(No Model.)

J. C. KEEFE.

BARREL HEAD STRENGTHENING DEVICE.

No. 284,022. Patented Aug. 28, 1883.

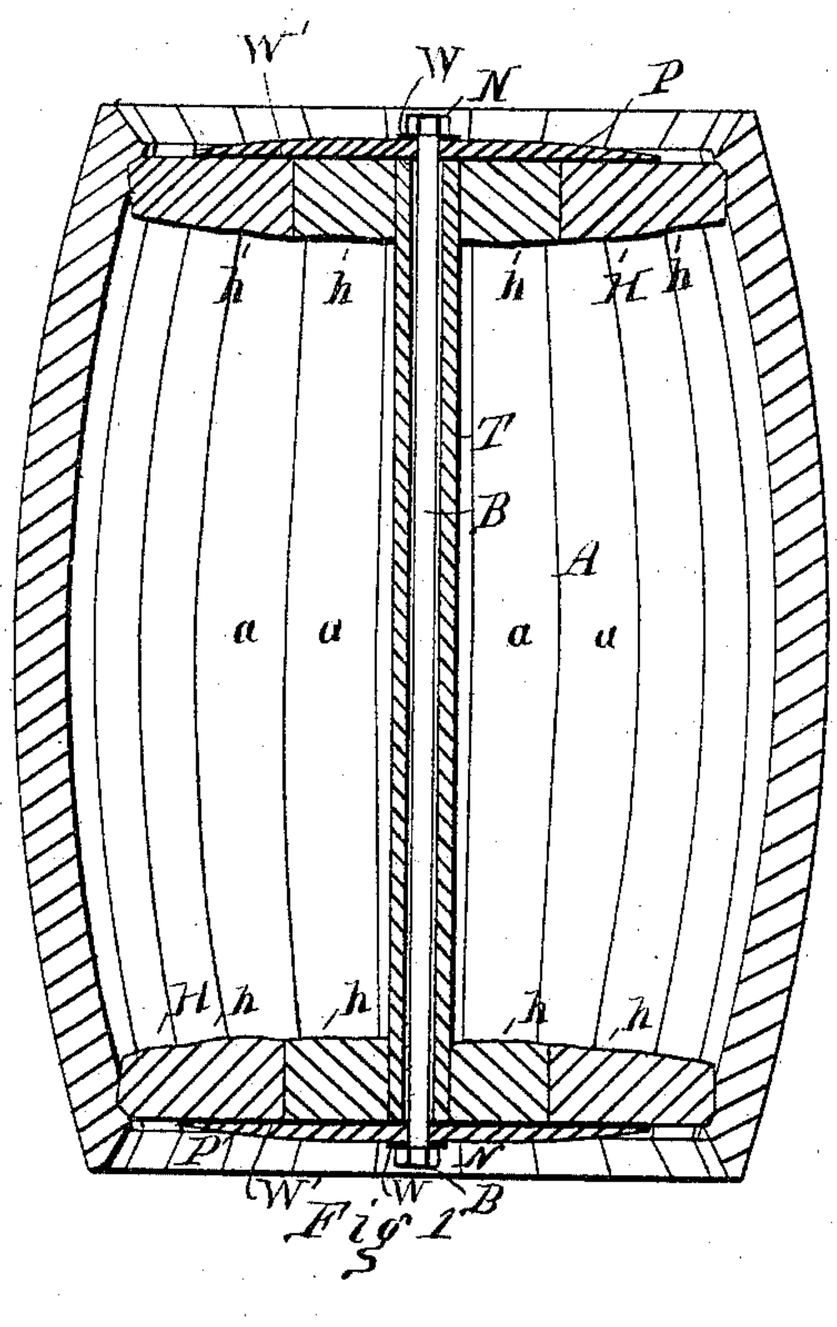

Fig 1

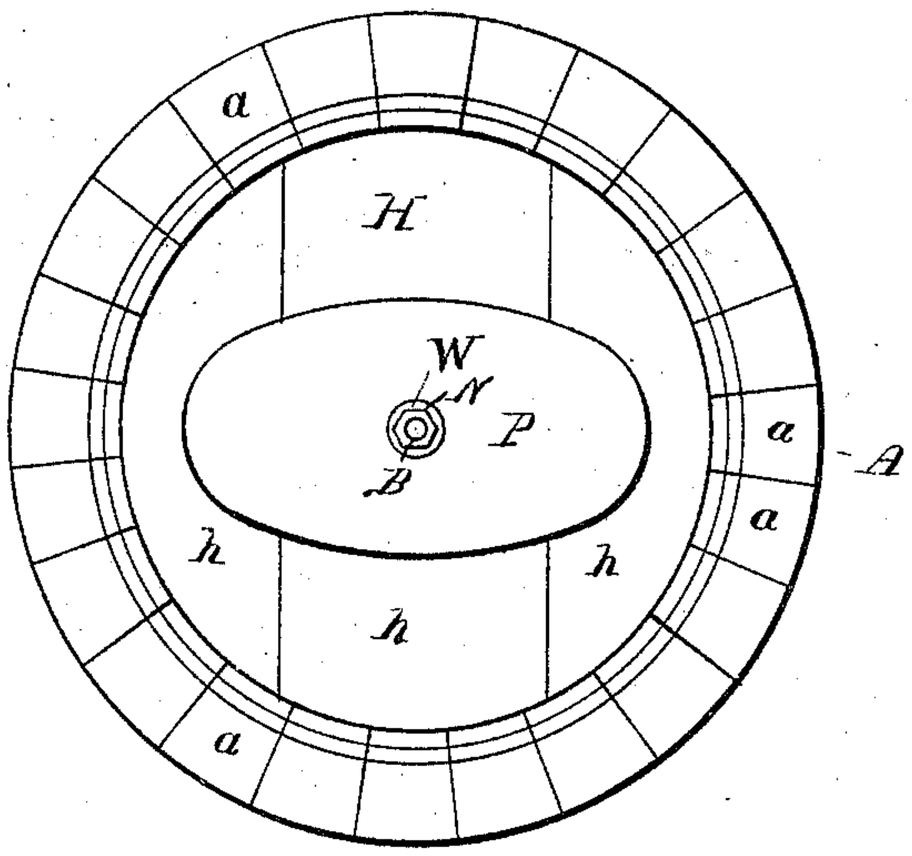

Fig 2

Witnesses—
Kirkley Hyde.
Irving S. Porter

Inventor—
John C. Keefe,
By Albert W. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

JOHN C. KEEFE, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JAMES W. BENNETT, OF SAME PLACE.

BARREL-HEAD-STRENGTHENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 284,022, dated August 28, 1883.

Application filed December 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. KEEFE, a subject of Victoria, Queen of the United Kingdom of Great Britain and Ireland, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Devices for Strengthening Barrel-Heads, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section, and Fig. 2 a plan view, of a barrel, showing my device.

My invention has special reference to barrels and casks for containing fermented or aerated liquids, and relates to means of connecting the heads of a barrel or cask to each other within the staves thereof, and to means of separating such connecting means from the contents of the barrel.

A is the body of the barrel, formed of staves *a*, and H is the head formed of pieces *h*, doweled together in the usual manner.

It is well known that the heads of barrels containing beer and similar liquids are frequently burst by the fermentation of such liquids, and that attempts have been made to strengthen such heads. I prevent the bursting of the heads by tying them together in such a manner that when one is pushed outward the other will be drawn inward, so that it will be impossible to burst out either head (the pressure on the heads being substantially equal and in opposite directions) without first breaking the tie that connects the heads.

