

No. 871,444.

PATENTED NOV. 19, 1907.

G. H. RICKE.
BUNG BUSHING.
APPLICATION FILED FEB. 20, 1906.

Fig. 1.

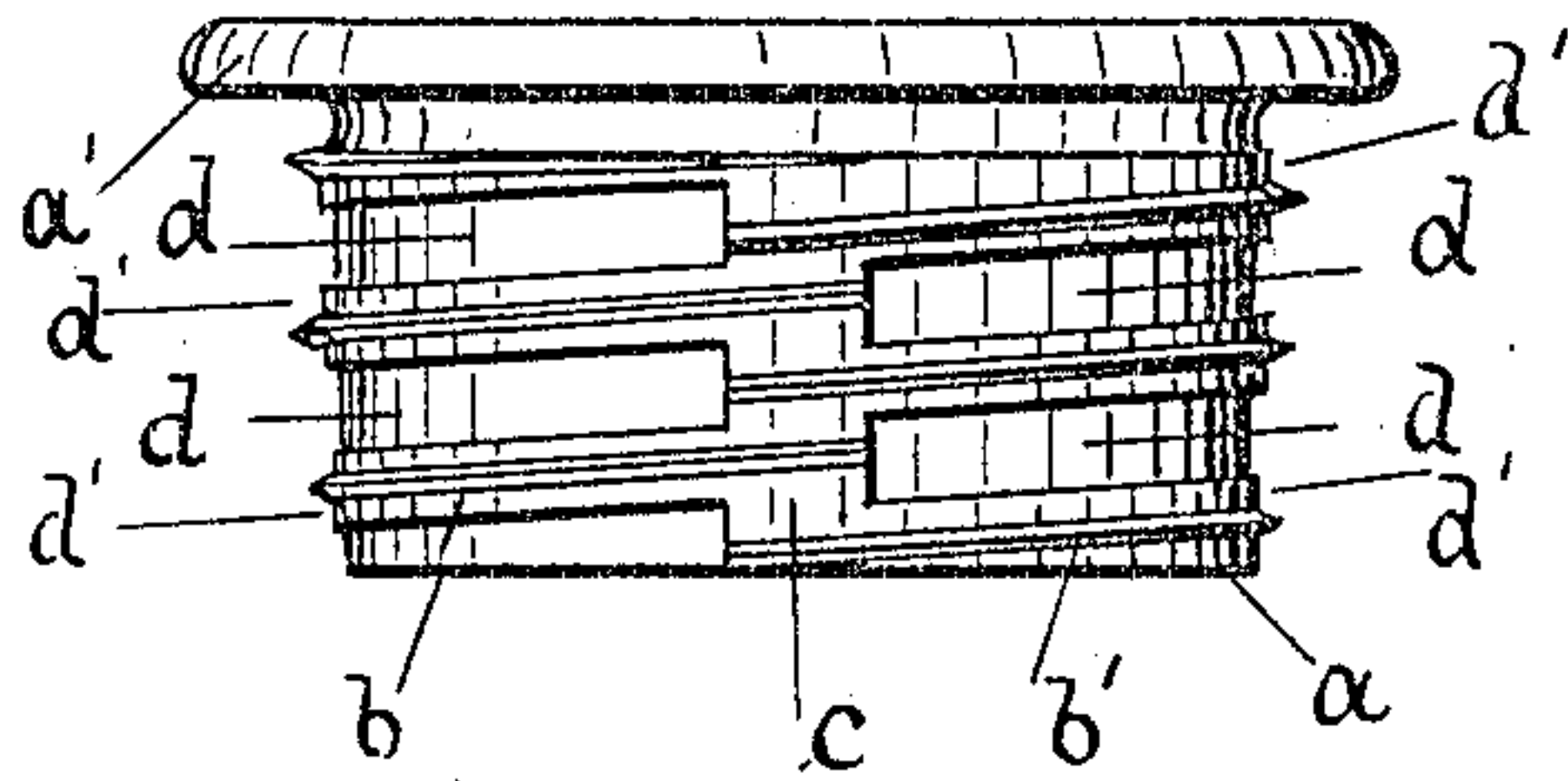


Fig. 2.

