

(No Model.)

A. E. McKECHNIE.
BUNG FOR BARRELS.

No. 571,494.

Patented Nov. 17, 1896.

Fig. 1.

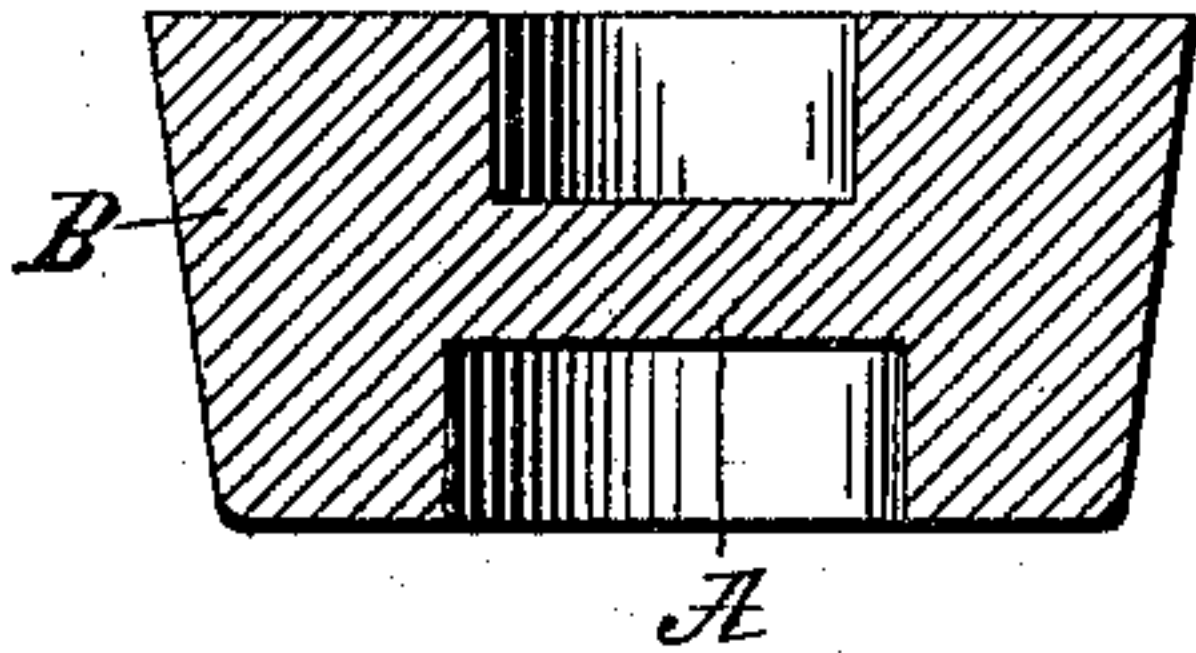


Fig. 2.

