

No. 811,876.

PATENTED FEB. 6, 1906.

C. SCHROEDER.

MEANS FOR CORKING OR CLOSING BOTTLES OR OTHER RECEPTACLES.

APPLICATION FILED OCT. 15, 1904.

Fig. 1.

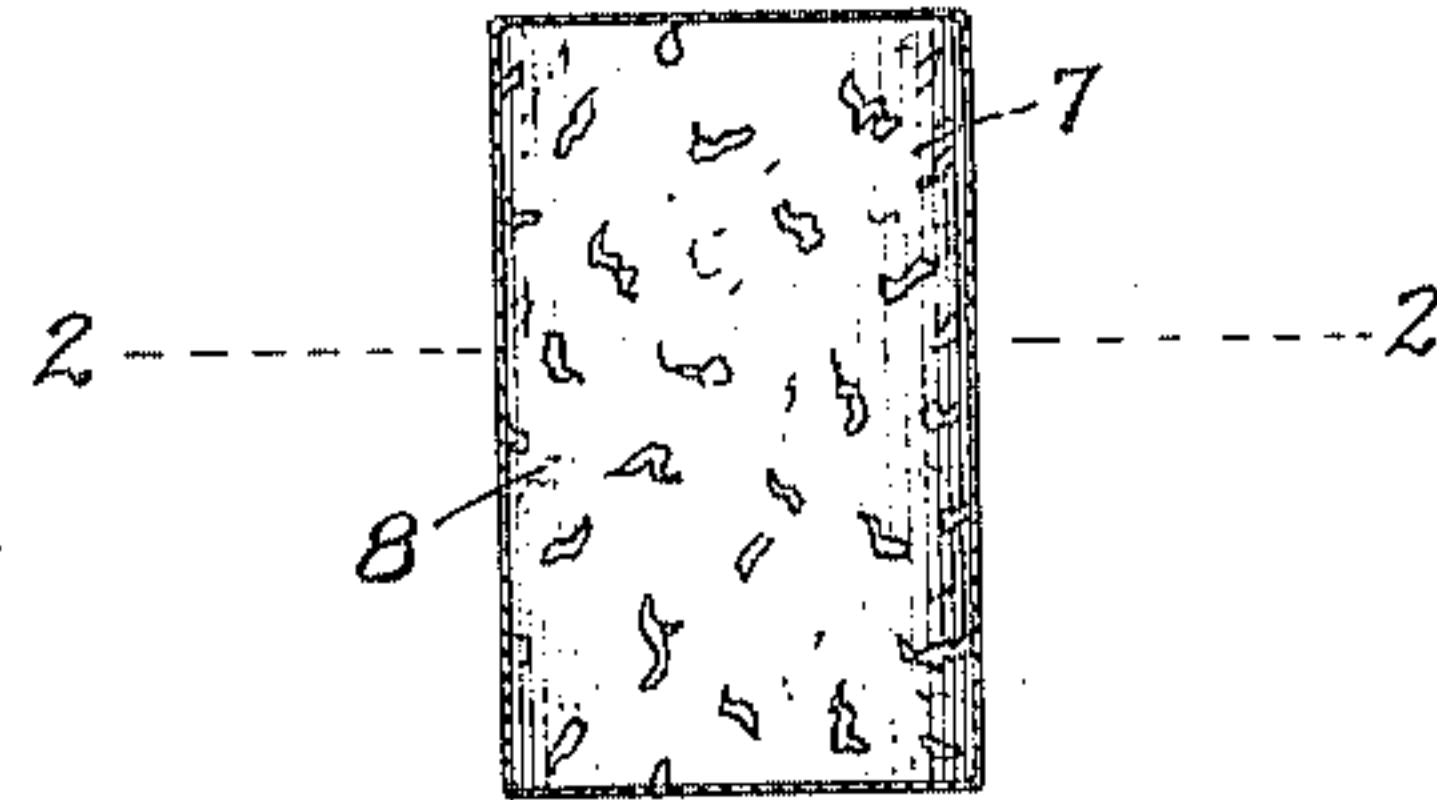


Fig. 2.