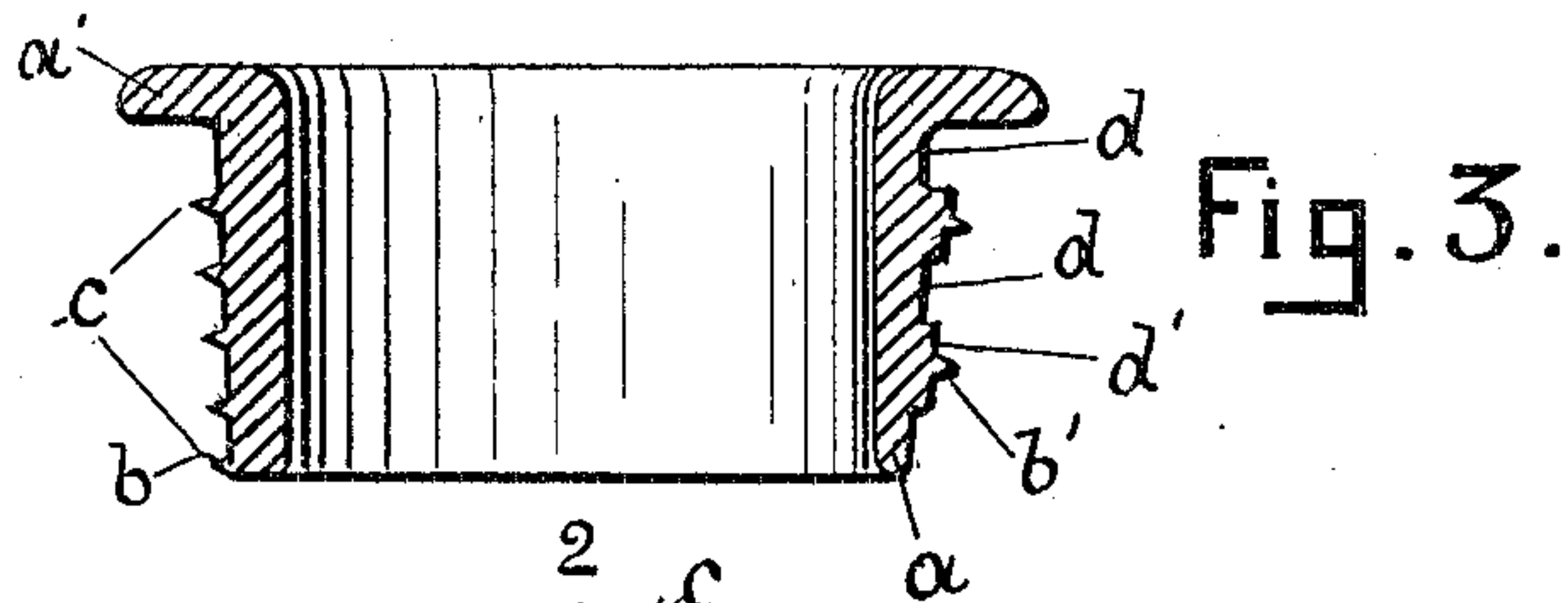
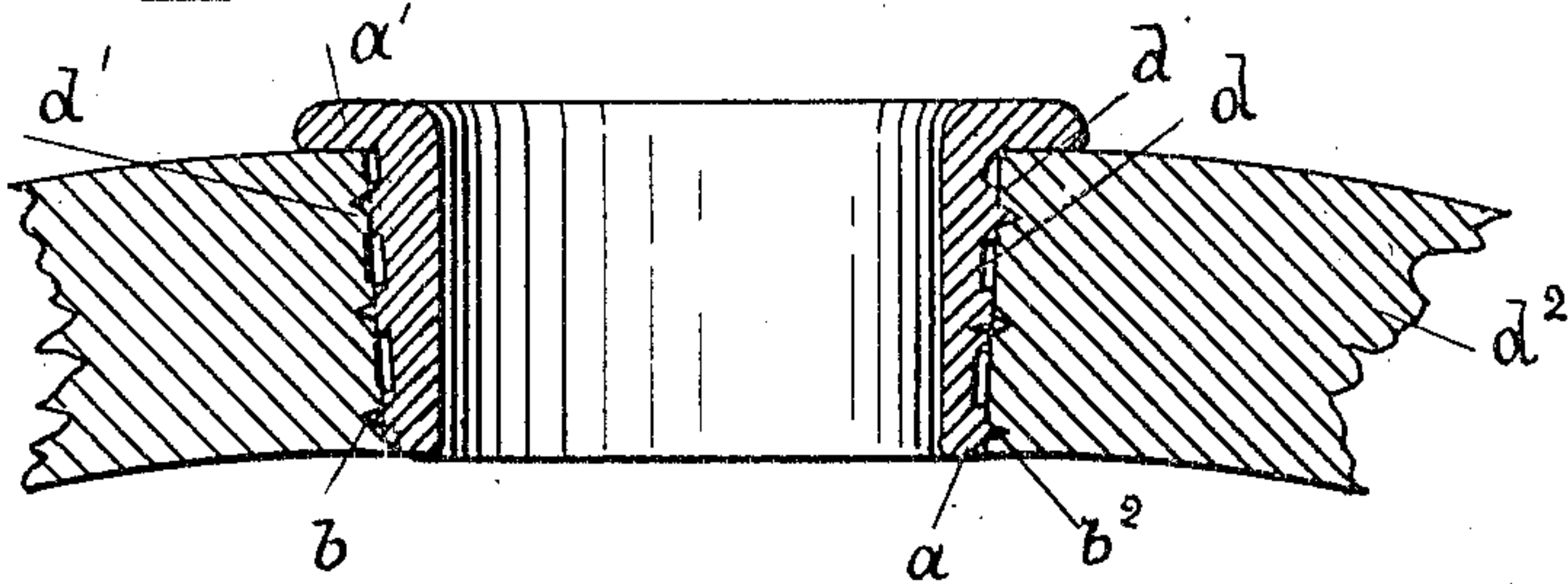