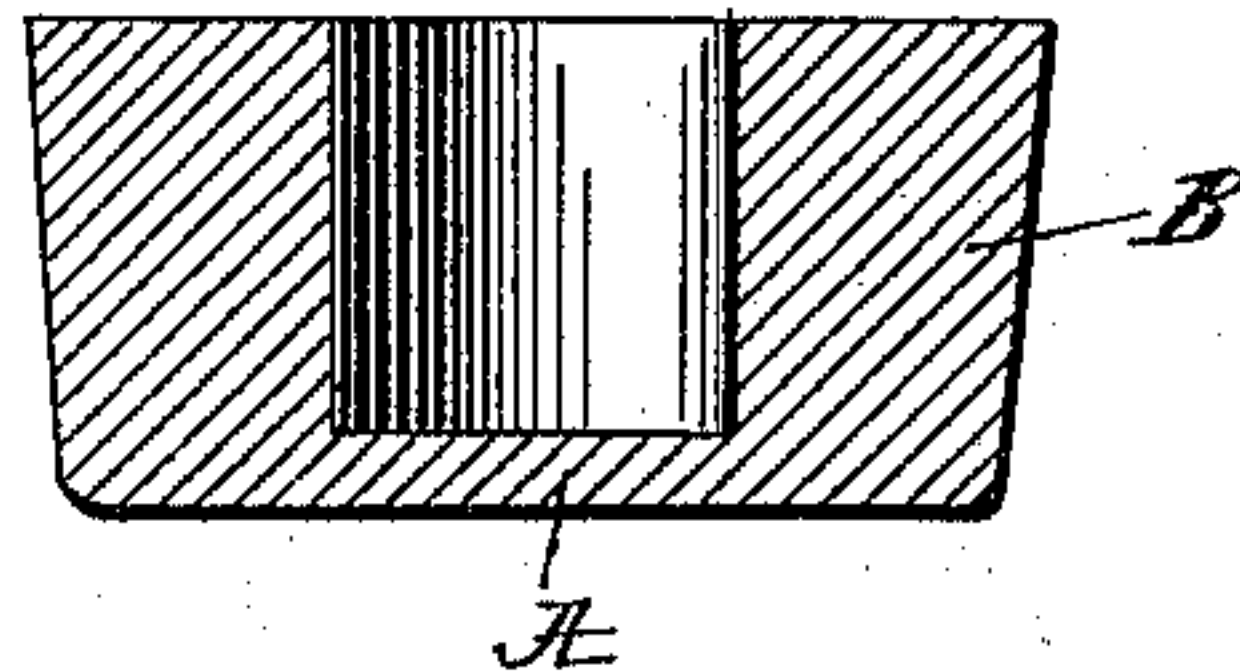


Fig. 3.

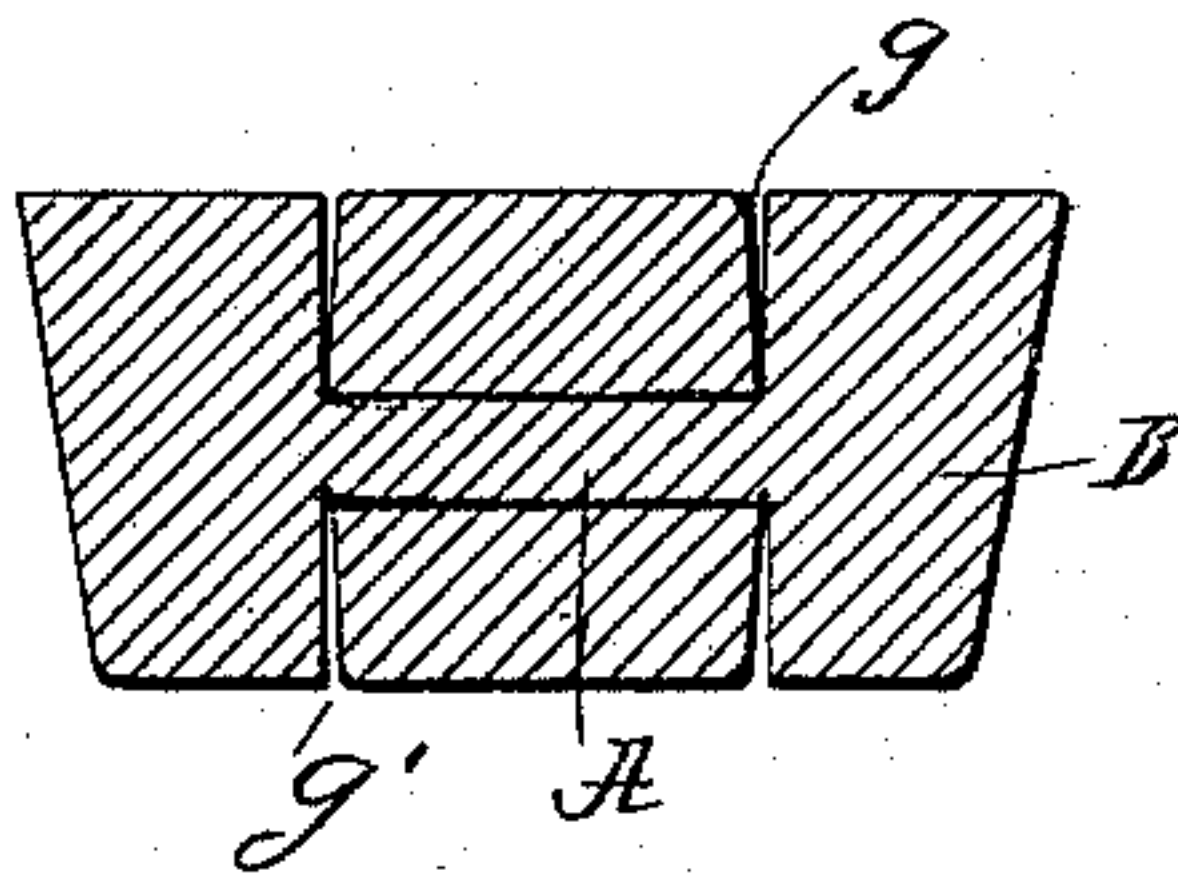


Fig. 4.

