

No. 608,408.

Patented Aug. 2, 1898.

G. KOCH.

STOPPER FOR BOTTLES OR OTHER RECEPTACLES.

(Application filed Mar. 9, 1898.)

(No Model.)

Fig. 1.

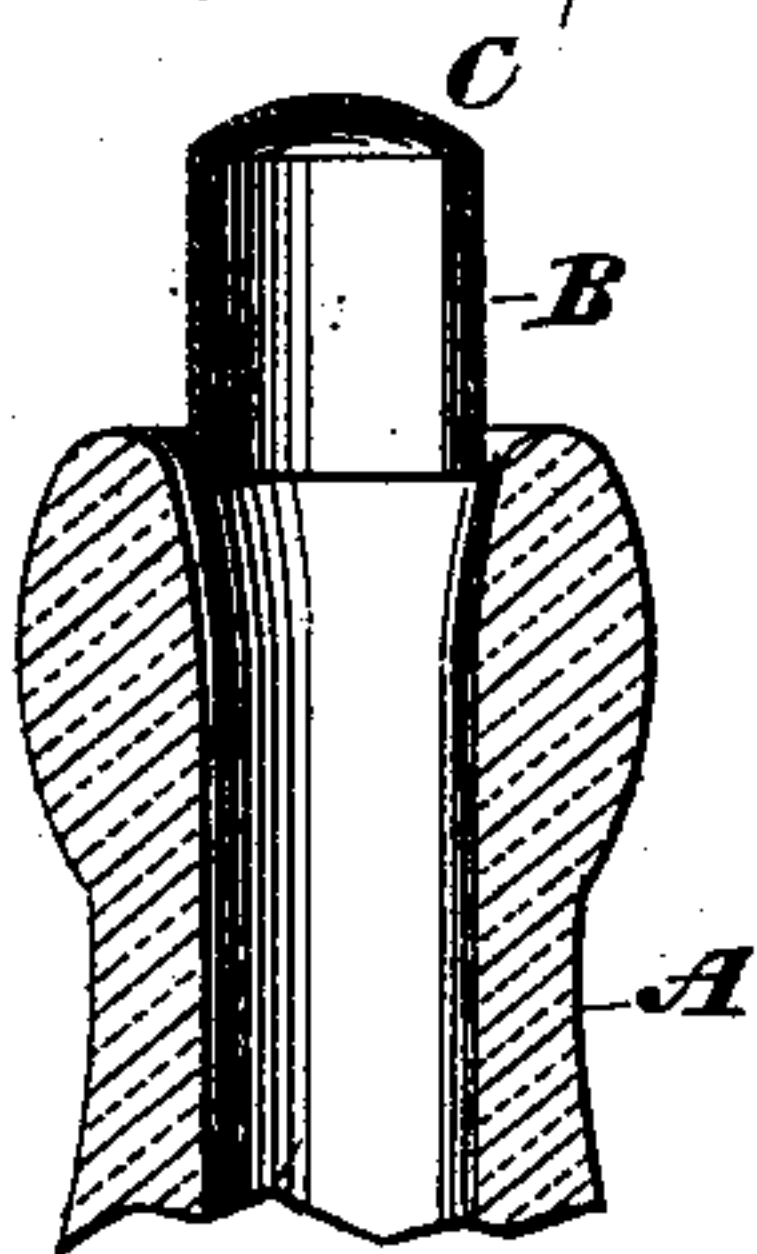


Fig. 2.

