(No Model.)

L. M. REED.

BARREL, KEG, OR SIMILAR ARTICLE.

No. 322,641. Patented July 21, 1885.

Fig. 1.

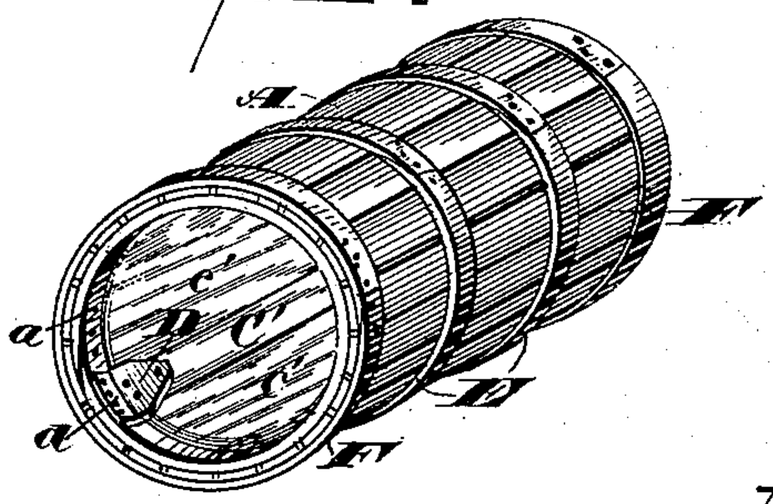


Fig. 2.

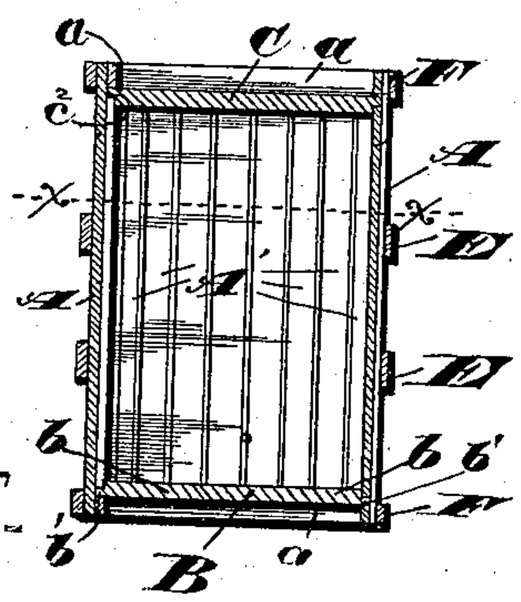


Fig. 3.

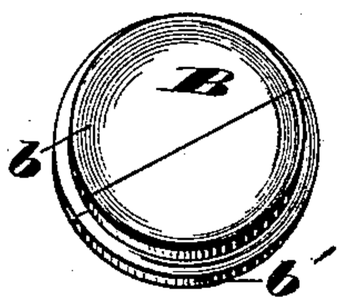


Fig. 4.

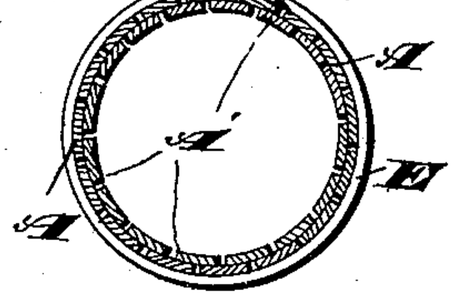


Fig. 5.

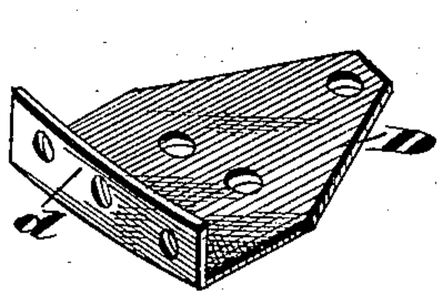
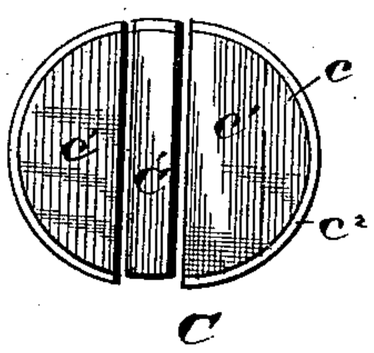


Fig.



WITNESSES

Wm. S. Monroe.
Geo. W. King

INVENTOR

Lemon M. Reed.
by
Leggett & Leggett
Attorneys

UNITED STATES PATENT OFFICE.

LEMON M. REED, OF CLEVELAND, OHIO.

BARREL, KEG, OR SIMILAR ARTICLE.

SPECIFICATION forming part of Letters Patent No. 322,641, dated July 21, 1885.

Application filed February 3, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEMON M. REED, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Barrels, Kegs, or Similar Packages; and I 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 pertains to make and use the same.

My invention relates to improvements in barrels, kegs, and similar packages, known as "dry coopering," having for its object a cylindrical package with double staves arranged to break joints, with the inner staves cut short, forming square shoulders for the heads to rest upon, the heads provided with square annular shoulders to abut against the inner staves, and inside chine-hoops to hold the heads in place, and one of the heads provided with a central strip secured at one end by a metal piece nailed to the chine-hoop, by withdrawing the nails of which the head may be removed or replaced, the primary object being to provide a strong package at a reduced initial cost.

In the accompanying drawings, Figure 1 is a view in perspective of a keg embodying my invention. Fig. 2 is a longitudinal section through the center of the keg. Fig. 3 is a view in perspective of the stationary head. Fig. 4 is a plan view of the removable head, in which the parts of the head are shown separated. Fig. 5 is an enlarged view in perspective of the metal fastening for the detachable head. Fig. 6 is a transverse section on the line of *x x*, Fig. 2.