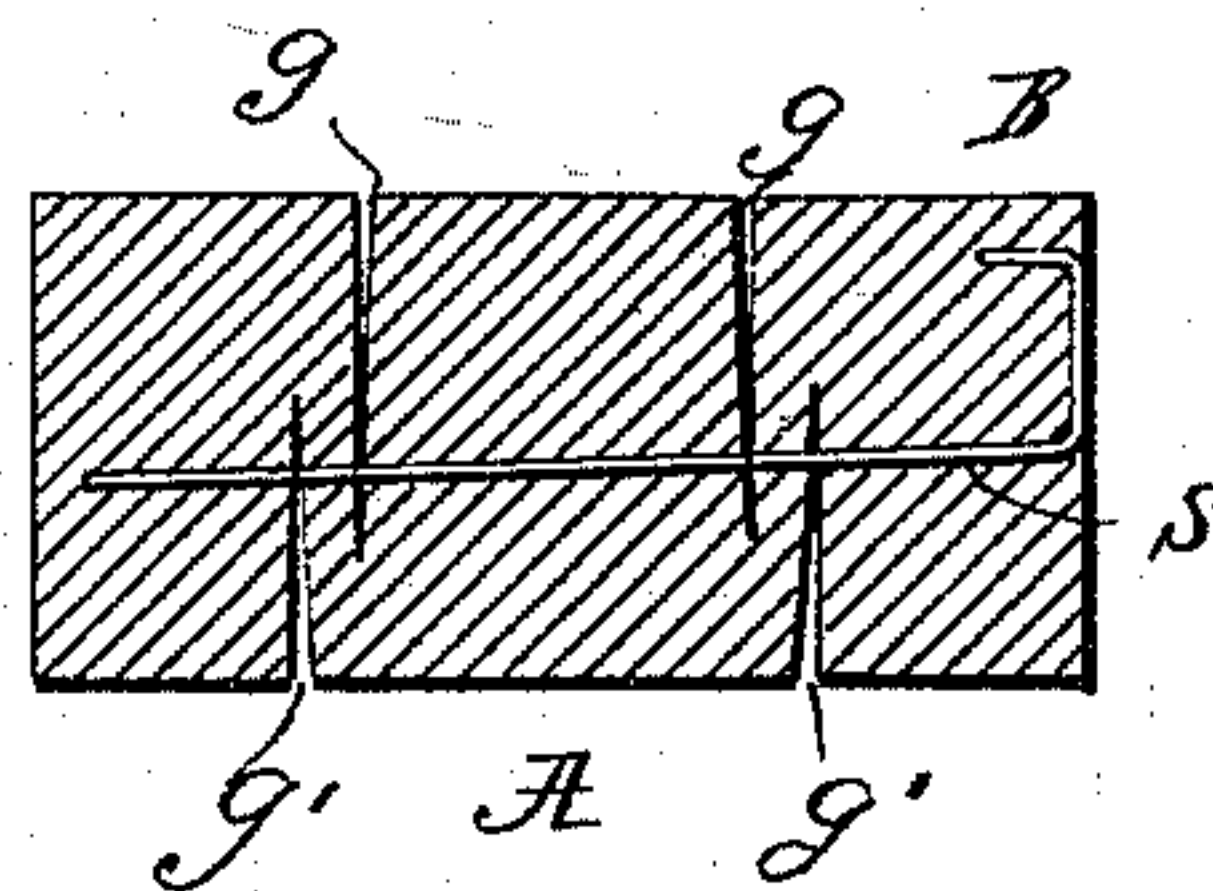
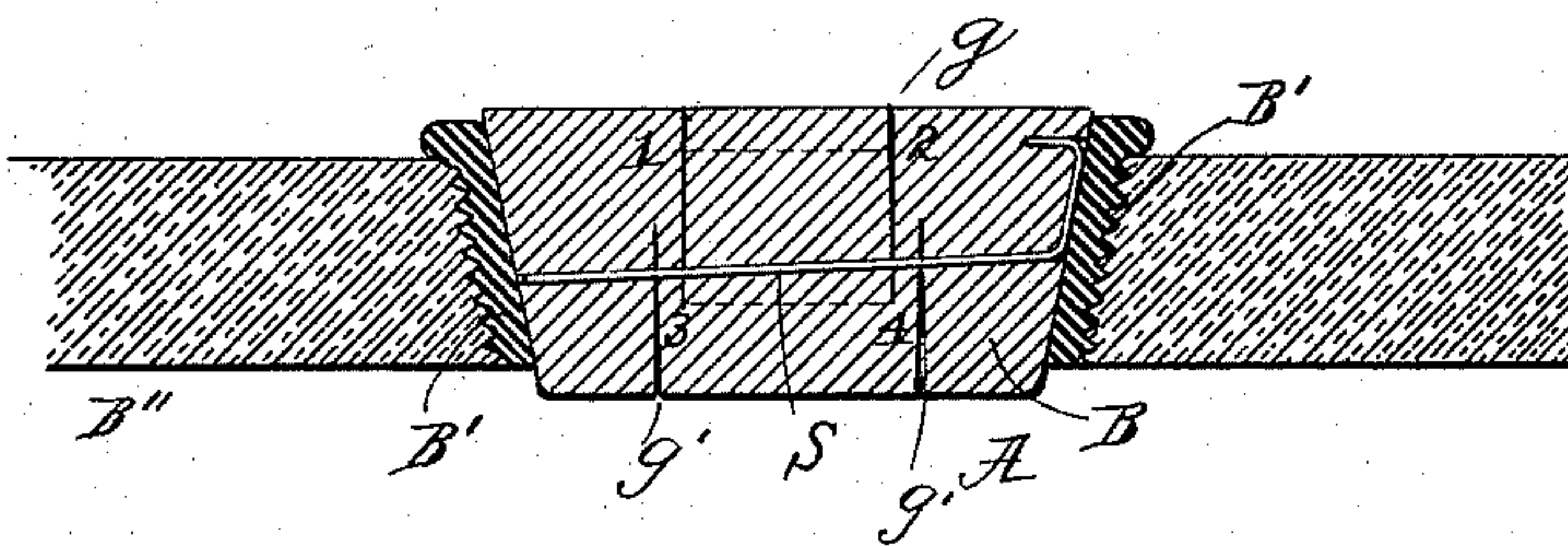