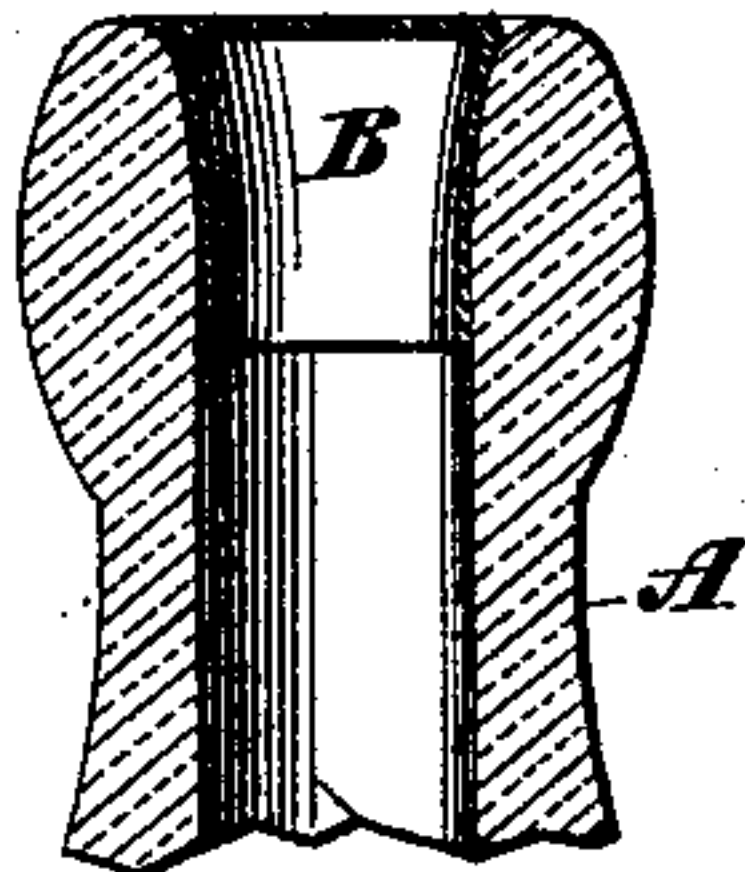


Fig. 3.

