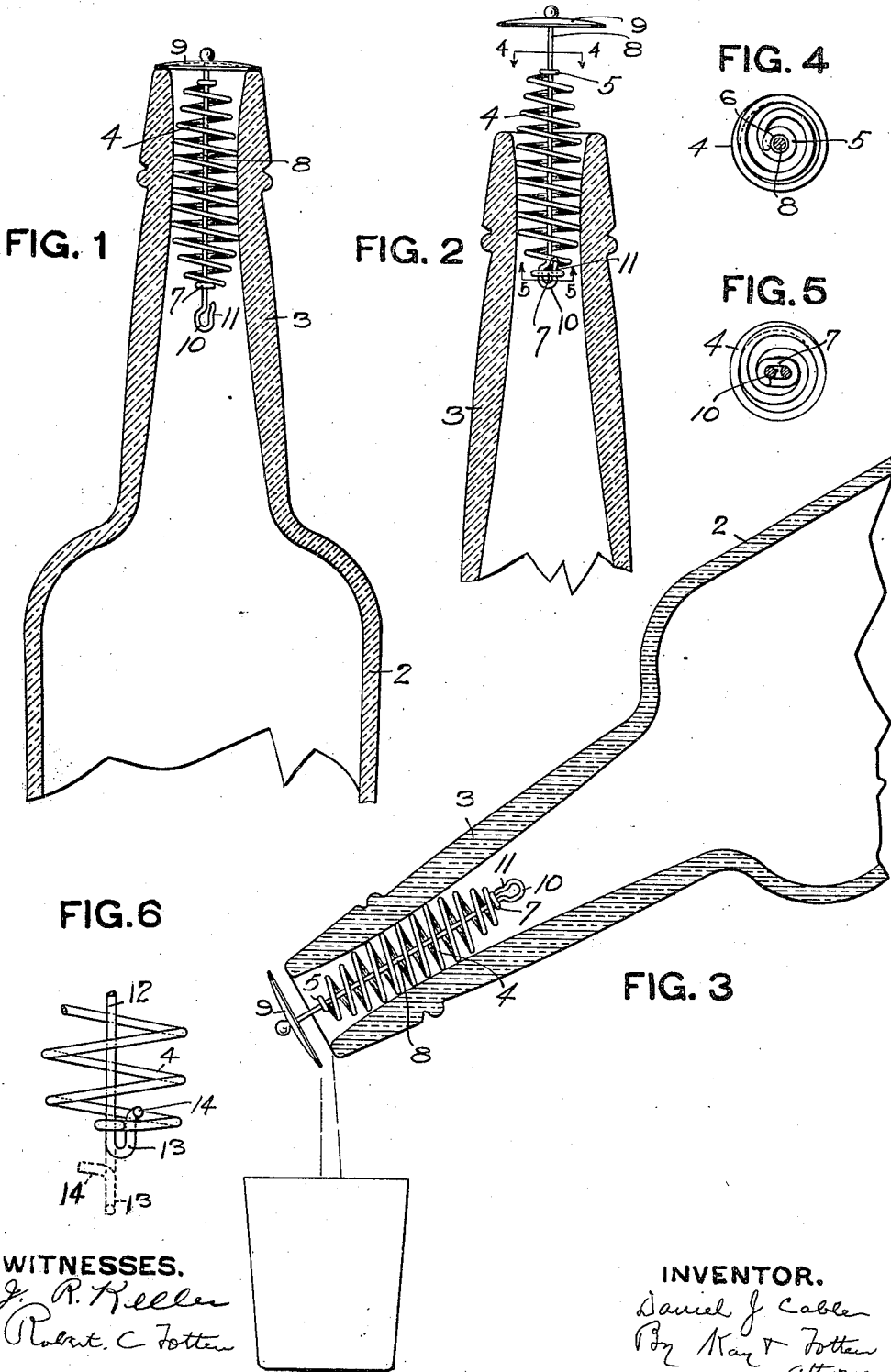


D. J. CABLE.
BOTTLE STOPPER.
APPLICATION FILED NOV. 21, 1911.

1,044,016.

Patented Nov. 12, 1912.



WITNESSES.
J. R. Keller
Robert C. Fother

INVENTOR.
Daniel J. Cable
By Kay & Fother
Attorneys

UNITED STATES PATENT OFFICE.

DANIEL J. CABLE, OF PITTSBURGH, PENNSYLVANIA.

BOTTLE-STOPPER.

1,044,016.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed November 21, 1911. Serial No. 661,559.

To all whom it may concern:

Be it known that I, DANIEL J. CABLE, a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bottle-Stoppers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a stopper for bottles.

This invention has for its object to provide a new and improved means for protecting the contents of bottles generally.

When it becomes necessary to draw the cork from a bottle it is done with some difficulty due to the compression of the cork when the bottle is filled. When the cork is withdrawn, it expands to its original size and it is then too large to be freely introduced by hand into the bottle. Besides there are many reasons why it is not desirable to use corks for bottles where liquors, wines, etc., are served, as the corks become contaminated and accumulate foreign substances and are handled by all hands.

My invention obviates all these objections and furnishes a means to close the tops of bottles in a clean, sanitary and inexpensive way. Furthermore, the stopper, being made of metal makes it possible without injury to the same, to plunge it into scalding water, thus making it chemically clean in an instant.