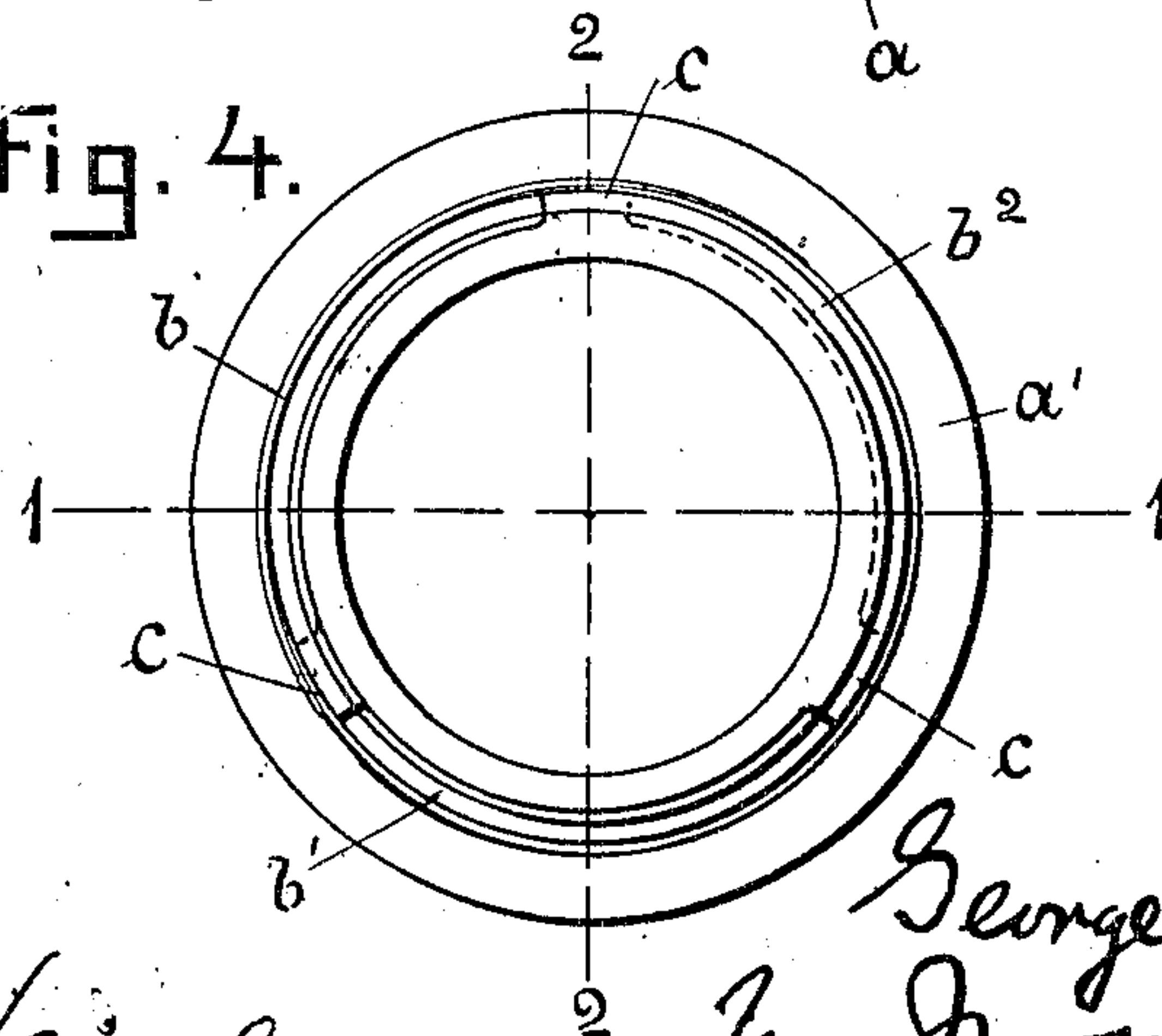