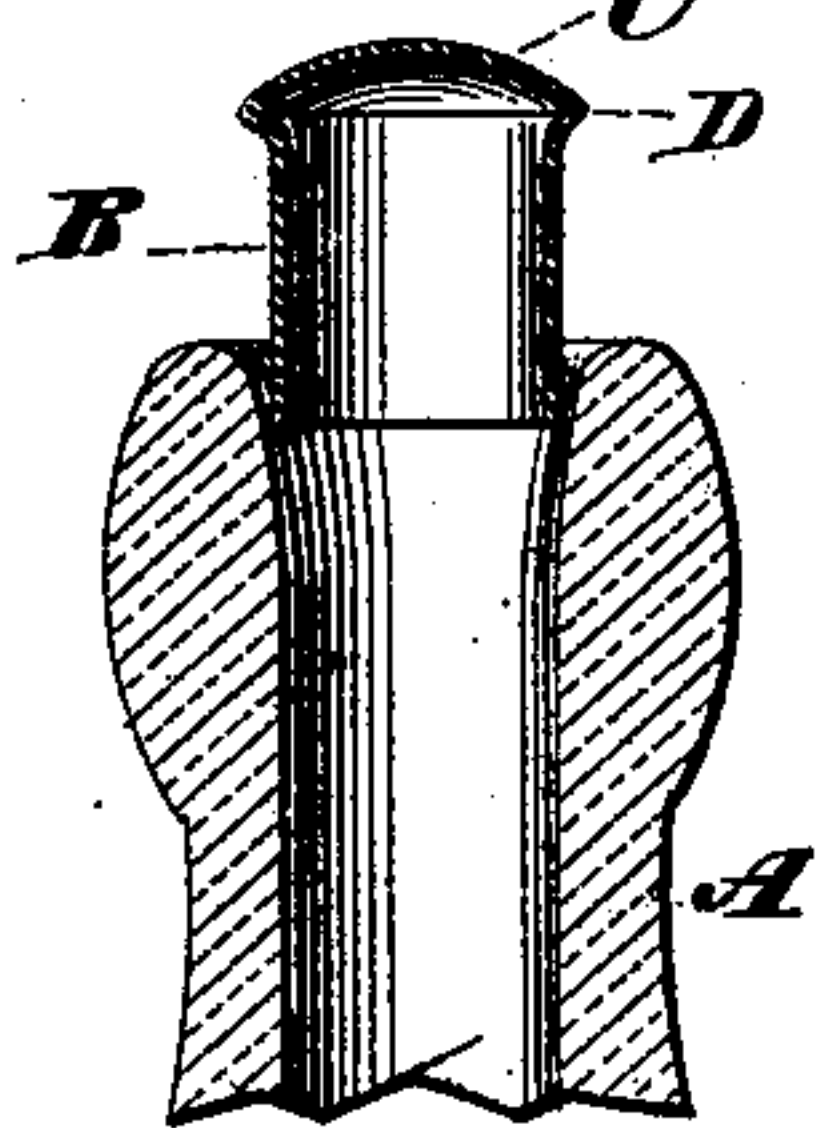
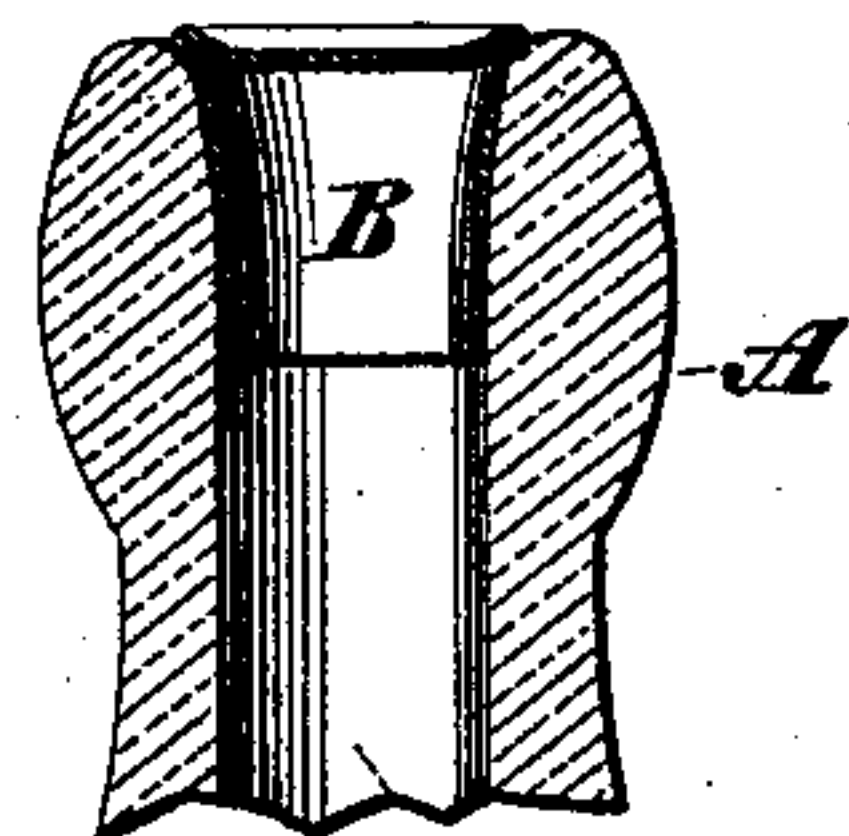


Fig. 4.



WITNESSES:

Gustave Dietrich.
John F. Luntz.

INVENTOR

Gustave Koch,

BY

Chas. C. Yee
ATTORNEY.

UNITED STATES PATENT OFFICE.

GUSTAVE KOCH, OF NEW YORK, N. Y., ASSIGNOR TO HARRY C. BLYE, OF
SAME PLACE.

STOPPER FOR BOTTLES OR OTHER RECEPTACLES.

SPECIFICATION forming part of Letters Patent No. 608,408, dated August 2, 1898.

Application filed March 9, 1898. Serial No. 673,198. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE KOCH, a subject of the Emperor of Germany, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Stoppers for Bottles and other Receptacles, of which the following is a specification.

The invention relates to improvements in stoppers for bottles or other receptacles; and it consists in general terms in a hollow metallic plug or stopper adapted to the neck or mouth of the bottle or other receptacle and having a concavo-convex-shaped end which upon the insertion of the stopper in the neck of the receptacle may be flattened for the purpose of driving the adjacent portions of the side walls of the stopper outward against the said neck in order thereby the more effectually to secure the sealing contact of the outer surfaces of said stopper with the walls of the said neck.

