D. GENESE.

BOTTLE SEAL SEAT APPLYING DEVICE.

APPLICATION FILED MAY 15, 1907. RENEWED MAR. 31, 1908.

907,489.

Patented Dec. 22, 1908.

Fig. 2.

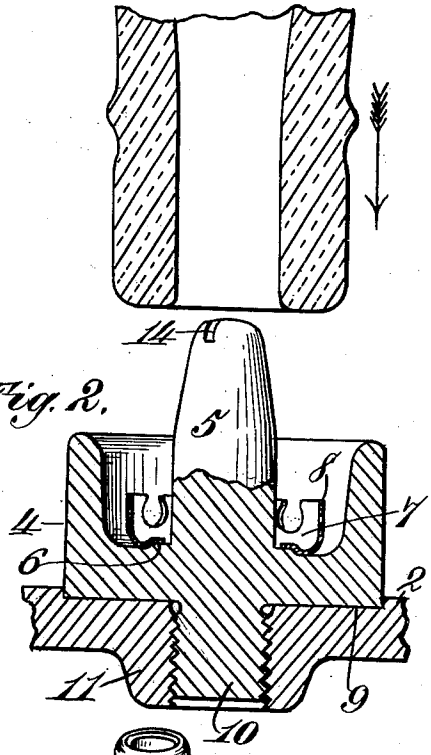


Fig. 3.

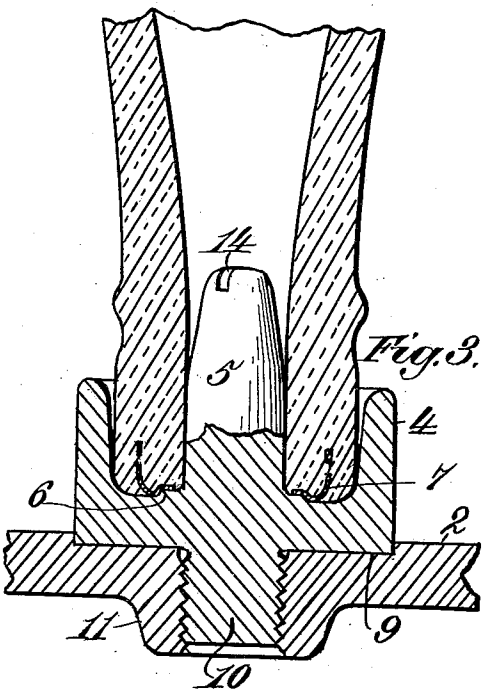


Fig. 4.

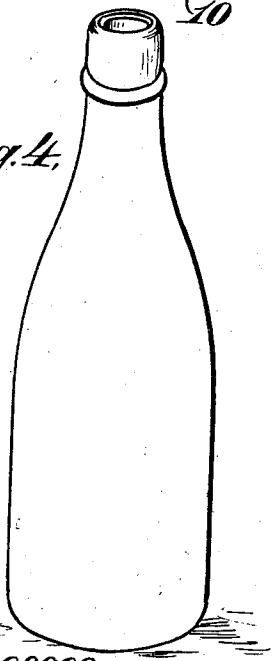
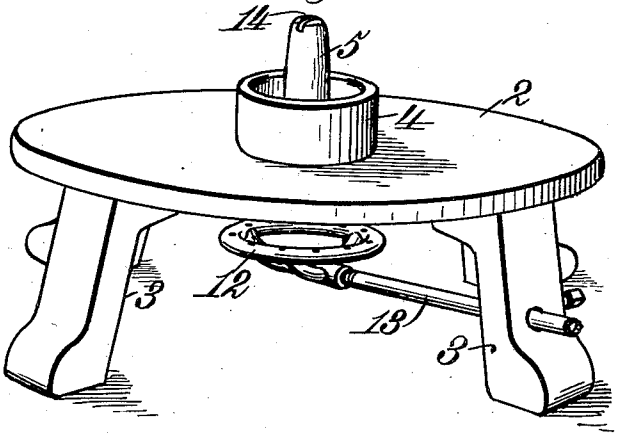


Fig. 1.



