W. MORGENSTERN, dec'd.

E. Haeuser, Adm'r.

BOTTLE-STOPPERS.

No. 194,427. Patented Aug. 21, 1877.

Fig. 1

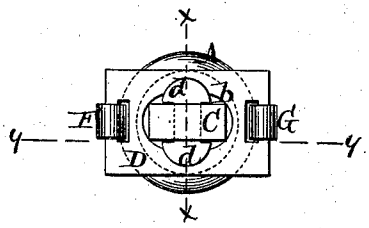


Fig. 2.

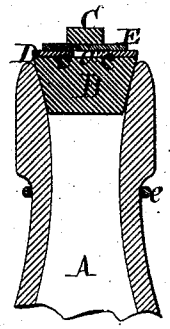


Fig. 3.

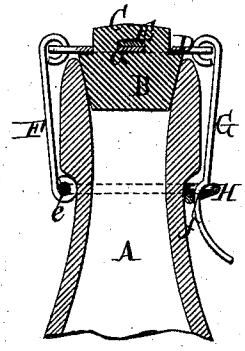


Fig. 4.

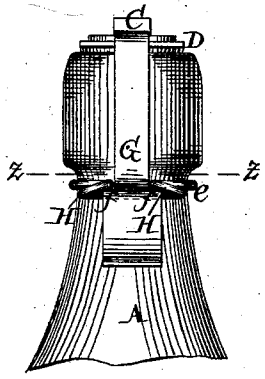


Fig. 5.

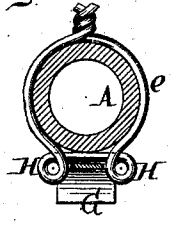


Fig. 6.

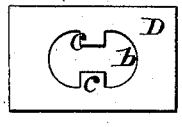


Fig. 7.

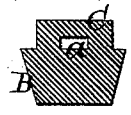
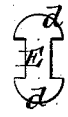


Fig. 8.



Witnesses.
Otto Hufeland,
Chas. Wahlers.

Inventor.
Edward Haeuser
Administrator of the estate of
William Morgenstern deceased
by Van Santvoord & Hauff
his attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD HAEUSER, OF NEW YORK, N. Y., ADMINISTRATOR OF WILLIAM MORGENSTERN, DECEASED.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **194,427**, dated August 21, 1877; application filed July 19, 1877.

To all whom it may concern:

Be it known that WILLIAM MORGANSTERN, formerly of the city, county, and State of New York, deceased, did invent a new and useful Improvement in Bottle-Stoppers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan or top view of a bottle-stopper containing this improvement. Fig. 2 is a vertical section thereof in the plane of the line *x x*, Fig. 1. Fig. 3 is a like section in the plane of the line *y y*, Fig. 1. Fig. 4 is a side elevation of the same. Fig. 5 is a horizontal section in the plane of the line *z z*, Fig. 4. Fig. 6 is a plan view of the plug-supporting plate detached. Fig. 7 is a vertical section of the plug detached. Fig. 8 is a plan view of the retaining-bar.

Similar letters indicate corresponding parts.

This improvement relates to stoppers for bottles containing effervescent liquids; and consists in a plug having a head which is provided with a transverse opening, in combination with a plug-supporting plate having a slot for the reception of said head of the plug, the slot being provided with spurs on its opposite sides adapted to catch in said transverse opening of the head, whereby the plug and the supporting-plate are firmly connected together. It consists, also, in a plug having a head which is provided with a transverse opening, as aforesaid, in combination with a supporting-plate having a slot for the reception of the head of the plug, and of a retaining-bar having enlargements at each end, and which is adapted to be passed through said transverse opening in said head, so that by its enlargements the retaining-bar is firmly held in place, while by means thereof the plug is firmly connected to the supporting-plate; further, in the combination of all the features above enumerated—namely, a plug having a head which is provided with a transverse opening, a supporting-plate having a slot for the reception of said head, the slot being provided with spurs on its opposite sides, adapted to catch in said transverse opening of the head, and of a retaining-bar which is adapted to be passed through said transverse opening of the head, and to be fastened therein either by enlargements at each end or by other means—whereby a most effective connection of the plug and the supporting-plate is obtained. It consists, also, in the combination of a plug-supporting plate with a link for connecting said plate to a neck-band affixed to the bottle to which this stopper is applied, a wire neck-band having two loops adjacent to each other, and a locking-arm which is connected to said supporting-plate and provided with shoulders adapted to catch under said loops of the neck-band, whereby a simple and effective device is obtained for locking the parts of this stopper to the bottle.