The stopper made the subject hereof is preferably formed in one piece of metal and tubular in cross-section and open at its lower end, while its upper end is of concavo-convex shape. The diameter of the stopper is greater than the narrower diameter of the mouth or neck into which it is forced and the flattening of the concavo-convex end of the stopper locks the latter within the bottle-neck.

The invention will be fully understood from the description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical longitudinal section of the stopper embodying the invention shown in position to be introduced into the neck of an ordinary bottle. Fig. 2 is a like view of same, showing the stopper as having been driven into the neck of the bottle and therein securely held by the flattening of the crown-shaped upper end of the stopper; and Figs. 3 and 4 are views corresponding with Figs. 1 and 2, but showing a slightly-modified form of the invention.

In the drawings, A designates the neck or mouth of a bottle or other receptacle, and B the stopper therefor.

The neck A is of ordinary form, no special

construction being required for the reception of the stopper.

The stopper B comprises the hollow metallic plug, having its upper end closed by a concavo-convex-shaped upper top C. The diameter of the stopper B is proportioned to the diameter of the bottle-neck A, so that force is necessary in the driving of said stopper into the bottle-neck and in compelling the sides of said stopper to enter into sealing contact with the walls of said neck.

In applying the stopper B to the neck A the said stopper is forcibly driven into said neck until the top of the stopper is about on a line with the top of the bottle-neck, and thereupon the top C is flattened, as shown in Figs. 2 and 4, in order to move the adjacent portions of the sides of the stopper outward laterally into more efficient sealing contact with the walls of the neck A and to lock said sides against said neck.

In Figs. 3 and 4 the stopper B is shown as provided along its annular upper edge with the outwardly-projecting bead D.

The stopper constructed as above set forth is capable of properly sealing all usual bottles, and thus avoids any necessity for the special manufacture of bottles possessing peculiar or unusual necks or necks containing grooves, shoulders, screw-threads, or other special formations.

A further result accomplished by the present invention is that the stopper is capable of effectually sealing the bottle or other receptacle without the aid of rubber, cork, and analogous gaskets.

The stopper when driven into the bottle has its sides crowded into the narrower diameter of the bottle-neck and into sealing contact with said neck, due to the contraction and compression of said sides and their outward flexion against the inner walls of the bottle-neck.

The flattening of the concavo-convex-shaped end of the stopper not only carries the outer peripheral edges of said end against the bottle-neck, but acts as a lock or wedge to crowd and retain a substantial area of surface of the sides of the stopper against the bottle-neck, and thus the end and vertical sides of

the stopper combine to produce the sealing effect without the employment of a gasket and without the employment of shoulders, grooves, or other special formations in the neck of the bottle.

5 The sides of the stopper should be substantially vertical in order to attain the best results, since if said sides converge downward and inward unduly they will not enter into sealing contact with the walls of the bottle-neck.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The stopper comprising the hollow ductile plug having the concavo-convex upper end portion and adapted to the diameter of the mouth or neck of the receptacle so that force is required in applying the stopper within said neck, and said concavo-convex upper end portion being capable of being flattened to move the adjacent portions of the sides of the stopper outward laterally and thereby

more securely bind and lock the sides of the stopper against the walls of said mouth or neck; substantially as set forth. 25

2. The stopper for bottles or other receptacles, consisting of the hollow metallic plug open at its lower end and closed at its upper end by a concavo-convex-shaped top, the diameter of said stopper being normally greater than the mouth or neck to receive it, and the concavo-convex-shaped top being adapted to be flattened to thereby more securely bind and lock the sides of the stopper against the walls of said mouth or neck; substantially as set forth. 30 35

Signed at New York, in the county of New York and State of New York, this 7th day of March, A. D. 1898.

GUSTAVE KOCH.

Witnesses:

J. H. REILLY,

ALBERT T. OTTO.