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UNITED STATES PATENT OFFICE.

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BOTTLE-SEAL-SEAT-APPLYING DEVICE.

No. 907,489. Specification of Letters Patent. Patented Dec. 22, 1908.

Application filed May 15, 1907, Serial No. 373,805. Renewed March 31, 1908. Serial No. 424,305.

To all whom it may concern:

Be it known that I, DAVID GENESE, a citizen of the United States, residing at Baltimore city, and State of Maryland, have invented new and useful Improvements in Bottle-Seal-Seat-Applying Devices, of which the following is a specification.

This invention relates to what I shall term a bottle seal seat applying device.

In Letters Patent No. 834,719, granted to me October 30, 1906, and entitled "Hermetic sealing means," I show a bottle the neck of which is provided with what I term a seat for a bottle seal. The present machine is primarily intended for applying such a seat to a bottle, and this operation the machine does in a simple, rapid, and effective manner without injuring the bottle.

In the drawings accompanying and forming part of this specification I have shown in detail one advantageous form of embodiment of the invention which, to enable those skilled in the art to practice the same, will be set forth in detail in the following description, while the novelty of the invention will be included in the claims succeeding said description.

Referring to said drawings: Figure 1 is a perspective view of the device. Figs. 2 and 3 are sectional details on an enlarged scale of a portion of the body, the cup-shaped member and spindle and showing the procedure followed in applying the seat to the bottle. Fig. 4 is a perspective view of the bottle with the seat thereon. Figs. 2 and 3 are upon a very much larger scale than Fig. 1.

Like characters refer to like parts throughout the several figures.

The device within the scope of my claims may be of any desirable construction; as shown it involves in its make-up a body as 2 which is in effect a table, said body or table being furnished with several depending legs as 3 to uphold the body and separate it from the floor or other foundation on which the legs rest.

The seal to which I refer is preferably applied to the neck of the bottle and while the bottle is in a plastic or semi-plastic condition, and I prefer to provide a cup-like member as 4 to receive the bottle neck during the application of the seat thereto. To properly center said neck with respect to the said seat I may provide a spindle as 5 consisting in the present case of a projection rising from the bottom of the chamber or cavity of the said cup-like member 4. If desired, the said spindle and cup-like member may be made integral; in fact, this is the preferred construction. The bottom of the cavity or chamber of the cup-like member 4 is so shaped as to adapt it to the particular form of seat to be applied to the bottle. In the present instance said bottom is provided with a bulge or shoulder as 6 of annular form surrounding the base of the spindle 5 and which fits an annular channel in the seal seat 7 to prevent lateral motion of said seat, as clearly shown in Figs. 2 and 3. The said seat is furnished with a flange as 8 which is adapted to be forced into the stock of the bottle-neck when the latter is substantially plastic, and this result can be achieved by downward pressure on the bottle, as shown by the arrow in Fig. 2.

The invention does not reside in the seat, but in a device whereby the seat can be connected with the bottle. In the present case the diameter of the chamber or cavity of the cup-like member 4 is of such length that the flange 8 is spaced from the side wall or lateral surface of said chamber or cavity, by reason of which said flange can be thrust into the neck of the bottle between the inner and outer surfaces thereof, as shown in Fig. 3.

