

(No Model.)

C. SCHROEDER.  
CORKING BOTTLES.

No. 505,677.

Patented Sept. 26, 1893.

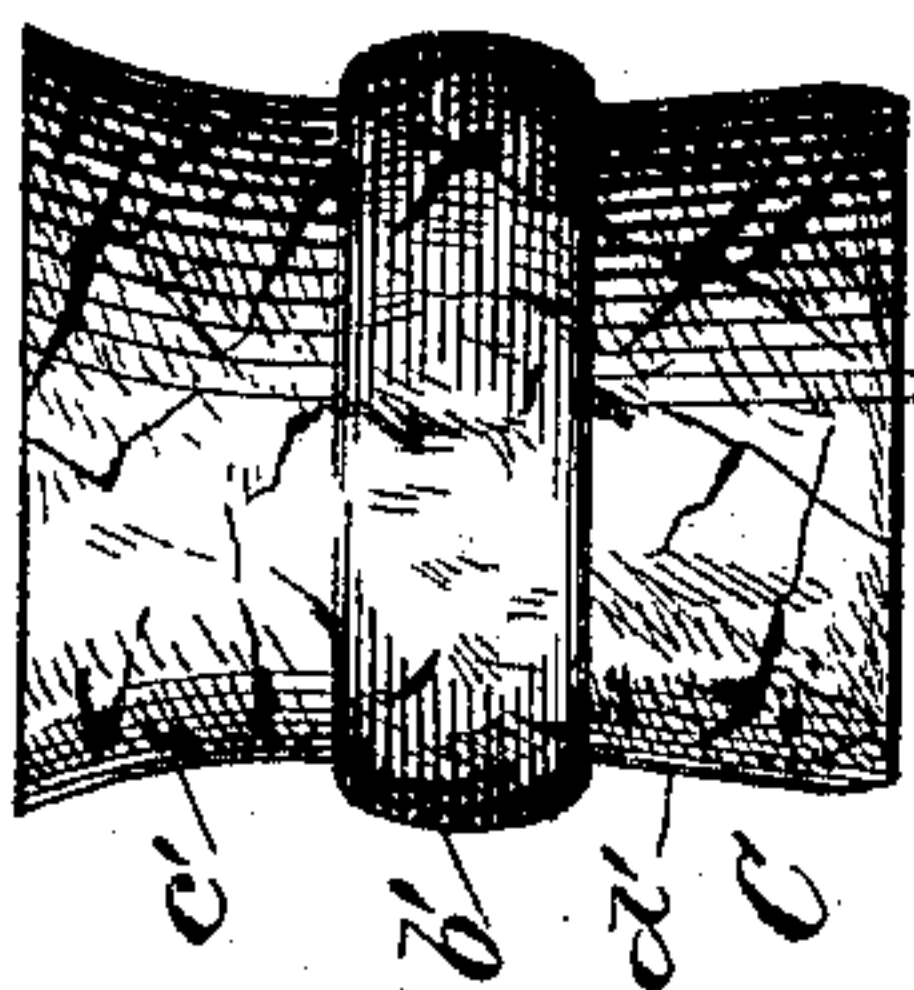


Fig. 3.