Fig. 5.



WITNESSES:

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ARCHIBALD E. McKECHNIE, OF NEW YORK, N. Y., ASSIGNOR OF FIVE-EIGHTHS TO ROBERT G. DUN, CHARLES J. KINTNER, AND ADELAIDE T. BUCHANAN, OF SAME PLACE.

BUNG FOR BARRELS.

SPECIFICATION forming part of Letters Patent No. 571,494, dated November 17, 1896.

Application filed October 4, 1895. Serial No. 564,592. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD E. McKECHNIE, a subject of the Queen of Great Britain, residing at New York, in the county of New York and State of New York, have made a new and useful Improvement in Bungs for Barrels, &c., of which the following is a specification.

My invention is directed particularly to improvements in barrel-bungs such as are usually made of wood or analogous material and so constructed as to permit the admission of a spigot or the like by forcing the same through the central part of the bung; and its objects are, first, to construct a bung of a single piece of wood or like material in such manner that the separable part may be readily ruptured or broken away from the bung proper as the spigot or like removing agency is forced therethrough; and, second, to provide a simple and efficient means for preventing the separable or ruptured portion from being wholly detached from the bung proper when it is driven into the inner side of the barrel or cask.

My invention will be fully understood by referring to the accompanying drawings, in which—

Figures 1, 2, and 3 illustrate well-known forms of barrel-bungs shown and described, respectively, in United States patents to Pentlarge, Nos. 192,386 and 148,747, and Borst, No. 203,316, said bungs being illustrated here for the purpose of enabling those skilled in the art to understand more fully my improvement thereon. Fig. 4 is a sectional view of my improved form of bung as it appears before it has been compressed, and Fig. 5 is a sectional view of the same as shown in position in a metallic bushing secured in a barrel or cask.