The under portion of the cup-like body 4 is fitted in a counter-sink as 9, while from the bottom of said member 4 there is shown as depending an externally-threaded shank 10 which is preferably integral with the said part 4 and which is in threaded engagement with an opening formed substantially in the center of the body or table 2 and in the boss or hub 11 depending from the under side of said body or table 2. I prefer to mount below the said body or table 2 a gas burner as 12, and the same is shown as being circular for the purpose of surrounding the boss or hub 11 so that the jets of flame from the burner can heat not only the boss, but the table 2, cup-like member 4, and spindle 5, all of which are preferably constructed of metal so as to be readily heated. When thus heated the parts serve to maintain the bottle in a plastic condition while the seat is being applied thereto. The burner 12 constitutes one suitable agent for creating the heat for the purpose mentioned; some other form of heater might be as effectively employed. When, however, a gas burner is utilized for the purpose mentioned, it may be supplied with the necessary gas by means of a pipe as 13. I use the term "gas" in a broad sense

to include all kinds of ignitable heating fluids. The stem 5 which enters the neck of the bottle has at its top a slot as 14 to receive a screw-driver or equivalent implement for fitting the shank 10 to the table or body 2 or until the member 4 bottoms in the countersink 9, the wall of which maintains said member 4 firmly against lateral movement and takes off the side strain applied to the threaded shank 10. The cavity or chamber of the cup-like member 4 agrees substantially in width with the width of the neck of the bottle to which the seat is to be applied, and the maximum diameter of the spindle 5 is approximately equal to the maximum diameter of the opening of said neck. Said spindle, however, tapers inward toward its upper end so as to facilitate its entrance into said mouth when the bottle is moved downward.

In operation the gas issuing from the burner 12 is initially lighted to heat up the several parts to the requisite temperature, after which the seat 7 is slipped over the spindle 5 until it rests on the bottom of the cavity or chamber of the member 4 or until the shoulder 6 is received in the channel of said seat, as previously described. This act positions the seat with respect to the bottle. The bottle then in a plastic condition is inverted, if it has not already been inverted, and is lowered until the spindle 5 enters the bottle-mouth. The downward movement of the bottle thus inverted is continued until the upper edge or top of the bottle strikes the bottom of the chamber of said member 4. During the final downward movement of the bottle the flange 8 of the seat 7 is thrust into the soft stock or glass of the bottle so as to connect the seat 7 thereto. The bottle with the seat in place is shown in Fig. 4. The lateral or side surface of the interior of the member 4 prevents outward expansion of the soft bottle, while the spindle 5 prevents inward expansion thereof, so that, although the bottle is in a soft or plastic condition while the seat is being applied thereto, it is in no wise distorted or injured during this operation. When the downward pressure has been completed, the bottle can be lifted from place and can be allowed to cool, annealed or be otherwise treated.

What I claim is:

1. A device of the class described including a cup-like body to receive a bottle-neck and to support a seat, and a spindle projecting from the cavity of the cup-like part to enter the mouth of said bottle, said cup-like part having an annular shoulder surrounding the base of said spindle.

2. A device of the class described including a cup-like body to receive a bottle-neck and to support a seat, a spindle projecting from the cavity of the cup-like part to enter the mouth of said bottle, and means for heating said cup-like part and spindle.

3. A device of the class described including a supporting body, a cup-like part fitted to the body and provided with a spindle rising from the bottom of the cavity thereof to enter a bottle-neck mouth, said cavity serving to receive the bottle-neck and to also support a seat, and a burner under said body.

4. In a device of the class described, the combination of a supporting body, a cup-like member having a depending shank tapped into said body, said cup-like member being adapted to receive the neck of a bottle and having a spindle rising from the bottom thereof to enter the mouth of the bottle, and a burner under said supporting body.

5. In a device of the class described, the combination of a supporting body having a depending boss, a cup-like body provided with a depending threaded shank in screw-threaded engagement with said boss, said cup-like body being arranged to receive a bottle-neck and to support a seat, the bottom of the cavity thereof having a perpendicular spindle to enter the mouth of the bottle, and an annular burner surrounding said boss.

6. In a device of the class described, the combination of a supporting body having a countersink in its upper side, and a cup-like body fitted into said countersink and provided with a shank extending into said supporting body, the cup-like body being adapted to receive a bottle-neck and having a spindle to enter a bottle-mouth, rising from the bottom of its cavity or chamber.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DAVID GENESE.

Witnesses:
HARRY M. LINDSAY.
GEO. CAREY LINDSAY.