

No. 734,753.

PATENTED JULY 28, 1903.

J. H. RIVERS.
CLOSURE FOR RECEPTACLES.

APPLICATION FILED JAN. 13, 1903.

NO MODEL.

Fig. 1.

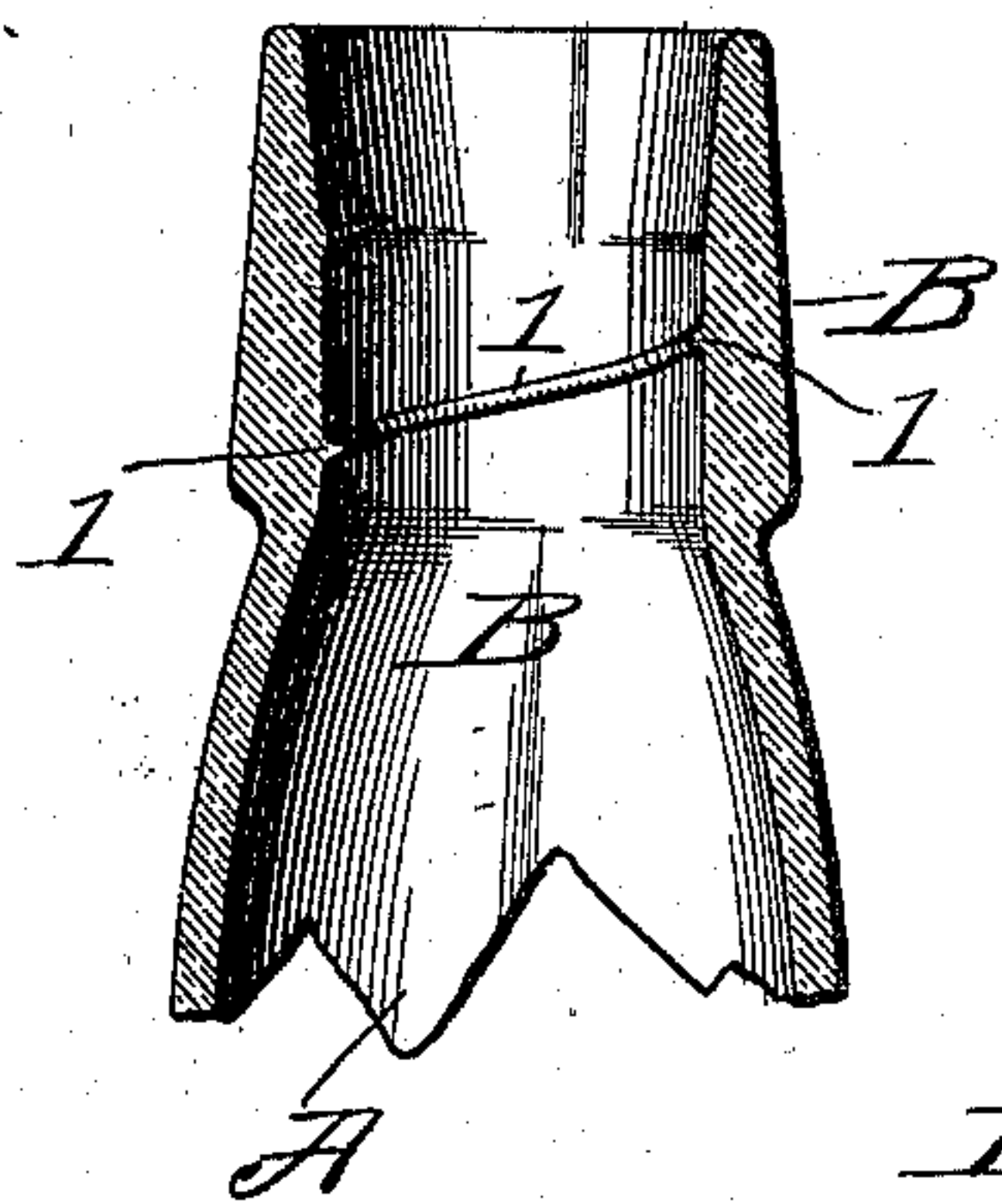


Fig. 2.