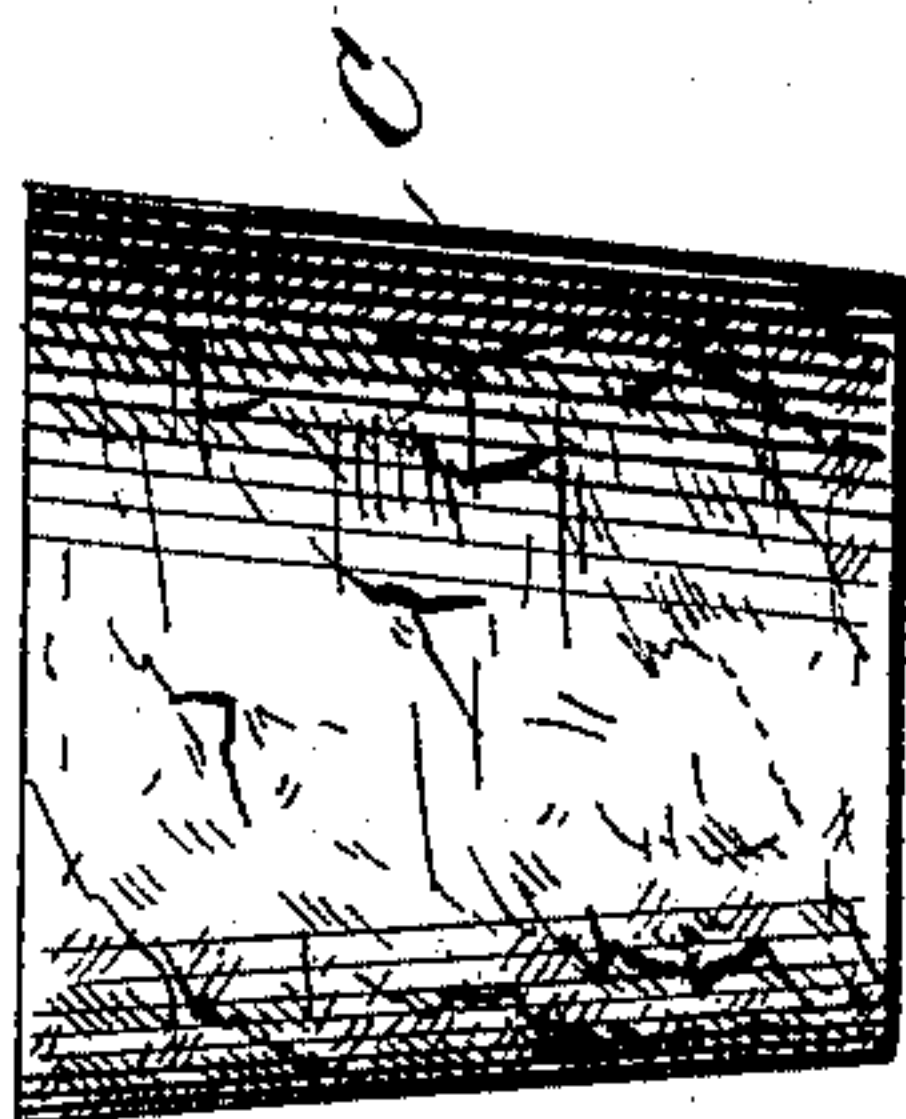


Fig. 2.

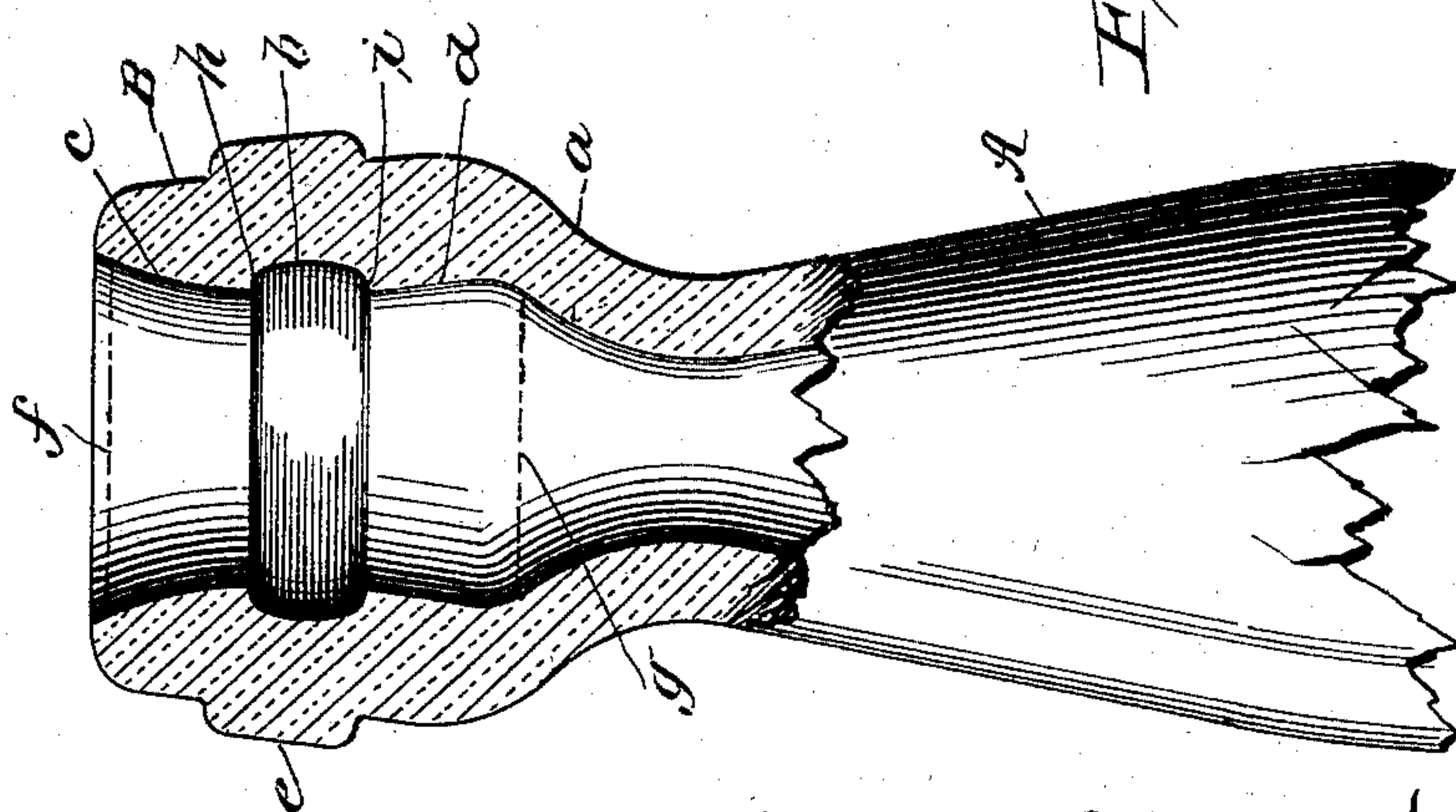


Fig. 1.