In the drawings, the letter A designates the neck of a bottle to which this stopper is applied, and B is the plug of the stopper. This plug is preferably made of india-rubber, and it has a head, C, which is made in one piece therewith, and provided with a transverse opening, *a*. (See Fig. 7.) D is the plug-supporting plate, in the central portion of which is formed a slot, *b*, of sufficient size to admit the head C of the plug, the slot having spurs *c c* on the opposite sides thereof. (See Fig. 6.) The letter E designates a retaining-bar, on the opposite ends of which are formed enlargements *d d*, this bar being composed of a piece of sheet metal cut out to the proper shape. The head C of the plug is inserted in the slot *b* of the supporting-plate in such a way that the spurs *c c* catch in the transverse opening *a* of the plug, and then the retaining-bar E is forced through said opening *a* so as to bring its enlargements *d d* on opposite sides of the head C, as seen in Fig. 1. Either the spurs *c c* or the retaining-bar E is adapted to hold the head C in place, and thus connect the plug B to the supporting-plate D, while by the employment of said spurs, as well as the retaining-bar, this purpose is accomplished in the best possible manner. By the enlargements *d d* the retaining-bar E is prevented from shifting; but this purpose can also be effected in other ways.

The letter F designates a link, which is hinged at one of its ends to the supporting-plate D, while at its other end it is hinged to a band, *e*, secured to the bottle-neck A. This

link F is hinged to one edge of the supporting-la tD , and to the opposite edge thereof is hinged an arm, G, which engages with a suitable device combined with the neck-band *e*, and thus serves to secure the parts of the stopper. The neck-band *e* is composed of a piece of wire, which is bent to form two loops, H H, at adjacent points, and at such parts of the band that the locking-arm G can be brought between said loops. The locking-arm G has shoulders *f f* on its opposite edges, and on such a part thereof relatively to the loops H H that such shoulders can be made to catch under the loops, whereby the arm is firmly locked in position. The loops H H, in conjunction with the shoulders *f f* of the locking-arm, form a very simple and effective fastening for the parts of the stopper.

By hinging the link F and locking-arm G in manner stated, the whole is rendered flexible, so that the plug-supporting plate can be swung back from the mouth of the bottle with facility when the locking-arm is disengaged, while, moreover, by hinging the locking-arm G to the supporting-plate D, instead of to the bottle-neck, it is suspended in a convenient position for engagement with its locking device, when the plug is placed in the bottle.

What is claimed as new, and desired to be secured by Letters Patent, is—

1. In a bottle-stopper, a plug having a head which is provided with a transverse opening, in combination with a plug-supporting plate having a slot for the reception of said head of the plug, the slot being provided with spurs on its opposite sides adapted to catch in said transverse opening of the head, substantially as and for the purpose described.

2. In a bottle-stopper, a plug having a head which is provided with a transverse opening, in combination with a plug-supporting plate having a slot for the reception of said head of the plug, and with a retaining-bar having enlargements at each end, and which is adapted to be passed through the transverse opening in said head, substantially as and for the purpose described.

3. In a bottle-stopper, the combination of a plug having a head which is provided with a transverse opening, a supporting-plate having a slot for the reception of said head of the plug, the slot being provided with spurs on its opposite sides adapted to catch in said transverse opening of the head, and of a retaining-bar which is adapted to be passed through said transverse opening of the head, and to be fastened therein, substantially as and for the purpose described.

4. In a bottle-stopper, the combination of a plug-supporting plate with a link for connecting said plate to the neck-band of the bottle, a wire neck-band having two adjacent loops, and a locking-arm which is connected to said supporting-plate, and provided with shoulders adapted to catch under said loops, substantially as and for the purpose described.

In testimony of the foregoing I have hereunto set my hand and seal this 27th day of June, 1877.

ED. HAEUSER. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.