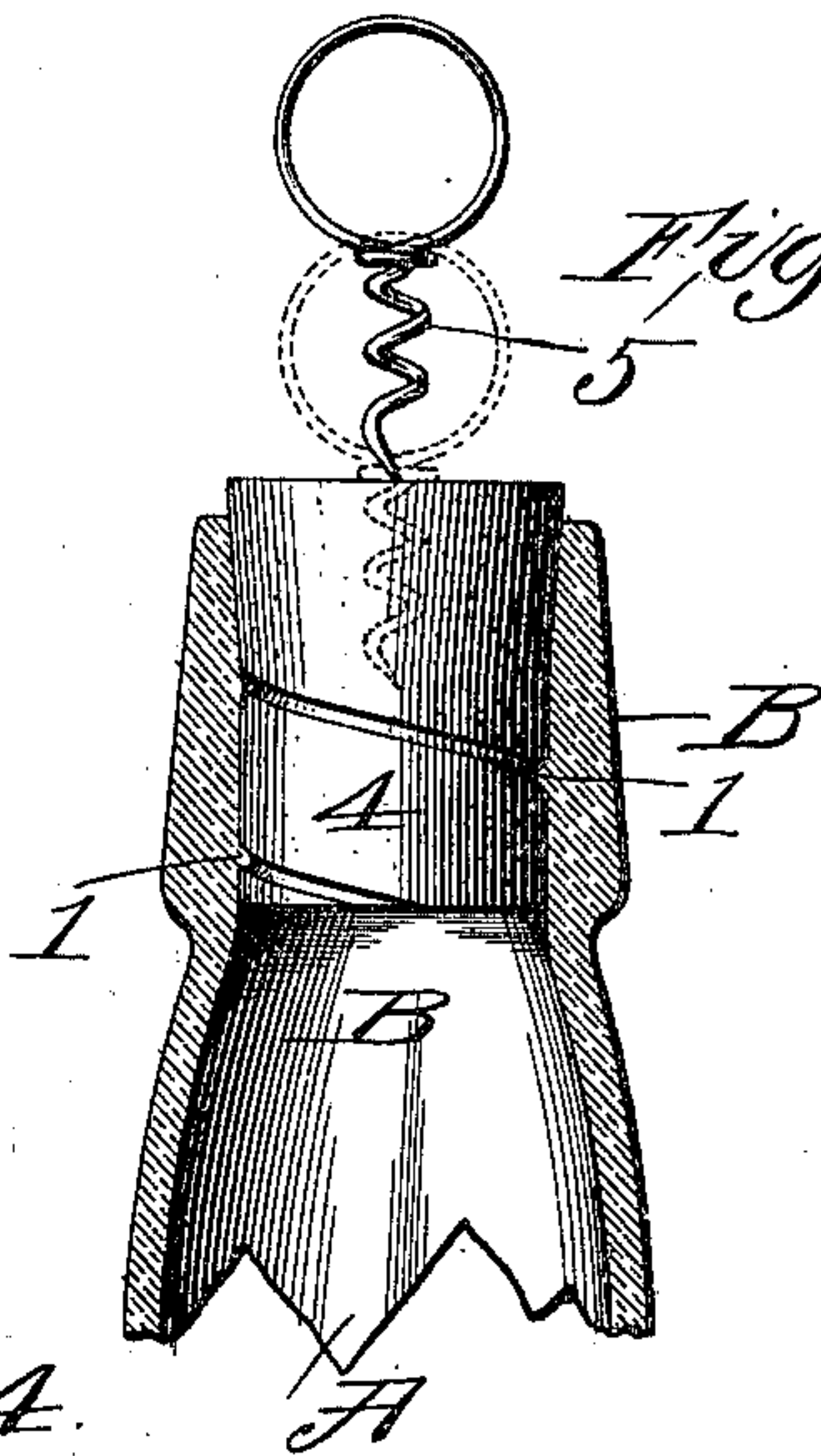


Fig. 4.