To these ends, my invention consists in a novel construction for a bottle-stopper which will be fully explained and broadly claimed in the claims.

In the accompanying drawing, Figure 1 is a sectional view of the upper portion of a bottle showing my invention applied thereto. Fig. 2 is a like view showing my improved stopper in the act of being inserted in the bottle; Fig. 3 is a like view showing the bottle tilted for pouring the contents therefrom; Fig. 4 is a section on the line 4-4 Fig. 2. Fig. 5 is a section on the line 5-5 Fig. 2 and Fig. 6 shows a modified form of my invention.

Referring to the drawing, the numeral 2 designates a portion of a bottle with the pouring neck or spout 3. The construction or shape of the bottle, however, forms no part of my invention, and its use is not limited to any particular shape or size.

The numeral 4 designates a spiral member formed of wire having a proper resiliency. Steel wire may be employed which may be coated with German silver, or other suitable metal, to prevent corrosion. This coil tapers from the mid-portion in both directions and at its upper end the last coil forms the small ring 5 with the opening 6. At the opposite end of the coil the metal is bent to form the oblong coil 7 as indicated in Fig. 5.

Extending through the spiral member 4 is the rod 8 which carries at its upper end the stopper or cap 9. This rod extends down through the opening 6 at the upper end of the spiral and at the lower end, said rod is provided with the hooked portion 10 extending below the lower end of the spiral. This hooked portion 10 is provided with the slight recess 11 which is engaged by the oblong portion 7 of the spiral when the rod is drawn up into the spiral in the position indicated in Fig. 2 where the spiral is being inserted into the neck of the bottle. It is apparent that by drawing up the rod 8 the hooked portion is drawn up into the oblong coil 7 and when drawn up therein as indicated in Fig. 2 the spring of the metal will hold the rod in this position, and the spiral may then be forced down into the neck of the bottle by holding the cap portion 9 in the hand and forcing the spiral down into the bottle-neck. When the spiral has been inserted in this manner, the resiliency of the metal will act to hold the spiral securely within the neck of the bottle so as not to be dislodged therefrom during the pouring operation, and the rod 8 is then free from engagement with the spiral so as to assume the position indicated in Fig. 1.

When the bottle is tilted in pouring the cap or stopper 9 will move by gravity away from the upper end of the bottle and the contents can be poured into a glass or other receptacle to receive the same as indicated in Fig. 3. The rod 8 has a certain amount of longitudinal play in the spiral which is controlled by the distance between the hooked portion 10, and the lower end of the spiral as indicated in Fig. 3. The distance which the cap 9 may extend from the upper end of the bottle can be controlled by the position of the hooked portion 10, and the distance of said hooked portion from the lower end of the spiral may be regulated ac-

cording to the size of the opening it is desired to have from which the contents of the bottle is discharged.

To remove the stopper to fill the bottle or clean same, all that is necessary is to take hold of the top cap and by a slight pull the convolutions of the spiral will elongate and release its hold on the inside wall of the bottle neck so that said stopper can be withdrawn without difficulty. When the bottle is brought back to normal position, the cap of its own weight drops back into the position indicated in Fig. 1, completely closing the bottle. As a consequence the cap does not have to be handled by any one except on inserting the spiral in the bottle or removing it therefrom. I therefore provide a sanitary stopper which does not become contaminated by handling or by foreign matter becoming attached thereto.

In Fig. 6 I have illustrated a modified form of my invention in which the lower end of the rod 12 is bent up to form the hooked portion 13 and then the lower end of the rod is bent out substantially at right angles as at 14. By this arrangement the rod is pulled up until the portion 14 passes up above the lowest coil, whereupon said rod is drawn so as to bring the outwardly extending portion 14 into engagement with the lowest coil thereby locking the rod against movement in the coil and providing for the insertion of the coil within the bottle-neck.

The forms exhibited and mechanical details shown in the drawing are the preferred ones, but various changes may be made without departing from the broad scope of my invention.

What I claim is:

1. A bottle-stopper comprising a spirally wound retaining member tapering in both directions adapted to enter the neck of the bottle, and a gravity operated closing member supported by said retaining member.

2. A bottle-stopper comprising a spirally wound retaining member tapering in both directions, a gravity operated closing member supported by said retaining member,

and means for locking said closing member to said retaining member.

3. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of said retaining member and longitudinally movable therein.

4. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of said retaining member, and longitudinally movable therein, and means for locking said rod to said retaining member.

5. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of said retaining member longitudinally movable therein, and an enlargement at the inner end of said rod adapted to engage the lower coil of said retaining member to lock the same together.

6. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of said retaining member, and a hooked portion at the lower end of said rod adapted to engage the lowermost coil of the spiral.

7. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of the retaining member, the lowermost coil of said retaining member being oblate, and an enlargement at the lower end of said rod adapted to engage said oblate coil.

8. A bottle-stopper comprising a spirally wound retaining member, a closing member, a rod extending therefrom through the coils of the retaining member, the lowermost coil of said retaining member being oblate, and a hooked portion at the lowermost end of said rod adapted to engage said oblate coil.

In testimony whereof, I the said DANIEL J. CABLE have hereunto set my hand.

DANIEL J. CABLE.

Witnesses:

ROBERT C. TOTTEN,
JOHN F. WILL.