Fig. 4.



Witness
Geo. E. H. H. H. H.
Katie Strubli

Inventor
George H. Ricke
by John Strubli
Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. RICKE, OF CINCINNATI, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MILLER BUNG BUSH COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

BUNG-BUSHING.

No. 871,444.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed February 20, 1906. Serial No. 302,105.

To all whom it may concern:

Be it known that I, GEORGE H. RICKE, a citizen of the United States, residing at the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Bung-Bushings, of which the following is a specification.

The object of my invention is to produce a cheap, simple and efficient bushing for bung or tap holes in beer kegs and barrels.

Beer kegs and barrels belong to that class of cooperage, known as "tight packages" and are made up of thick, heavy staves and thick expensive heads, held together by heavy steel hoops. At its bilge the keg is provided with a bung hole. This hole is fitted with and protected by an iron band or ferrule called a bush or bung bushing. The stave into which this bushing is placed is called the bung stave. It is usually a selected stave, being the best in the package, inasmuch as this stave is weakened by the bung hole. These bung staves often crack around the bushing allowing gases to escape from the keg, entailing loss and inconvenience, as the contents are spoiled and the keg must be repaired. This cracking is more common in kegs on which the hoops have been re-pulled, as the hoops, being pulled farther down on the periphery of the keg to take up shrinkage, pulls the staves more tightly together; this strain is transmitted to the wood around the bung bushing and as the wood around the threads has no place to go, it lifts or rises, thus weakening this point in the stave; but in my bush the threads being far apart and forming pockets, the wood between the threads is wider and the threads are wider and the threads do not offer the same amount of resistance as they do in the case of the ordinary bung bushing, thus the wood can force into the pockets and be accommodated, and thus will not lift or rise, keeping the stave in the normal position.