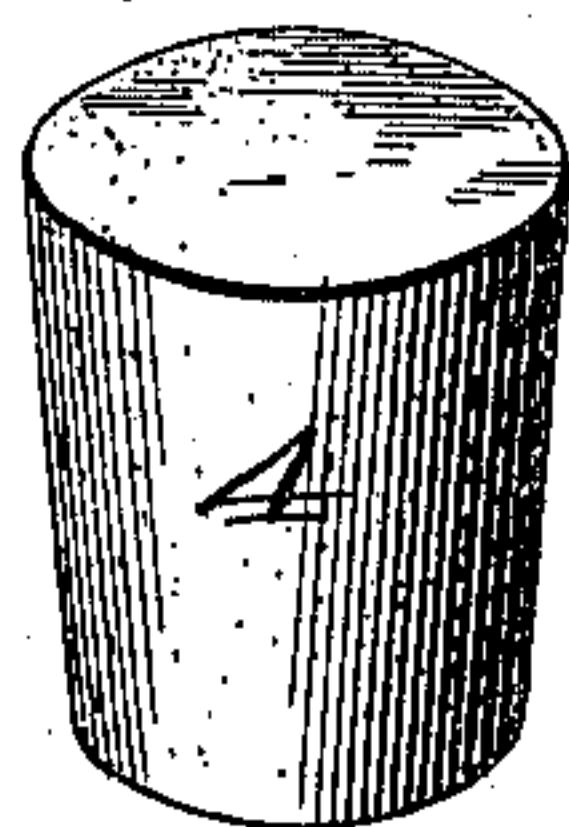


Fig. 5.

