

F. KOELLER.  
Bottle-Stopper.

No. 208,403.

Patented Sept. 24, 1878.

Fig. 7.



Fig. 5.

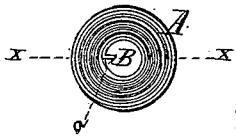


Fig. 6.



Fig. 4.

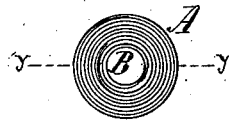


Fig. 2.

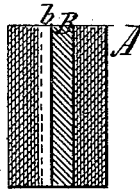


Fig. 1.

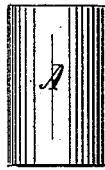
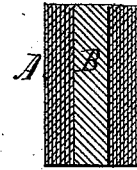


Fig. 3.



Witnesses.  
Edw. C. Leonard  
Henri Guillaume

Inventor  
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by Henry Orth  
att'y

# UNITED STATES PATENT OFFICE.

FRANZ KOELLER, OF NEULENGBACH, AUSTRIA.

## IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **208,403**, dated September 24, 1878; application filed July 13, 1878.

*To all whom it may concern:*

Be it known that I, FRANZ KOELLER, M. D., of Neulengbach, near Vienna, in the Empire of Austria, have invented new and useful Improvements in Stoppers, of which the following is a specification:

The invention consists, first, in manufacturing a stopper for bottles, jars, and similar receptacles from a shaving or thin strip of wood by winding or coiling it upon itself or upon a solid wooden core or pin.

The invention further consists in providing the pin or core with a groove wherein one end of the shaving or strip is glued or cemented to afford a better joint between said strip and core.

In the manufacture of wooden stoppers according to this invention, shavings about three feet long, about one-half to three inches broad, and about one-hundredth of an inch thick are planed from pieces of wood cut to a proper size.

Soft wood, such as fir, pine, poplar, willow, or similar soft wood, is preferred.

Each shaving is rolled tightly either by coiling upon itself or upon a solid wooden pin or core of a length equal to the breadth of the shaving, the inner end of the shaving being fastened to the core by means of glue, cement, or other adhesive material, and the outer end, properly trimmed down, is made fast to the outer coil in a similar manner.

In order to afford a better connection between the core and inner end of the shaving, and also to facilitate the rolling or coiling, I form a groove into the pin or core, as shown by Figures 2, 5, and 7, into which groove said end of the shaving is inserted and cemented or glued.

The invention will be fully understood by reference to the accompanying drawings, in which—

Fig. 1 is an elevation of a finished stopper. Figs. 2 and 3 are vertical sections taken through lines *x x*, *y y* of Figs. 4, 5, respectively; and Figs. 4 and 5 are plan views of the same. Figs. 6 and 7 are vertical elevations of the core or pin.

A is the shaving coiled upon a core, B, the end *a* of said shaving being glued, cemented, or otherwise fastened to said core B, or said end is inserted into a groove, *b*, formed in the core, as shown by Figs. 2, 5, and 7. The outer end of the shaving, after being coiled upon the core, is trimmed down and glued or cemented to the outer coil.

The stopper so formed may be finally dipped at one end in pure melted paraffine, and will then be ready for use.

In stoppering a bottle the end dipped in paraffine is kept outside the bottle, and the paraffine will serve to protect the stopper against the action of damp air and moisture. On laying down on its side a bottle so stoppered the inner end of the stopper will be immediately filled with the fluid contained in the said bottle and a complete closure insured.

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

1. The method of manufacturing wooden stoppers, which consists in winding a shaving or thin strip of wood upon itself or upon a wooden core, substantially as described, and fastening the ends to the core and outer coil, respectively, as set forth.

2. A stopper composed of a shaving or thin strip of wood, substantially as specified.

3. A stopper composed of a shaving or thin strip of wood, in combination with a solid core, substantially as described.

4. The combination, with the shaving or thin strip of wood A, of the solid wooden core B, having a groove, *b*, substantially as described, for the purpose specified.

In witness that I claim the foregoing I have hereunto set my hand this 7th day of June, 1878.

DR. FRANZ KOELLER.

Witnesses:

C. O. PAGET,

T. BARTA.