In carrying out my invention, I put a metallic bolt or tie, B, through the heads of the barrel about centrally, and I prevent the bolt from drawing through the heads by nuts N, one on each end of said bolt, the ends of said bolt being screw-threaded for that purpose. In order to give the ends of the bolt a better hold, the plates P, of iron or hard wood—say of oak—are interposed between the heads H and the nuts N, these plates having a central hole for that purpose. The plate P is preferably of an oblong shape, and its greatest length is at right angles with the grain of the head, and if made of wood the grain of the plate should run in the direction of its length, and the washer W should be interposed between the plate and the nut.

In order to prevent the metallic bolt B from coming in contact with the contents of the barrel, and thus injurying said contents and rusting and destroying said bolt, I surround said bolt by a tube, T, preferably of wood, which passes through each head, as shown. This tube effectually separates the bolt B and the liquid contents of the barrel. An elastic washer, W′, closely surrounding the bolt, may be placed between the end of the tube and the plate P, to prevent any leakage, but will hardly be necessary, as the tube, being of wood, will naturally swell by absorbing the contents of the barrel, and thus make a tight joint between itself and the wood of the head.

I claim as my invention—

1. The combination, with the barrel provided with heads, of means of connecting said heads to each other within the staves of said barrel, and means of separating said connecting means from the contents of said barrel, said separating means surrounding said connecting means and entering the heads of said barrel, as and for the purpose specified.

2. The combination of the barrel provided with heads H, the bolt B, and the tube T, surrounding said bolt and entering each of said heads, as and for the purpose specified.

JOHN C. KEEFE.

Witnesses:
ALBERT M. MOORE,
EDWARD W. THOMPSON.