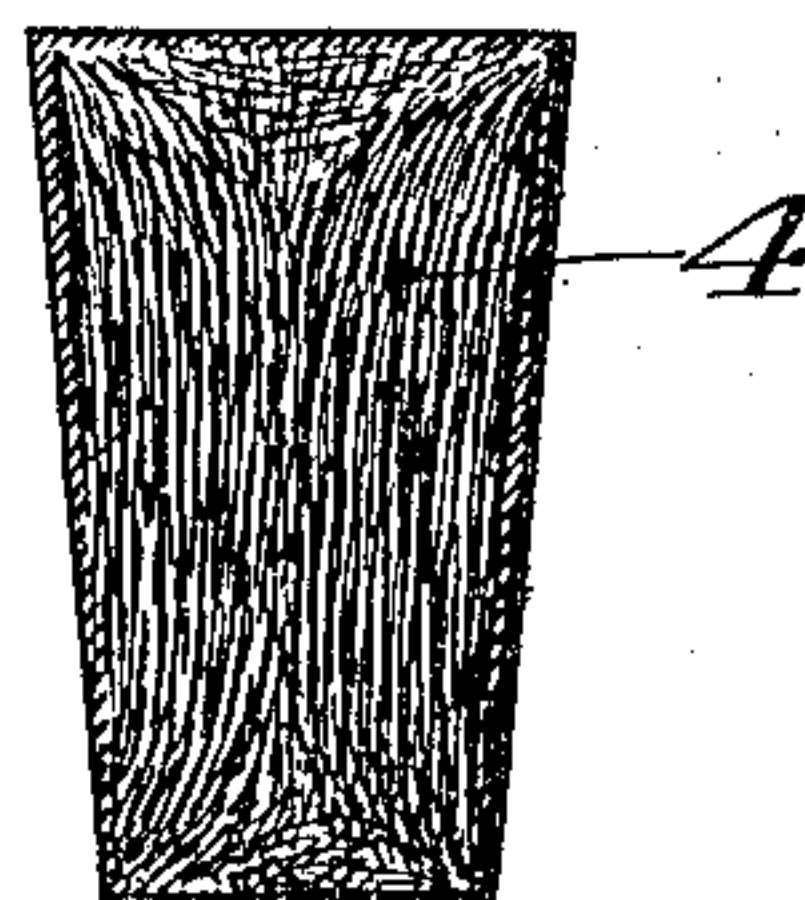
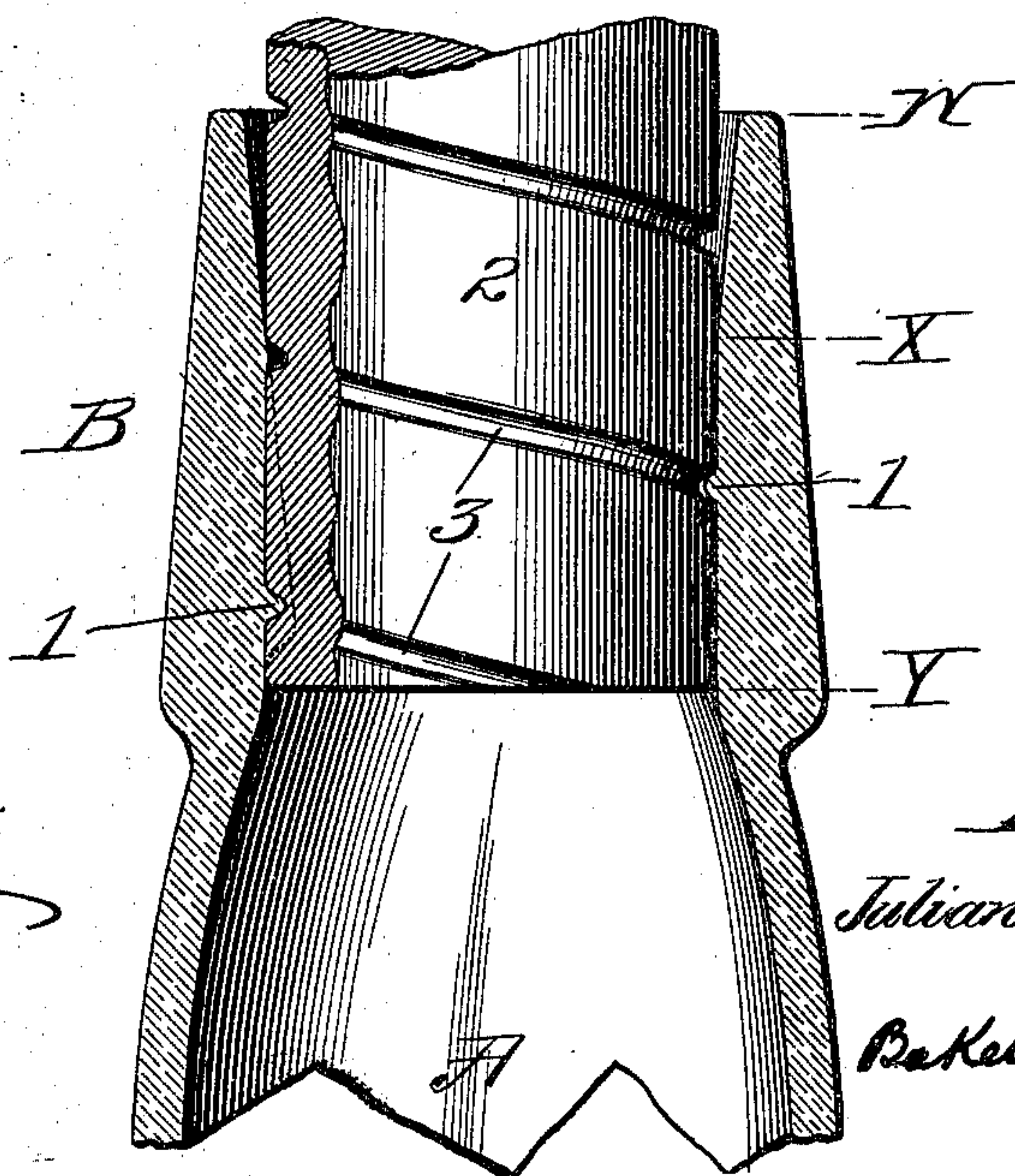


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

JULIAN H. RIVERS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO UNITED STATES FIBER STOPPER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF SOUTH DAKOTA.

CLOSURE FOR RECEPTACLES.

SPECIFICATION forming part of Letters Patent No. 734,753, dated July 28, 1903.

Application filed January 13, 1903. Serial No. 138,883. (No model.)