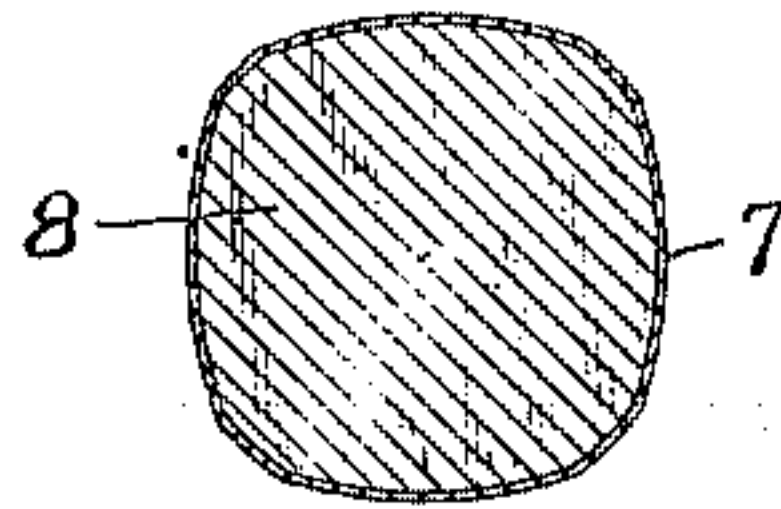


Fig. 3.

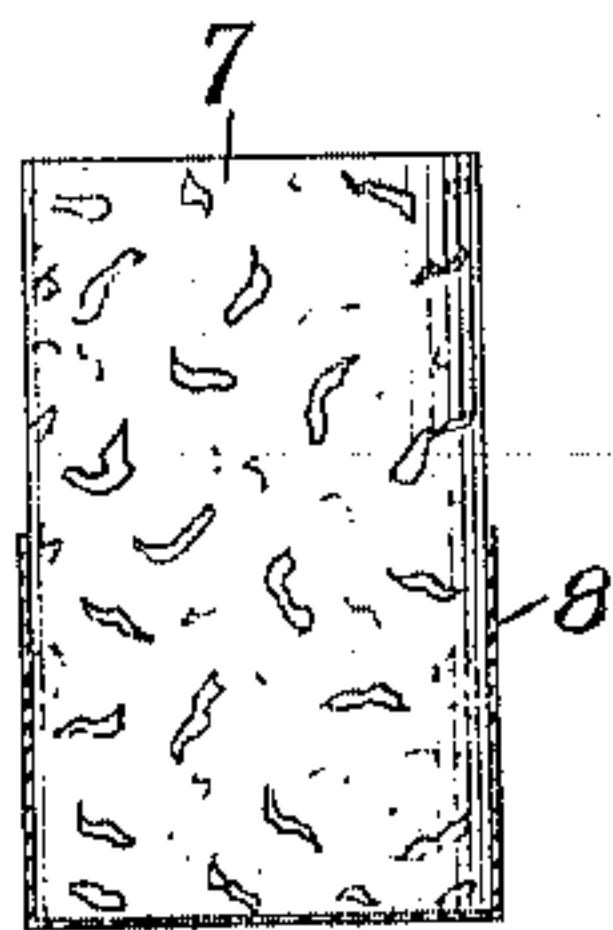


Fig. 4.

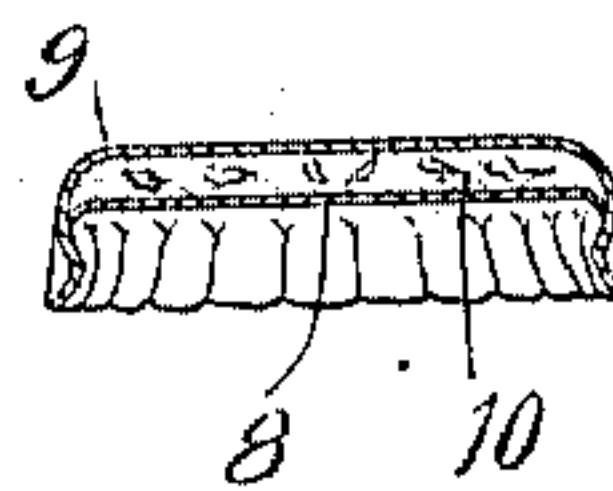


Fig. 5.

