

(No Model.)

J. PLEUKHARP & W. K. LIGGETT.
BARREL.

No. 496,953.

Patented May 9, 1893.

Fig. 1.

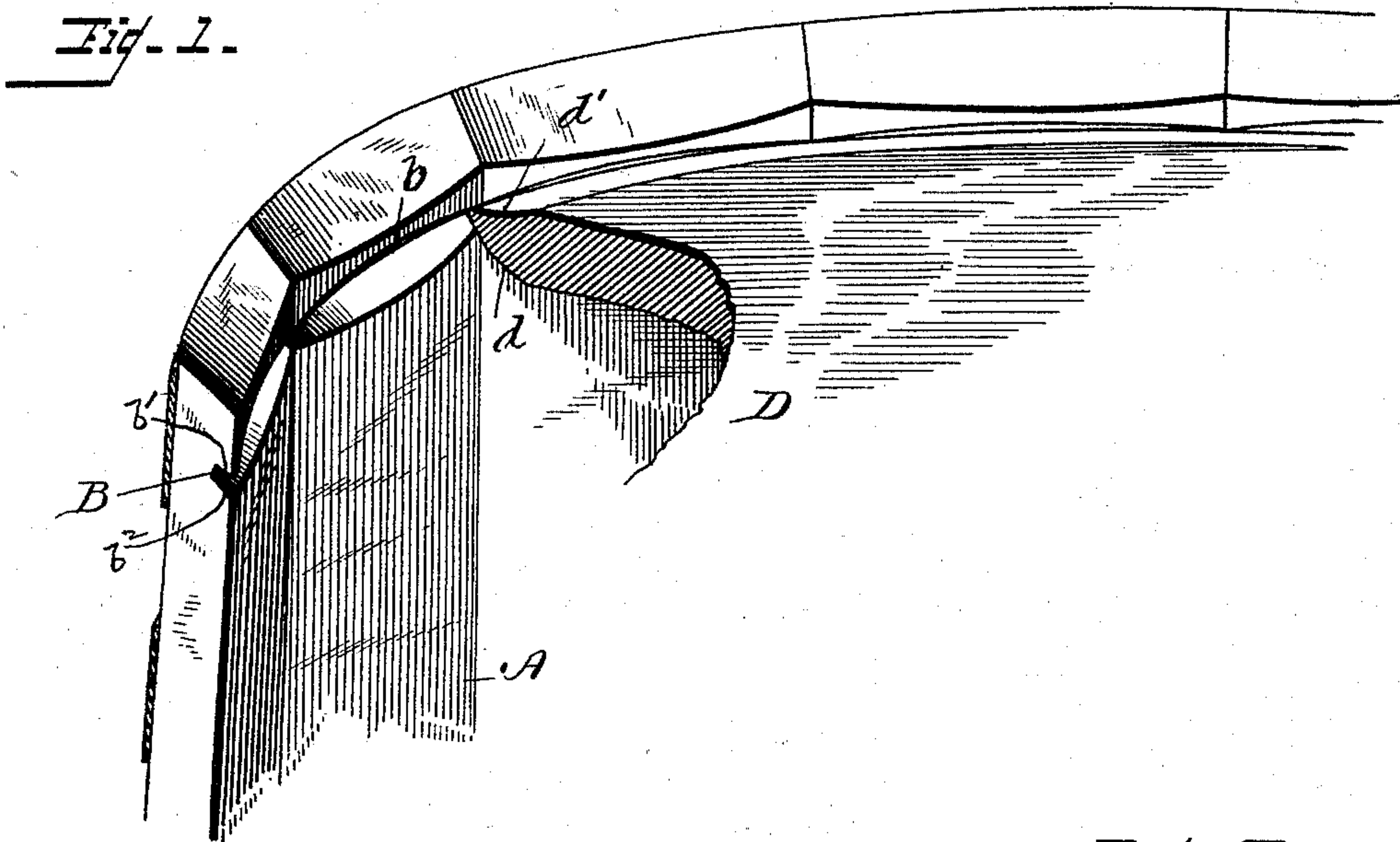


Fig. 2.

