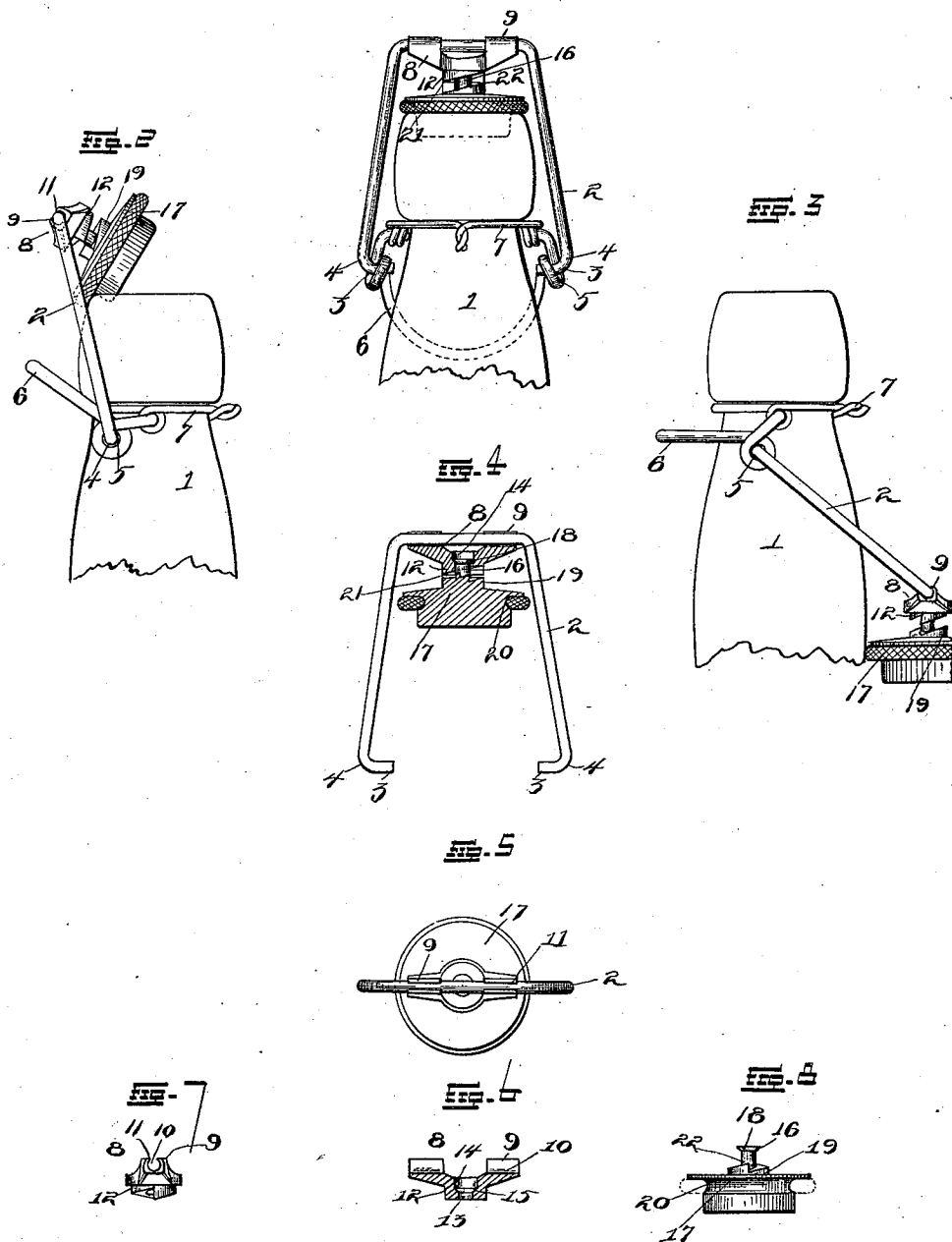


(No Model.)

G. C. VOLLMER.
BOTTLE STOPPER.

No. 546,720.

Patented Sept. 24, 1895.



Witnesses

Geo. F. Lane
A. Conroy.

Inventor

Gustave C. Vollmer

By Alfred A. Eicher Atty.

UNITED STATES PATENT OFFICE.

GUSTAVE C. VOLLMER, OF ST. LOUIS, MISSOURI.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 546,720, dated September 24, 1895.

Application filed May 22, 1895. Serial No. 550,173. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE C. VOLLMER, a resident of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in bottle-stoppers; and it consists in the novel arrangement, construction, and combination of parts, as will be more fully hereinafter described, and set forth in the claims.

The object of my invention is to so construct a bottle-stopper that it may always be in connection with the bottle and applied and removed when desired.

It is also so constructed that one needs no corkscrew, punch, or any other means by which to remove the cork or stopper, as at present done in the bottles now on the market.

Referring to the drawings, Figure 1 is a front view of my complete invention applied to a bottle. Fig. 2 is a side view of the same, showing the stopper partly open. Fig. 3 is a side view of the same with the stopper entirely removed therefrom. Fig. 4 is a detail vertical sectional view of the stopper attached to the yoke. Fig. 5 is a top plan view of the same. Fig. 6 is a vertical section of the casting which is secured to the yoke. Fig. 7 is an end view of the same. Fig. 8 is a detail end or side elevation of the stopper detached from the casting.

In the drawings, 1 indicates an ordinary bottle, to which my device is applied, which consists of a wire 2, acting as a yoke, having its ends 3 turned or formed as hooks 4, which are held and guided in eyes 5, formed in a lever-wire 6, which is held and pivotally secured in a neck-wire 7, firmly held to the neck of the bottle, so as to prevent the said parts from becoming disconnected therefrom when the stopper is closed and open.