A represents the outer staves, and A′ the inner staves, and the two sets of staves are arranged to break joints. The inner staves are cut short and the heads rest on the ends thereof. Outside of the heads is secured an inside chine-hoop, *a*, that holds the heads in place, and the spaces respectively between these hoops and the ends of the inner staves form a square crozing for the heads. The heads B and C—the former being a stationary and the latter a removable head—have square annular shoulders *b* and *c* that abut against the inner staves and hold the ends thereof back against the outer staves. The removable head consists of a middle piece, C, and the side pieces, *c′*. One end of the piece C′ fits into the crozing, while the other end is cut short, so that it will pass down inside the hoop *a*, and this end is provided with a piece of sheet metal, D, bent at about a right angle, and is securely nailed to the part C′ and so arranged that when the part C′ is in position the flange *d* of the part D will abut against the adjacent hoop *a*, to which it is secured by nailing. By withdrawing these latter nails, first the part C may be removed and afterward the balance of the head. The staves are cut straight, both longitudinally and transversely.

Almost every kind of timber is available for these packages. Cheap woods that heretofore have been considered worthless for such purposes may be made into serviceable packages of this kind, and with the increasing scarcity of good timber the construction of packages that will render the cheap kinds of wood available is of great commercial importance.

In making the staves the timber is sawed into suitable lengths for the two kinds of staves, and after the staves are cut there is no further work to be done on them before assembling them in the package. If the edges of the staves are not parallel, or are not jointed, it is a matter of no consequence.

The hoops when cut in suitable lengths are ready for use, and the material may all be prepared where timber is plenty and shipped in bulk to where the packages are to be put together.

In erecting the packages, the hoops are bent around a form of suitable size, the hoops being of suitable length to overlap at the ends some distance, and the ends are tacked to hold the hoops together in this bent form. Next the two hoops E are placed in position, preferably on a metal table concaved to correspond with the size of the hoop. Two of the outside staves are placed in these hoops, and an inside stave is also arranged to break joints with the outer staves, and both sets of staves are pressed down in the hoops and nailed from the inside, the nails passing through the hoops and clinched on the outside. The other staves are arranged and secured in like manner. This nailing also secures the lapping ends of the hoops, as shown at a^4, Fig. 6. By reason of

the two thicknesses of staves used, each is made thin, so that in nailing them to the hoops the staves are easily pressed down and made to conform to the curve of the hoops; also, as the staves are arranged to break joints, cracks of considerable size may be left respectively between either the inner or outer staves without materially injuring the structure, and consequently no fitting or nice sorting of staves is required to fill out the hoops. The outside end hoops, F, are next placed on the package. The heads are then placed in position, and the inside chine-hoops, *a*, are inserted next outside the head, and the two hoops F and *a* are nailed through and through, the nails also clinched as before, and the nails of course passing through the outer staves. This completes the package except the nailing of the metal piece D to the inside chine-hoop, and this need only be tacked to keep it in place until the package is filled. With this construction, the shrinkage of the timber does not loosen the hoops, staves, or head, or weaken the structure.

If the packages are not used for some time after they are put together, the shoulders *b* and *c* of the respective heads hold the ends of the inner staves in place against the outer staves while the timber is shrinking, and these shoulders, overlapping the inner staves, form a double joint that effectually prevents the escape of small articles.

By reason of the square crozing, as described, and the square tongues *b'* and c^2 of the heads engaging the crozing, the heads are held securely, although the shrinkage of the heads may be considerable, whereas with the ordinary V-shaped crozing the shrinkage of the heads frequently results in the bursting out of the heads—a common occurrence in handling nail-kegs.

With the construction shown, the inside chine-hoops, *a*, are flush with the end of the package, and rest on the floor when the package stands on the end, so that the lower head, that would in such case sustain the weight of the contents, is not likely to be burst out, and does not even cause extra strain on the nailing.

As aforesaid, the material may be all prepared in the woods, and in erecting the packages no fitting or skilled labor is required, and no tools except a hammer. The plate D is somewhat wider than the strip to which it is attached, and extends onto the parts *c'*, so that in placing the part C' in position it cannot fall inside the package, and as the plate D is secured to the chine, no additional strain is brought upon the part *c'* of the head.

What I claim is—

1. In a barrel, keg, or similar package, inner and outer staves arranged to break joints, the inner staves arranged to support the heads from the inside, and an inside chine-hoop attached to the outer staves and arranged to support the heads from the outside, substantially as set forth.

2. A cylindrical package, barrel, or keg, as the case may be, consisting of inner and outer staves arranged to break joints, the inner staves arranged to support the heads from the inside, the staves secured to the hoops, and the hoops secured at the lapped ends by one set of nailing, substantially as set forth.

3. In a barrel, keg, or similar package, heads provided with an annular tongue, square or rectangular in cross-section, an annular corresponding space or crozing between the shoulder of the staves and the inside chine-hoop for receiving the said tongue, and an annular shoulder on the head arranged to extend inside the staves, substantially as set forth.

4. In a barrel, keg, or similar package, a detachable head consisting of three or more pieces, with the center piece arranged to engage the crozing at one end, and cut short of the crozing at the other end, and provided with a metal fastening secured to the center piece of the head and bent at about a right angle, and arranged to be fastened to the chine or chine-hoop, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 27th day of January, 1885.

LEMON M. REED.

Witnesses:

CHAS. H. DORER,

GEO. W. KING.