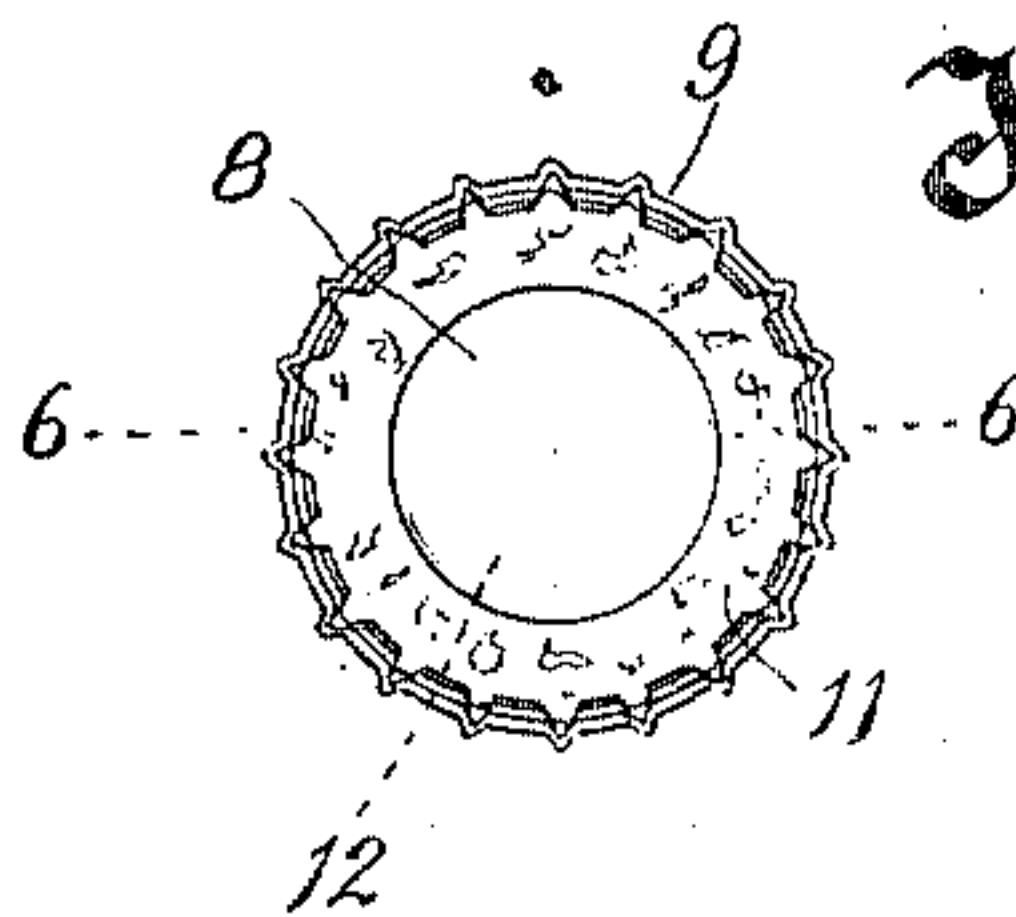
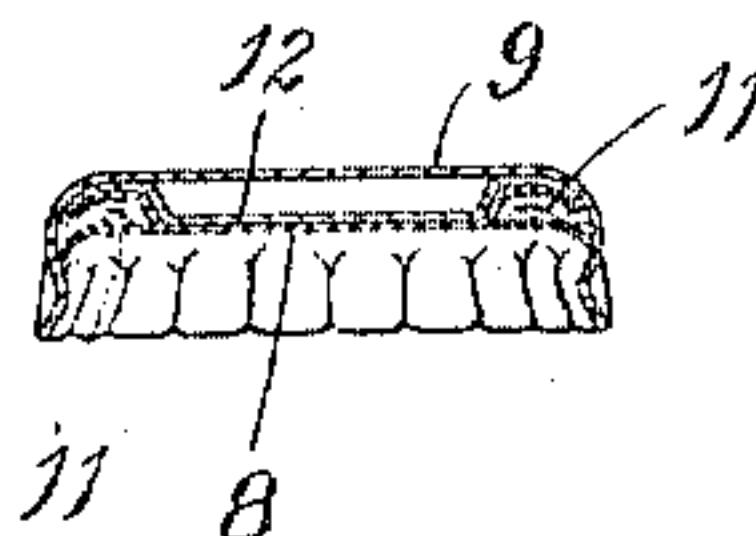


Fig. 6.



Witnesses.

C. H. Keeney.

Anna F. Schmidtbauer.

Inventor.