My invention consists essentially in providing several series of partial screw threads around the periphery of the bung bush, one series of partial screw threads overlapping or passing the ends of the other series, so that where they overlap, the thread is unbroken and close just as the thread in the ordinary screw bung bushing but at the points where they do not overlap, the space between the

threads is wide and forms a pocket, inlet or recess for the wood.

In the accompanying drawing forming part of this specification Figure 1 is a view in elevation of my bush. Fig. 2 is a sectional view of the bush taken at line 2—2 of Fig. 4, part of the stave being shown in section. Fig. 3 is a sectional view of the bush taken at line 1—1 of Fig. 2, part of the stave being shown in section. Fig. 4 is a bottom view of the bush.

I provide series of partial screw threads around the periphery of the bush, each series being independent, the partial screw threads of one series overlapping the partial screw threads of the adjacent series at their ends, so that where they overlap the screw threads are close together just as in the ordinary screw bush, but throughout the rest of their length, the threads are far apart and a pocket is formed between them. In the present instance, I show three series of short screw threads, thus there are three sets of overlapping parts and three sets of wide parts or pockets.

The bush is formed of ring ferrule or band *a*, carrying at its top a flange *a'*. The bush is widest at the top and tapers towards the bottom.

One series of partial screw threads is marked *b* and its adjacent series *b' b''*. These partial screw threads each run around about one third of the periphery of the bush. The points where the partial screw threads overlap each other are designated by the letter *c*, and the points where the screw threads are far apart and form pockets are marked *d*.

The threads have the ordinary shaped cutting edge and on each side of said cutting edge, some distance back from the cutting point are provided with continuous shoulders or auxiliary cutters *d'*; these cutters *d'* assist in forcing the wood up against the adjacent screw threads and into the pockets *d*. The screw threads are preferably on an incline as is ordinarily the case in screw threads on bung bushings.

The space between the partial threads where they overlap is not deep, but is formed about like the screw threads now used, so that the threads will sink into the wood all the way and at these points make an absolutely tight joint, so that leakage of any kind

is prevented; the wood is also tight up against the base of the threads around the pockets, the pockets being present for the purpose of receiving the wood which is forced asunder when the threads are digging their way into the wood.

The bush is screwed into the bung hole in the bung stave d^2 , the lowest threads of one series first cutting the way into the wood and moving downward, the next highest thread of the adjacent series follows in its path and thus one follows in the path of the one before it and below it, the bush always of course, going further down in the bung hole, until it has been screwed home and the flange a' fits tightly against the bung stave; in this operation the screw threads do not chew, break or sliver the wood, as the shoulders or auxiliary cutters force the wood into the pockets d in the wide part between the threads, where it is preserved in a natural and unbroken condition. The tight fit and cut of the threads at the joint where the threads overlap is also relieved by the wood being squeezed back toward the pockets d , and inasmuch as this space is not long and continuous, but short, the wood is not broken and torn.

It will be readily apparent that my bush can be screwed into the wood without serious damage and that the wood is left in such a condition that the heat from the pitching machine spray tube and the incan-

descent rod for removing the surplus pitch will not disturb it or weaken it; and further that the repulling of the hoops will not affect it inasmuch as the wood can find a home and will not be ground and lifted, thus the bung stave will be saved and great expense in cooperage saved and the weakest part of the keg or barrel be made as invulnerable, as the rest of the package.

Of course I may use as many sets or series of screw threads as I desire, two, three four or more. I may form the threads as far apart as desired, make the pockets shallow or deep and overlap the threads to a greater or less degree in extent.

What I claim as new and of my invention and desire to secure by Letters Patent is:—

A bung bushing having series or sets of partial screw threads lying laterally around the periphery of the bushing, the threads of one series at their ends partly overlapping the threads of the adjacent series, the partial screw threads where they overlap, lying closely together, and the space between the threads where they do not overlap recessed to form pockets for the wood, as set forth.

Signed at Cincinnati, Hamilton county, Ohio, this 12th day of February A. D. 1906.

GEORGE H. RICKE.

Witnesses:

KATIE STREHLI,
CHRISTINE SCHAUL.