(No Model.)

A. L. JOHNSON.

BARREL AND BARREL HEAD ATTACHING DEVICE.

No. 309,786. Patented Dec. 23, 1884.

FIG. I.

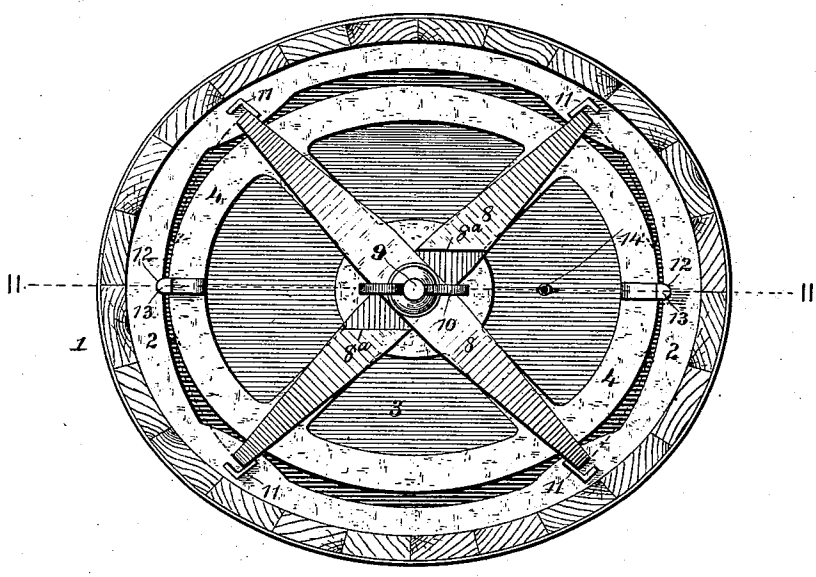
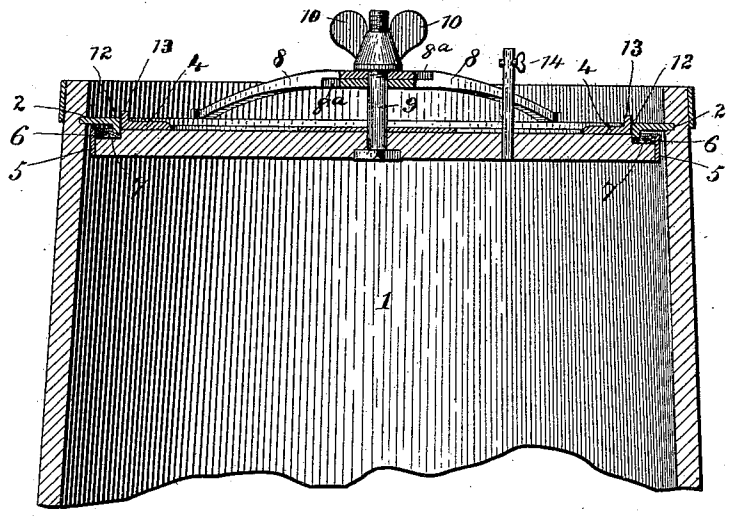


FIG. II.



Attest:
Geo. P. Smallwood.
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UNITED STATES PATENT OFFICE.

ADELBERT L. JOHNSON, OF LEAVENWORTH, ASSIGNOR OF ONE-HALF TO HENRY R. TOMLINSON, OF LAWRENCE, KANSAS.

BARREL AND BARREL-HEAD-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 309,786, dated December 23, 1884.

Application filed September 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT L. JOHNSON, a citizen of the United States, residing at Leavenworth, in the county of Leavenworth and State of Kansas, have invented certain new and useful Improvements in Barrels and Barrel-Head-Attaching Devices, of which the following is a specification.

My invention is more particularly applicable to barrel-churns or washing-machines, but may be applied to various vessels of analogous shape.

The improved barrel is made oval or elliptical, or nearly so, in cross-section, and is provided with a correspondingly-shaped head. The edge of the upper side of the head is provided with felt, rubber, or other packing, which, when the head is in place, bears against a flange upon the inside of the barrel to make a tight joint. The head is brought firmly to its seat under said flange by means of an arm or arms pivoted to a central screw on said head and adapted to engage on the upper side of the flange, being tightened by means of a thumb-nut on said central pivot-screw. Metallic plates are provided for strengthening the head and protecting the packing, and guides for the head and arms are arranged as will be described in the sequel.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is a plan view of a barrel and head embodying my invention. Fig. II is a vertical sectional view through the major axis of the head.

In the drawings, 1 may represent a barrel oval in cross-section or having an oval-shaped head-opening. 2 is a rim or flange, of wood or metal, fixed within the barrel near its upper end. 3 is the head, preferably of wood, and of a shape corresponding to that of the opening in the barrel. 4 are metallic plates fixed to the top of the head for strengthening the same; and 5 is a metallic ring surrounding the head for protecting the same and holding in the packing 6, of felt, rubber, or other suitable material, placed in the groove 7, which encircles the head. 8 are locking-arms of sufficient length to engage over the flange 2 when crossed, in the position shown in full lines in Fig. I, but capable of passing through the barrel-opening when turned into a position more nearly parallel with the head's major axis, as shown in dotted lines in said figure. Two of these arms are preferably employed, as here shown; but in some cases practically about as good a result may be obtained by the use of a single arm, and I do not limit myself, therefore, to any particular number of said arms. They are recessed on their contiguous faces, whereby shoulders 8^a are formed, which shoulders form stops to limit their rotation relatively to each other. The arms 8 are pivoted centrally upon a stud or bolt, 9, fixed to the head at its lower end and screw-threaded at its upper end to bear a thumb-nut, 10. The nut 10 bears upon the arms 8, so that by turning it up or down the pressure of said arms upon the flange 2, and consequently the tightness of the joint between said flange and the packing on the head may be varied at will. When it is desired to remove the head, the nut 10 is loosened and the arms 8 turned in the direction shown by the dotted lines in Fig. I. The head is then lowered into the barrel sufficiently far to allow it to be tipped up on end, in which position it is removed.

To limit the movement of the arms 8, I form or fix studs or stops 11 upon the upper surface of the flange 2. Vertical grooves 12 are formed at opposite sides of the flange, which engage studs 13, fixed to the head, to insure the guiding of the head to proper position.

14 is a cock for permitting the discharge of steam from the barrel preparatory to releasing the head.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a barrel, the combination, with a flange secured in one end thereof and provided with an elongated opening, of a head of larger area than said opening bearing against the inside of said flange, a screw-threaded spindle projecting from said head, spring-arms through which said spindle passes, bearing at their extremities against the outside of the aforesaid flange, and a screw-nut working

on said spindle for increasing the pressure of spring-arms, substantially in the manner and for the purpose set forth.

2. The combination, with a barrel having an elongated opening, of a cover of larger area than said opening placed on the inside thereof, a screw-threaded spindle projecting from the cover, a pair of independent spring-arms placed loosely upon said spindle, and a screw-nut, all constructed and arranged to operate substantially in the manner and for the purpose set forth.

3. The combination, with a barrel having an elongated opening and a cover of larger area placed within the same, and having a screw-threaded spindle projecting therefrom, of a pair of independent spring-arms loosely pivoted at their centers on said spindle, and stops for limiting their rotation thereon, substantially in the manner and for the purpose set forth.

4. The combination of barrel 1, having flange 2, grooved at 12, head 3, having studs 9 and 13, arms 8, and thumb-nut 10, substantially as and for the purpose set forth.

ADELBERT L. JOHNSON.

Witnesses:
GEORGE W. GOFF,
AMOS S. DAVIS.