Referring now to the drawings in detail and first to Figs. 1, 2, and 3, B represents the bung proper, which is made usually of wood and is counterbored in its opposite faces in Fig. 1 in the manner shown and upon one face only in Fig. 2, so as to leave a detachable part A, while in Fig. 3 it is counterbored after the manner shown in Fig. 1, and the

counterborings then plugged up, A being the detachable part as before.

I have discovered that in the use of the well-known forms of bungs illustrated in Figs. 1, 2, and 3 when the spigot is inserted from the outer side and forced inward in the usual manner it often occurs that the entire bottom of the bung is ruptured or broken away and forced into the inner side of the barrel or cask. It is one of the especial objects of my invention to avoid this objectionable feature. It is a further object of my invention to make a solid bung with a removable core and also to provide said removable core with means for holding it to the bung proper after it is ruptured therefrom.

In the construction of bungs like those shown in Figs. 1, 2, and 3 it is customary to turn the article in a lathe or otherwise from a board, its first structure being that of a cylinder not unlike that shown in Fig. 4. It is afterward steamed and then placed in a conical-shaped die and given the shape of a cone frustum, as shown in Figs. 1, 2, and 3. As thus manufactured these bungs are put upon the market.

My improvement in the bung proper consists in so cutting the grooves $g g' g'$ that they extend past each other, the inner groove $g' g'$ extending upward and the outer or face groove $g g$ extending downward in the manner shown in Fig. 4. This operation of grooving takes place, as will be understood by those skilled in the art of manufacturing bungs, at the same time that the bung is turned. It is now steamed and placed in a cone-shaped die and caused to assume the usual cone shape, the grooves $g g'$ being closed up, as shown in Fig. 5, so that the bung is practically solid. It will readily be understood that with such a bung when the spigot is placed on the outer face of the separable or cored portion A and forced inward through the agency of a mallet or otherwise it will easily rupture at points between the grooves and will not therefore detach the entire bottom of the bung, as often occurs with the forms shown in Figs. 1, 2, and 3.

I will now describe my improvement for

preventing the separable part A from being wholly detached from the bung proper when it is forced into the barrel in the manner already described. In a prior patent granted 5 to me on the 8th day of October, 1895, and numbered 547,735, I have described and claimed a bung provided with a separable part which is integral therewith and means for holding the separable part after it has been 10 severed from the bung proper. The especial means referred to in said patent consisted of a staple, the two legs of which were forced through the bung and the separable part, said legs being located in a substantially hori- 15 zontal plane. I have found that in the use of such a holding device it sometimes happens that the bottom of the bung and the holding device are broken off and therefore forced into the barrel or cask. The present inven- 20 tion is designed to overcome absolutely this objectionable feature; and to this end it consists, broadly, in means which is secured to the body of the bung proper in such manner that it cannot be detached therefrom when 25 the separable part is forced inward.

Referring now to Fig. 4, S represents a staple of fine wire having one leg of sufficient length to extend almost entirely through the body of the bung and also through the integral 30 or separable portion A, the head portion of the staple lying in a vertical plane, and a short leg being provided which is forced inward through the side of the bung at a point near the outer surface thereof. This staple 35 is placed in position in the bung before it has been steamed and compressed, and may either be driven directly into the wood proper or holes may be first bored therein for its insertion, if deemed necessary. After the staple 40 has been inserted and the bung steamed it is then put into a conical-shaped die as before and compressed into the form shown in Fig. 5.