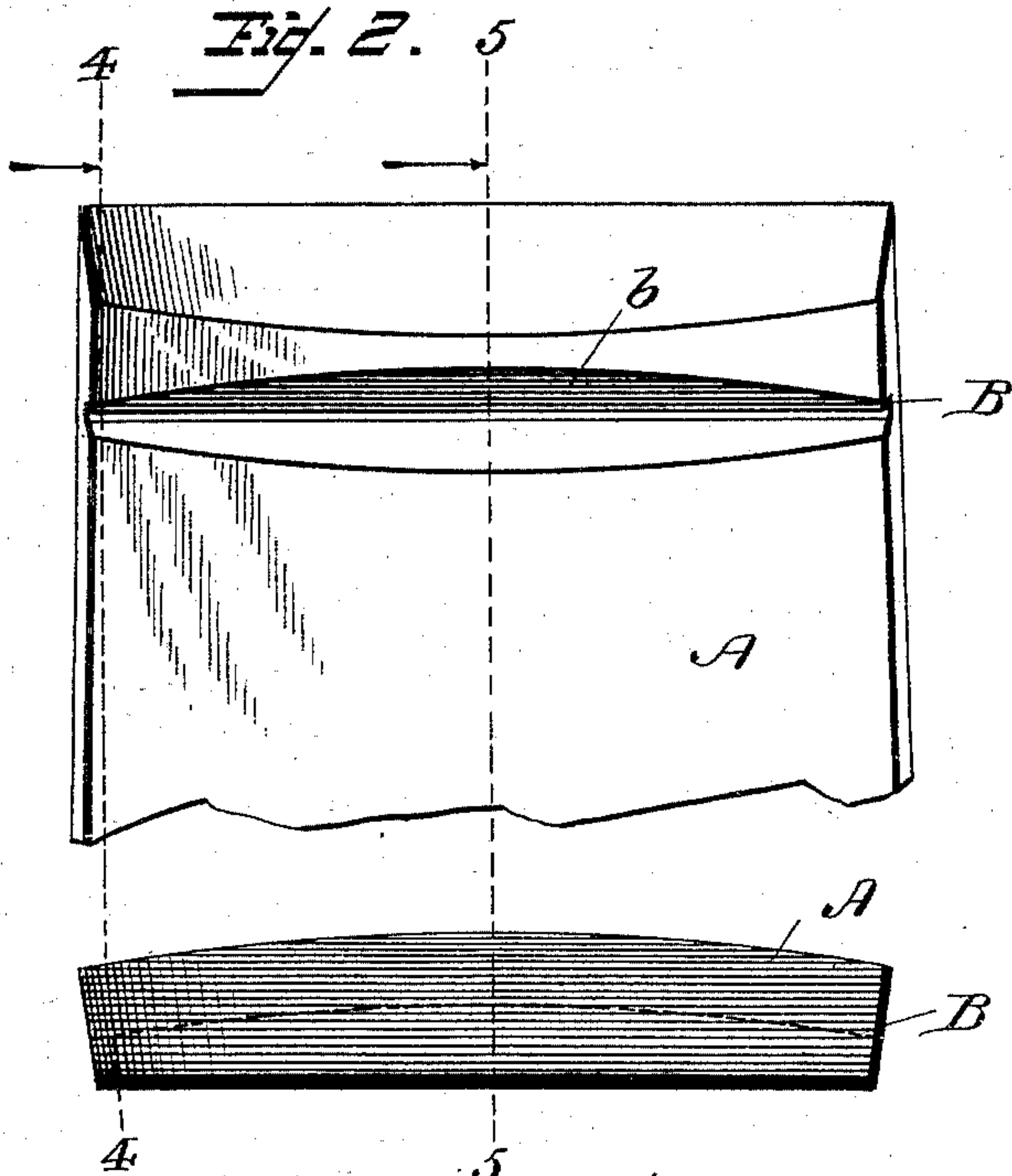


Fig. 3.

Witnesses
"New England"
Van Buren Hillyard.

Fig. 4.