8 is a casting, which is pivotally secured to the upper horizontal portion of the yoke and held thereto by ears 9, formed on the upper portion of said casting 8. When said wire 2 is placed within the groove 10 between the ears 9, they are then bent inward at their upper ends, as shown by the numeral 11, thereby partly inclosing the wire 2, thus leaving

enough play, so that said casting may freely swing. At the lower portion of said casting 2 and cast integrally therewith is a boss or projection 12, having its under surface provided with two inclines, producing the same effect as a cam. Through the center of said casting 8 and about the depth of the boss is a hole or depression 3 for the insertion of a pin. Immediately above the hole 13 is a large hole 14, having its lower surface countersunk, as shown at 15, so as to permit the head of the pin to rest and also to prevent the pin from becoming disconnected therefrom.

16 is the pin previously mentioned. Said pin is cast integrally with the stopper-plate 17 and is straight and when entered into the casting 8 is there riveted integrally at its upper end with a head 18, so shaped to snugly fit into the large opening or hole 14 of the casting 8. Around the pin 16 and upon the surface of the stopper-plate is a boss 19, (see Fig. 8,) which is similar to the boss 12, formed on the casting 8. Said boss 19 has also its surface inclined and meshes with the inclines upon the boss 12. The stopper-plate 17 is provided around its surface with a groove 20, in which a rubber washer or ring or any other material is placed, so as to prevent leakage when said stopper is closed. The inclined boss 19 is much smaller in diameter than the stopper-plate 17, measuring about one-third, and said boss 12 being the same in diameter. The reason said boss is so much smaller than the stopper-plate is so that it will not turn the stopper when the casting 8 is being turned upon the stopper-plate.

By experimenting it has been found that if the inclined bosses were made larger or about the diameter as shown in patents to J. Rockenwalt, dated October 20, 1885, No. 328,520, W. Winkel, dated July 13, 1880, No. 229,850, W. G. Steinmetz, dated October 1, 1878, No. 208,647, and F. H. Brady, dated October 30, 1877, No. 196,624, of record, they have a tendency to move the stopper in the mouth of said bottle, thereby wearing out the rubber washer or packing material when the upper incline is being slid upon the lower. By making the incline bosses as small as possible they have a better effect and do not move the aforesaid plate when in operation in tightening.

I am well aware of the fact that there are

patents allowed with inclines, as are shown in patents before stated, but all have the inclines on the outer edge of the stopper.

By using a casting 8 I prevent the wire on yoke from becoming twisted when a pressure is placed upon the yoke in order to tighten the stopper for shipping or storing.

It has been found that placing the wire or yoke through a small opening, as shown in patent to Winkel, dated July 13, 1880, No. 229,850, it has a tendency to twist said wire, as there is lost motion and the bearing surface is very small.

The operation of my invention is as follows:
 15 When the bottle is filled the stopper and its parts are in the position as shown in Fig. 3. It is then placed as shown in Fig. 2, and finally as in Fig. 1. It is now ready for tightening. The stopper-plate being in and upon the mouth of said bottle the lever-wire is then pressed downward against the neck of the bottle and the wire is then moved around a sufficient distance until the lower point 21 of the upper incline boss 12 is at its highest point 22 of the lower incline boss. When this is done it is firmly sealed for shipping. When desired to uncork said bottle the wire 2 is moved in the opposite direction, as in tightening, when the lever is raised, and thereby raising the stopper from its normal position.

Having fully described my invention, what I claim is—

1. In an improved bottle stopper comprising a casting, having at its under side an incline, ears formed at the end of the upper portion, a wire placed between said ears, said ears bent over said wire to hold the same, said incline meshing with a like incline upon the top of the stopper plate, substantially as shown and described.

2. In an improved bottle stopper comprising an elongated casting, said casting provided at its upper ends with ears, a groove formed in said casting, a wire placed in said groove, and formed as a yoke, said ears bent over said wire and holding same therein, a hole formed in the center of said casting for the insertion of a pivot, a boss formed on the under side of said casting and having an inclined face, said inclines meshing with an incline upon the stopper plate, substantially as shown and described.

3. In an improved bottle stopper compris-

ing a casting of an elongated form, said casting formed with ears so as to clamp over a wire, a boss formed at the under side of the casting and having inclines, a stopper plate having an inclined boss upon its upper surface, a pin formed in the boss, and adapted to fit in an opening in the casting, and hold said casting thereto, substantially as set forth.

4. In an improved bottle stopper, composed of two parts, the upper part or casting having at its lower surface an inclined boss 12 ears provided at its upper corners, for the purpose of lapping over and held to a wire 2 a stopper, having at its upper surface an incline boss, a pin located in the center of said boss, and adjustably held in an opening in the casting, for the purpose as shown and described.

5. In an improved bottle stopper, comprising a stopper plate, a boss or inclined projection, located at its upper surface, and about one-third its diameter, a pin forming part of said boss, and located in the center thereof, and loosely connected to a casting which is movably secured to a yoke, a boss or inclined projection secured to its under surface, having a tendency to mesh with the other inclined projection and operated by said yoke, thereby firmly sealing said bottle when the lowest point of the upper incline is upon the highest point of the lower incline, substantially as shown and described.

6. In an improved bottle stopper, the combination of a stopper plate, a boss upon said plate, provided with inclines, a pin in the center of said boss and forming part thereof, said pin loosely secured in a casting, a boss located at the under surface of said casting, said boss also provided with inclines which mesh with the inclines upon the lower boss, ears located upon the upper portion of said casting, a wire or yoke placed between said ears, and held therein by said ears, said yoke pivotally secured to a lever wire for the purpose of locking the same, substantially as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

GUSTAVE C. VOLLMER.

Witnesses:

ALFRED A. EICKS,
 GEO. F. LANE.