Referring now to Fig. 5, B² represents, in 45 sectional view, a part of a barrel or a barrel-head, and B' a well-known form of metallic bung-bushing screw-threaded therein, B illustrating my improved bung in position in the barrel, and S the staple or holding device, the 50 free end of the long leg of the staple resting now at a point near the bung-bushing. When it is desired to draw off the contents of the barrel, the spigot is placed on the outer face of the removable or separable part A and 55 forced inward with a hammer or mallet in the usual manner. In doing this the separable part ruptures at points between the counter-grooves *g g* and *g' g'*. At the same time the long leg of the staple is drawn out, and as it nears 60 the edge of the groove *g'* it is turned up in the form of a hook, thus allowing the part A to slide downward until the spigot forces it to one side, but not allowing it to be disconnected therefrom. It will be observed that 65 the short leg of the staple being held firmly in position by the bung-bushing B' there is no possibility of the disrupted part A be-

coming detached from the bung proper when the spigot is forced home, nor is there any danger of disrupting the entire bottom of the 70 bung. If desired, the upper surface of the central or detachable core A may be removed to any depth in order to facilitate the admission of the spigot, as shown in dotted lines at 1 2 and 3 4. Should it be deemed necessary 75 to bore the bung to the depth indicated by the dotted line 3 4, the position of the long leg of the staple S would of course be changed so as to leave it embedded in the body of the core proper. 80

I make no claim in the present application to the broad feature of a bung having a separable part which is integral therewith and provided with means for holding the separable part after it has been severed from the 85 bung proper, as this feature constitutes, broadly, the subject-matter of my prior patent above referred to. Nor do I make any claim in the present application to the subject-matter which constitutes the several claims of the 90 aforesaid patent. I believe it is broadly new with me, however, to construct a bung of a single piece of wood or analogous material, to groove the same in its opposite faces to such depths that the grooves substantially 95 overlap each other, and to then compress the bung in a conical mold to such an extent as to cause the grooves in either or both faces to be closed so that said bung is in effect a solid bung and so that when the spigot is 100 forced into the bung the separable part or core A will rupture in the manner described and will in no instance tear away the entire bottom of the bung, and the present improvement, in so far as the holding device is con- 105 cerned, is designed to include any and all means wherein the fixed end of said holding device is secured in the lateral face of the bung at any point near the outer surface thereof in such manner that said holding de- 110 vice cannot possibly be ruptured or torn away with the removable portion of the bung, as is sometimes possible with the holding device disclosed in my prior patent above referred to.

Although I have described a metallic staple 115 as the preferred form of holding device, it is obvious that a cord or any other flexible holding device might be substituted therefor. In the event of a cord being used it would of course be necessary to knot the ends and 120 that the inner end should be of sufficient length to permit the core or detachable section to slide thereon when forced inward.

I also regard a copper or other wire nail as the full equivalent of my improved form of 125 staple, it only being necessary that the head thereof shall be sufficiently large to prevent the nail from being drawn out when the separable part is forced inward.

Having thus described my invention, what 130 I claim, and desire to secure by Letters Patent of the United States, is—

1. A bung made of a single piece of wood and provided with a separable part or de-

tachable core which is integral therewith and of substantially the same depth as the bung, in combination with means for holding the separable part after it has been severed from the bung proper, said bung having been given a conical shape under pressure so as to close the grooves and make it practically solid, substantially as described.

2. A bung made of a single piece of material having a central core which is integral therewith, said core being formed by grooves in the opposite faces of the bung proper, in combination with means for holding the core or separable part after it is detached from the bung, said bung having been compressed after the grooves were formed so as to close them and make it, the bung, practically solid, substantially as described.

3. A bung having a separable part which is integral therewith, in combination with a holding device consisting of means secured to the separable part and at a point near the bottom of the bung and extending outward and upward in a plane with the axis thereof to a point near the outer face thereof, substantially as described.

4. A bung constructed of a single piece of material and provided with a separable part which is integral therewith, in combination

with a holding device which extends laterally through the bung and the separable part thence upward in a plane of the axis of the bung and to a point near the outer surface thereof.

5. A bung constructed of a single piece of wood and provided with a central detachable core or separable part which is integral therewith, in combination with a holding device in the nature of a staple having a long leg extending through the bung and the separable part, the short leg being embedded in the lateral face of the bung and the head of the staple being substantially parallel with the axis thereof.

6. A bung constructed of a single piece of wood having grooves in its opposite faces which overlap each other, said bung being provided with a holding device which extends therethrough, all of the parts being compressed so as to close the grooves and constitute a solid bung.

In testimony whereof I have hereunto subscribed my name this 30th day of September, 1895.

ARCHIBALD E. McKECHNIE.

Witnesses:

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M. M. ROBINSON.