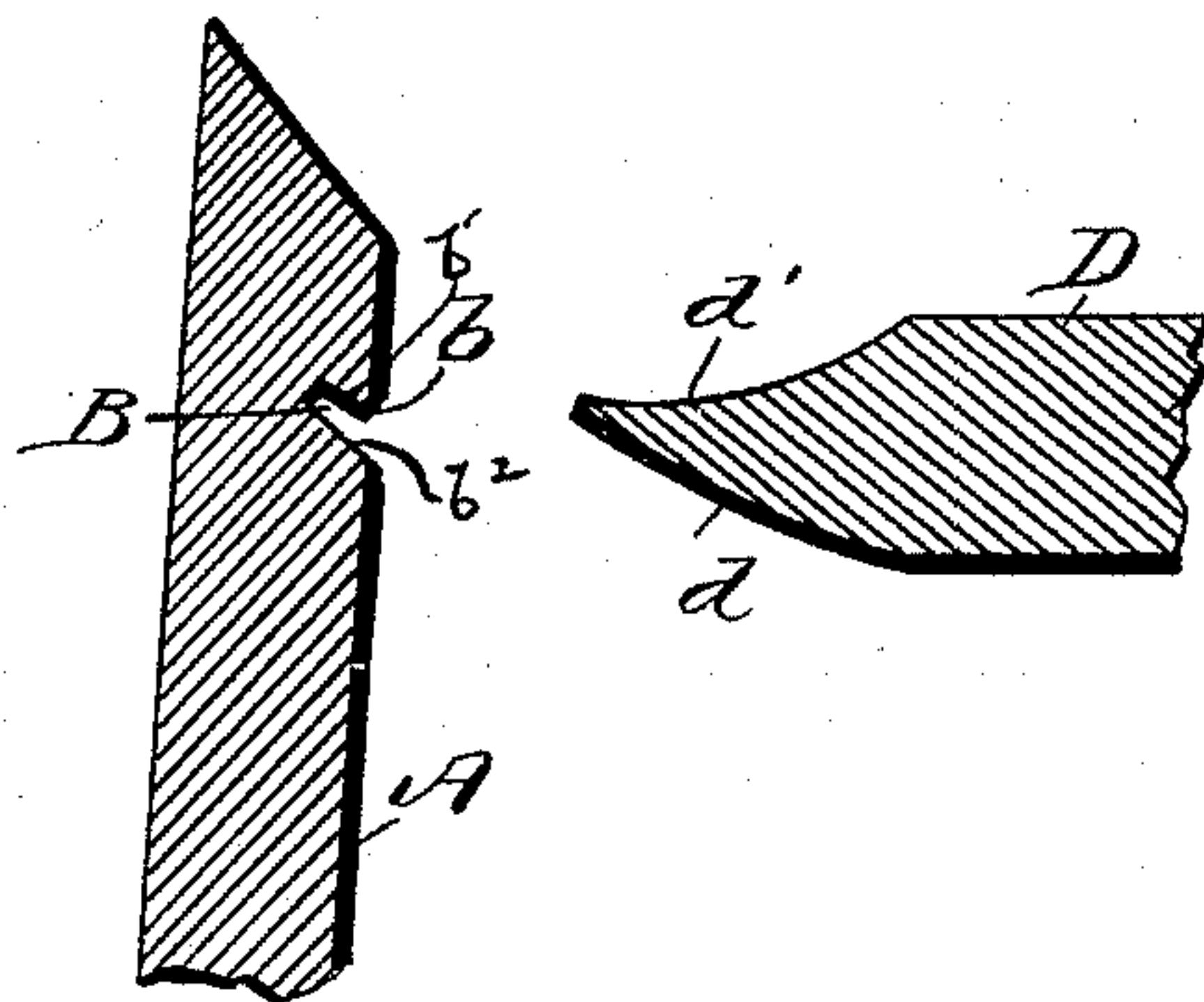