Conrad Schroeder
By Benedict & Morsell
Attorneys.

UNITED STATES PATENT OFFICE.

CONRAD SCHROEDER, OF MILWAUKEE, WISCONSIN.

MEANS FOR CORKING OR CLOSING BOTTLES OR OTHER RECEPTACLES.

No. 811,876.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed October 15, 1904. Serial No. 228,508.

To all whom it may concern:

Be it known that I, CONRAD SCHROEDER, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Means for Corking or Closing Bottles or other Receptacles, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in means for corking or closing bottles or other receptacles.

It has been a problem in the corking or closing of bottles and other vessels to provide an entirely-satisfactory stopper or cork. The difficulty heretofore has resided not only in the failure to provide a cork which will attain the highest efficiency in effecting a tight closure, but principally has resided in the difficulty of providing a cork or stopper of such construction as on the one hand not to deleteriously affect the liquid contents of the bottle and on the other hand of such character as not to be deleteriously affected by said liquid contents. Various expedients have been resorted to to overcome the difficulties which have heretofore been encountered, but without entirely satisfactory results. The ordinary cork stopper is exceedingly objectionable. Oftentimes the cork when forced into the narrow neck of a bottle is compressed to such an extent that the tannic acid with which the cork is impregnated is squeezed out of the cork and causes the formation of a sediment which mixes with the liquid contents, thereby not only seriously affecting the taste of the contents of the receptacle, but also its appearance as well. Furthermore, the ordinary cork is objectionable, owing to the fact that its elastic nature will under certain climatic conditions render it liable to shrinkage, thus causing a loose fit and affording opportunity for the carbonic gas in the case of charged liquids to escape, resulting in the liquid contents becoming flat. Still further, in the case of the ordinary cork, said cork will not act effectively to fill up little rough places or crevices which may exist in the interior of the bottle-neck or the interior of the mouth of the receptacle, thereby likewise offering an opportunity for the carbonic-acid gas to escape.

It has been attempted to remedy the dis-

advantages inherent in the ordinary cork by subjecting the cork to a preparatory treatment, usually in the nature of cleaning, washing, and softening the cork; but this initial or preparatory treatment has been followed with but a slight degree of success, and it has therefore been an ever-recurring problem to bottlers to devise some means whereby the objectionable features inherent in the ordinary cork can be overcome.

Metallic caps or covers are now also very generally used as stoppers or closures for bottles and other receptacles. These likewise are open to very serious objections in view of the fact that the liquid or other contents of the bottles or receptacles are either tainted or otherwise deleteriously affected by the metal of the cap, (usually tin,) or, on the other hand, the metal of the cap is injuriously affected by the contents of the bottle or receptacle. Caps or covers made wholly of aluminium have been employed, and while these to a large extent overcome the disadvantages alluded to in the case of certain liquids, yet they have not gone into general use, owing to their exceedingly expensive character and the further fact that such caps deleteriously affect certain other liquids and are themselves deleteriously affected thereby.

It is the object of my invention to provide an improved means for corkage which will effectively overcome all the above-pointed-out disadvantages in a simple and exceedingly inexpensive manner, and with this primary object in view the invention consists in the improved means or the equivalents thereof, as hereinafter more fully set forth.

Referring to the drawings, Figure 1 indicates an ordinary cork treated in accordance with my invention, the outer coating or protecting-covering being in section. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing the cork only partially coated or covered with the protecting medium. Fig. 4 is a section of an ordinary and well-known form of bottle-cap equipped with my improvements. Fig. 5 is an under view of another form of cap equipped with my improvements, and Fig. 6 is a section on the line 6 6 of Fig. 5.

My invention in its broad sense comprehends the use in connection with any form of cork, stopper, or closure for a bottle or receptacle of a protecting medium applied to

the portion of the cork, stopper, or closure which is exposed to the contents of the bottle or receptacle, the said protecting-covering being composed of dinitrocellulose.

5 Referring to Figs. 1, 2, and 3 of the drawings, the numeral 7 indicates an ordinary form of cork equipped with my invention. In Figs. 1 and 2 the entire surface of the cork is covered with the protecting medium, (indicated by the numeral 8,) the said protecting medium being in the form of dinitrocellulose. In the Fig. 3 form of construction only the lower end of the cork is covered with the protecting medium of dinitrocellulose, this being
15 the end of the cork which is exposed to the contents of the bottle.