To all whom it may concern:

Be it known that I, JULIAN H. RIVERS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Closures for Receptacles, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a broken vertical sectional view of the neck portion of a bottle provided with the invention. Fig. 2 is a similar view showing a stopper in position therein. Fig. 3 is a similar view showing the mandrel in position as when forming the screw-thread interiorly of the neck. Fig. 4 is a detached view of a fibrous stopper designed to be used with my improved bottle, and Fig. 5 is a longitudinal vertical section of the stopper used with my invention.

The invention consists of an improvement in closures for receptacles designed especially for use with bottles, though it is evident that it may be applied to any sort of receptacle with a circular opening at the point where the closure is to be applied; and the object of the invention is to so form the said opening as to permit of the ready insertion therein of a relatively compressible closure which will so change its shape during the insertion thereof as to become thereby so interlocked with the receptacle as to prevent accidental displacement of said closure.

Referring to the drawings, A is a receptacle provided with the neck portion B. The exterior form of the neck portion is unimportant, and it is also immaterial as to the projection thereof beyond the body portion of the receptacle. The interior of the portion which for convenience will herein be called the "neck" portion is formed with wide-open mouth at the outer end, which gradually decreases in diameter, as shown in the drawings, from W to X, from which point to the inner end of the neck portion, as Y, the opening is substantially uniform in diameter, with the exception of the screw-threaded projection 1,

which screw-thread is of gradually-increasing thickness laterally of the thrust of the stopper and of uniform or substantially uniform width longitudinally of the neck portion—that is, vertically, as it appears in the drawings—said thickness increasing toward the interior of the receptacle to its greatest section at the inner end.

In manufacturing the bottle it is formed, as shown in Fig. 3, with the upper conical portion from W to X, and from X to Y the lines of the cone are originally continuous; but before the mandrel 2, with the screw-thread 3 cut therein, is inserted the neck of the bottle is heated to a semifluid condition, after which the said mandrel is inserted while being rotated, whereby the material from X to Y will be compressed outwardly except the portion which subsequently forms the screw-thread, which latter portion will flow into the thread of the mandrel and when cooled will form the extremely-coarse screw-threaded projection 1 interiorly of the neck.

The stopper or closure 4, designed to be used, consists, preferably, of compressed fibrous material, with the fibers preferably longitudinally disposed for the greater portion of its length, as shown in Fig. 5, the said stopper being formed of sufficient diameter to fit snugly within the neck portion and capable of sufficient compression to receive the said coarse tapering screw-thread, the said screw-thread gradually forming its own path or channel as the stopper is crowded down with a rotary and longitudinal thrust into the neck portion of the bottle. When once seated, the stopper will be firmly held in position, owing to the section of the inner portion of said thread firmly grasping the same.

It will be observed that the screw-thread 1 is a left-hand screw. The stopper being of fiber and in place, an ordinary corkscrew 5 with a right-hand twist may be screwed into the stopper, and when seated therein a continuation of the movement incident to seating said corkscrew will rotate the stopper and cause it to ride up the interior screw-thread of the neck and cause the same to be withdrawn therefrom.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

10 1. A receptacle provided with an opening or passage slightly conical at its outer end, and an interiorly-projecting left-hand screw-thread of gradually-increasing section beyond said conical portion from outer to inner end; 15 substantially as described.

2. A receptacle provided with an opening or passage slightly conical at its outer end, and an interiorly-projecting left-hand screw-thread with substantially uniform vertical 20 section beyond said conical portion; substantially as described.

3. A bottle-stopper comprising an interiorly-left-hand screw-threaded neck portion

with the screw-threads of increasing section from outer to inner end, and a closure there- 25 for formed of compressible fibrous material; substantially as described.

4. A bottle-stopper comprising an interiorly left-hand screw-threaded neck portion with the screw-threads of continuously-in- 30 creasing section from end to end, and a closure therefor formed of fibrous material; substantially as described.

5. A bottle-stopper comprising an interiorly left-hand screw-threaded neck portion, 35 and a closure therefor formed of fibrous material with the fibers thereof longitudinally disposed for the major portion thereof; substantially as described.

In testimony whereof I hereunto affix my 40 signature, in the presence of two witnesses, this 7th day of January, 1903.

JULIAN H. RIVERS.

Witnesses:

G. A. PENNINGTON,
GEORGE BAKEWELL.