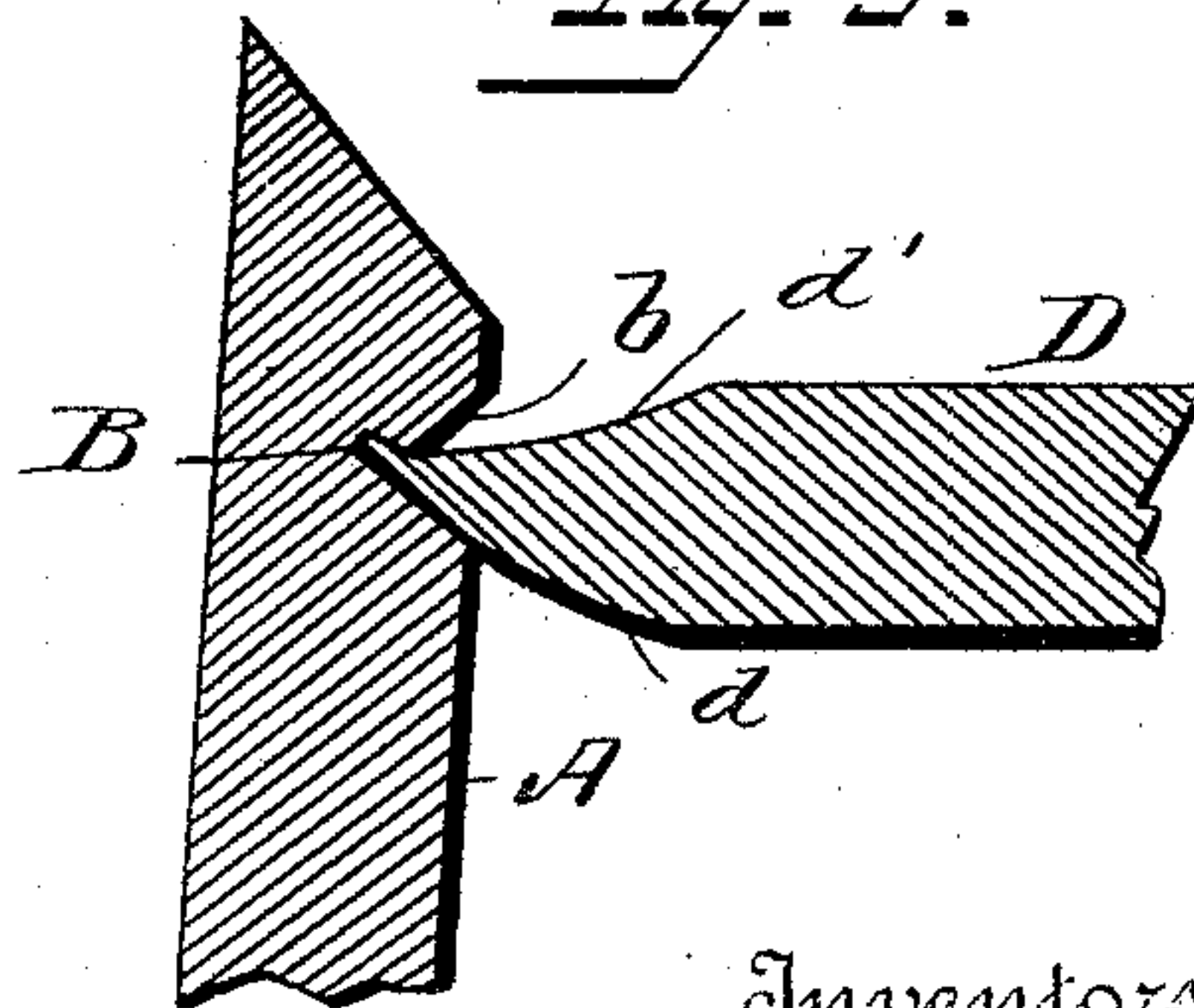