Witnesses  
Geo. W. Young,  
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Inventor  
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By H. G. Underwood  
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# UNITED STATES PATENT OFFICE.

CONRAD SCHROEDER, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO ANTON STOLLENWERK AND FERDINAND ACHTENHAGEN, OF SAME PLACE.

## CORKING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 505,677, dated September 26, 1893.

Application filed November 26, 1892. Serial No. 453,271. (No model.)

*To all whom it may concern:*

Be it known that I, CONRAD SCHROEDER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Corking Bottles; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an improvement in corking bottles, and consists in certain peculiarities of construction in the upper part of the bottle, and the combination of a short, yielding, expansive, chemically-neutral stopper therewith, all as will be fully set forth hereinafter, and subsequently claimed.

In the drawings, Figure 1 represents a vertical section of the upper part and neck of a bottle constructed in accordance with my present invention. Fig. 2 represents, in elevation, the form of cork employed by me, before use; and Fig. 3 shows the form of said cork, after it has been expanded into the bottle-head shown in Fig. 1.

By my present invention, I am enabled to perfectly and with certainty stopper a bottle with a short free tapered stopper, preferably formed of ordinary cork (that is, specifically, one made from the bark of the cork-tree) with the use of less of said material than is ordinarily necessary in the stoppering of bottles containing gaseous or effervescing beverages, and without the application of wires, or any other extra fastening, and also without projecting the cork above the top, or below the choke in the neck of the bottle.

A represents the neck of a bottle, such as is ordinarily employed to hold beer, wine, or other potable fluid.

a represents the choke in the bottle-neck; and B, the head of the bottle, the bore of said head being formed, at a point about midway between the choke and top, with a semi-oval concave circumferential groove, *b*, the upper and lower limits of this groove being the narrowest diametrical points of said bore, above which the wall of the bore flares outward and upward, as shown at *c*, while below said groove, the said wall of the bore flares outward and downward, as shown at *d*. On the outside of

the bottle-head, I form a circumferential collar or strengthening band, *e*, in line with the described groove, *b*, and thereby am enabled to utilize this groove (which is the point of greatest strain in both corking and uncorking my bottles) without any weakness at this point, as might exist without my described band *e*.

C designates the cork used by me. It is absolutely essential that the stopper shall be of a yielding and expansive material, which shall also be non-odorous and incapable of giving any taint or taste to the contents of the bottle. Stoppers formed of india-rubber, or of compounds containing the same, have been tried, but result in imparting an unpleasant and unpalatable flavor to the liquids, besides a disagreeable odor, and therefore, cannot be employed, and I have found that stoppers made from the bark of the cork-tree are the best that can be used for the purposes of my present invention. These stoppers decrease in a regular taper, from top to bottom, and short corks of standard sizes may be employed (which is a matter of great economy and convenience) it being only requisite that the smallest diameter of the cork shall be at least equal to the greatest diameter at any part of the bore of the bottle-head, so that, in use, the cork shall not offer any resistance in being driven to place, but will proceed evenly and without catching; the stoppers must be solid and homogeneous throughout, and they will then yield under compression, and instantly expand on passing the points of constriction, so that, when in place (which is just between the dotted lines *f* and *g*, in Fig. 1), the said stopper will fill the entire bore of the bottle-head from a point just below the top to a point just above the choke of the bottle-head, expanding tightly into said groove, and against said annular enlargements. When in this position, the expanded cork will be in the form shown in Fig. 3, and by reason of the band *b'*, the upward flared portion *c'*, and the downward flared portion *d'*, the said stopper will form a perfect lock with the groove *b*, the flared walls *c*, *d* of the bore above and below the same, and the described points of greatest constriction, *h*, *i*, in said bore. As



the expansion of the stopper is perfectly normal and natural, and from the center outward horizontally, there is no danger of the stopper losing the same (as happens frequently  
5 when stoppers are expanded horizontally, by forced vertical contraction, or when they are made hollow and expanded by plugs of varying diameters) but by being a free short stopper of self-yielding and expanding solid  
10 homogeneous chemically-neutral material, all the objectionable extra expanding devices are rendered unnecessary, and hence the cost is greatly lessened, as well as the purity of the liquid in the bottles assured, which latter is  
15 always impaired by the use of the artificially expanding devices referred to, and while my stopper can be extracted with the utmost ease by an ordinary corkscrew, yet, although they are scarcely one-third the length of the ordi-  
20 nary cork-stoppers commonly used for corking bottles containing similar fluids, by reason of the described construction, my bottles will be kept perfectly and safely corked for any length of time desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A bottle provided with an interior concave circumferential groove in the center of its head, and flaring annular enlargements both  
30 above and below said groove, and having a choke or contraction in the bottle-neck, in line with the base of the bottle-head, in combination with a short, free, solid, homogeneous, yielding, inodorous, chemically-neutral stop-  
35 per expanded into said groove and enlargements, and filling the entire bore in the bottle-head from a point immediately below the top to a point immediately above the said choke.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CONRAD SCHROEDER.

Witnesses:

H. G. UNDERWOOD,  
JOHN E. WILES.