Fig. 4 shows in section an ordinary form of bottle-cap 9, which is forced over the mouth of the bottle-neck. In this form of bottle-cap a disk of cork 10 is secured beneath the top of the cap. This form of cap heretofore has been objectionable, owing to the fact that the liquid will work through the pores of the cork and come in contact with the metal of
25 the cap and be thereby deleteriously affected, as hereinbefore pointed out. By my invention I am enabled to remove all the objections heretofore existing in the form of cap illustrated in Fig. 4 merely by coating or covering the under side of the cork 10 with my improved protecting medium 8 in the form of dinitrocellulose.

In Figs. 5 and 6 I show a cap or covering similar to the cap illustrated in Fig. 4 and
35 designated by the same reference-numeral. Beneath the top of this cap, however, is employed an elastic washer 11, which is designed to rest upon the top of the bottle-neck to effect a tight closure, and between the under side of the top of the cap and the upper side of the washer 11 is confined the outer or upstanding edges of a plate 12. In this form of cap the plate 12 is employed for the purpose of preventing the contents of the bottle
45 from coming in direct contact with the top of the cap 9, and the plate 12 is usually composed of some material which will supposedly not deleteriously affect the contents of the bottle. My invention can also be advantageously employed in connection with this particular form of cap or closure, and the dinitrocellulose is preferably applied in a compressed state to the entire under surface of the plate 12 and also to the under surface of
55 the elastic washer 11.

While the accompanying illustration only shows a few forms of closures to which my invention may be applied, yet I wish it understood that it is applicable to any form of stopper or closure for bottles, jars, cans, or any other form of receptacle which is required to be closed.

Practical tests have demonstrated that my improved protecting medium will effectually

overcome all the disadvantages which have
65 heretofore existed in the case of closures or stoppers and as hereinbefore specifically referred to. In the case of ordinary corks my improved invention is preferably applied to the cork after the cork is prepared in accordance with the usual method of preparation—that is, after the cork has been cleaned, washed, and softened in accordance with the usual method.

By the use of the coating or covering which
75 I employ the cork is absolutely prevented from imparting its flavor to the contents of the receptacle, as it forms a protecting medium which not only prevents the contents from coming in direct contact with the cork or other closure, but which also does not in any manner deleteriously affect the contents. Again, the coating referred to in no manner when applied to an ordinary cork affects the elasticity thereof, but, on the other hand, it
85 has been found by experience that it actually increases the elasticity of the closure and not only fills out the interstices of the cork, but also forms in itself an outer elastic coating whereby, in effect, a double elastic closure is obtained and all little crevices or rough places in the interior of the neck of the receptacle are filled out, and thereby an effective safeguard against the escape of carbonic-acid gas in the case of charged liquids is effected.

The invention is applicable to all kinds of bottled liquids, such as champagne, wines, whiskies, &c.

I wish it understood that the dinitrocellulose may be applied to the closure in a thin coating, as shown on the accompanying drawings, or in a compressed state wherever the particular nature of the closure is better adapted for one than for the other, the application of the dinitrocellulose in a compressed state forming a disk of dinitrocellulose applied to the closure.

What I claim as my invention is—

1. A stopper or closure for receptacles, consisting of a device adapted to be applied to and close the opening of a receptacle, the said device having the surface thereof which is exposed to the contents of the receptacle covered with a protecting medium of dinitrocellulose, said protecting medium being of dinitrocellulose both when originally applied to the stopper or closure, and after application thereto.

2. A stopper or closure for receptacles, consisting of a device adapted to be applied to and close the opening of a receptacle, the said device having its entire surface covered with a protecting medium of dinitrocellulose said protecting medium being of dinitrocellulose both when originally applied to the stopper or closure, and after application thereto.

3. A stopper or closure for receptacles, consisting of a device adapted to be applied to

and to close the opening of a receptacle, said device having the surface thereof which is exposed to the contents of the receptacle covered with a protecting medium composed of compressed dinitrocellulose.

5 4. A stopper or closure for receptacles, consisting of a device adapted to be applied to and to close the opening of a receptacle, said device having its surface covered with a pro-

tecting medium, the said protecting medium composed of compressed dinitrocellulose.

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

CONRAD SCHROEDER.

Witnesses:

ANNA F. SCHMIDTBAUER,
ALMA A. KLUG.