Fig. 5.



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James Pleukharp,
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By their Attorneys

R. A. Lacey

UNITED STATES PATENT OFFICE.

JAMES PLEUKHARP AND WILLIAM K. LIGGETT, OF COLUMBUS, OHIO,
ASSIGNORS TO THE PLEUKHARP BARREL MACHINE COMPANY.

BARREL.

SPECIFICATION forming part of Letters Patent No. 496,953, dated May 9, 1893.

Application filed February 15, 1892. Serial No. 421,602. (No model.)

To all whom it may concern:

Be it known that we, JAMES PLEUKHARP and WILLIAM K. LIGGETT, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Barrels; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to barrels and is designed chiefly as an improvement on the standard barrel for which Letters Patent of the United States were granted James Pleukharp August 1, 1891, No. 459,646.

The object of the invention is to obtain a close joint between the head and the staves of a liquid barrel and obviate the use of extra fastening devices to secure the head in the barrel.

The improvement consists in the croze and chamfer which are peculiarly formed, the croze inclining toward the end of the stave, and the chamfer having an approximately corresponding inclination, being convex on the inner face and concave on the outer face.

The improvement further consists in having the outer wall of the croze cut away, on a curved line which corresponds to the curved outline of the head to give clearance for the chamfer and provide a uniform bearing between the outer face of the said chamfer and the outer wall of the croze.

In the drawings,—Figure 1 is a perspective view of the end portion of a barrel, the head being broken away to show the relation of the croze and the chamfer. Fig. 2 is a front view of the end of a stave having the croze formed therein in accordance with our invention. Fig. 3 is an end view of the stave. Fig. 4 is a section on the line 4—4 of Figs. 2 and 3 looking to the right, the head being detached and arranged in a relative position to the stave. Fig. 5 is a section on the line 5—5 of Figs. 2 and 3 looking to the right, showing the head in position relative to the stave.

The stave A is of standard size and is straight on its inner face between its edges and curved on its outer face as shown most clearly in Fig. 3. The croze B is formed in

the straight face of the stave and inclines toward the end of the stave as seen in Figs. 1, 4 and 5. The outer wall *b* of the croze is cut away on a curved line and flares in an opposite direction to the inner wall of the said croze, which wall is in the same inclined plane as the croze. The croze B is parallel with the curved face of the stave as shown in Fig. 3.

The head D is provided with a concavo-convex chamfer, the inner face *d* of the chamfer being convex and the outer face *d'* being concave. The chamfer thus formed is slightly elastic at its outer edge and will conform to the croze when driving up the staves. Hence a tight joint is insured.

The barrels are headed in the usual or any approved manner and should there be any difference in inclination between the croze and the chamfer, the latter by reason of its elasticity will adapt itself to the slight variation, thereby facilitating the work of heading.

The croze B has one wall *b'* undercut and the opposite wall *b''* constructed to form a guide to deflect the elastic or flexible portion of the chamfer into the space formed by the said undercut wall *b'* when forcing or crowding together the free ends of the staves by driving on the end hoops.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A barrel composed of staves having an undercut croze, and a head having a chamfer to conform to and enter the said undercut croze, substantially as described.

2. A barrel composed of staves having one wall of the croze undercut and having the opposite wall of the said croze approximately parallel with the undercut wall, and a head having a concavo convex chamfer to conform to and enter the said croze, substantially as described.

3. A barrel composed of staves having one wall of the croze undercut and having the opposite wall of the said croze constructed to form a guide, and a head having the edge of the chamfer flexible and adapted to be deflected into the undercut portion of the croze by the said guide wall, substantially as described.

4. A barrel composed of staves having

straight inner faces, and having an undercut
croze, the outer wall of the croze being cut
away on a curved line and flaring in oppo-
site direction to the inner wall, and a head
5 having a corresponding chamfer, substan-
tially as described.

5. A barrel composed of staves having
straight inner faces, and having the outer
wall of the croze undercut and cut away be-
10 tween the edges of the staves on a curved
line which flares toward the ends of the staves

and a head having a concavo-convex chamfer,
the outer edge of which is flexible, to be
crowded into the undercut portion of the
croze, substantially as set forth. 15

In testimony whereof we affix our signatures
in presence of two witnesses.

JAMES PLEUKHARP.
WILLIAM K. LIGGETT.

Witnesses:

BARTON GRIFFITH,
FRANK J. DAWSON.