

(Model.)

J. A. TANNER.
BARREL, TUB, &c.

No. 353,386.

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Fig 3.

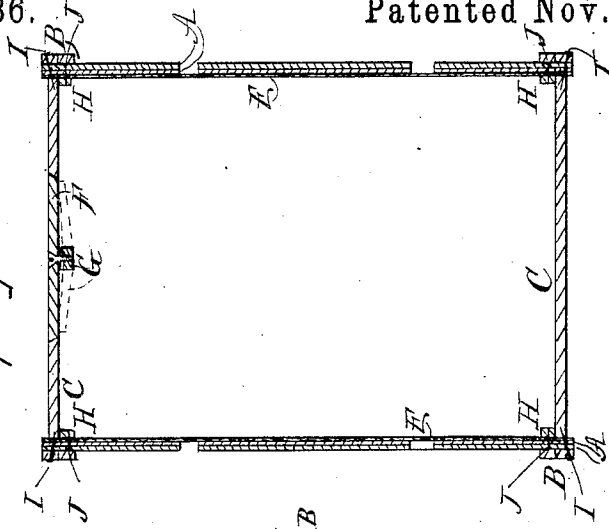


Fig 2.

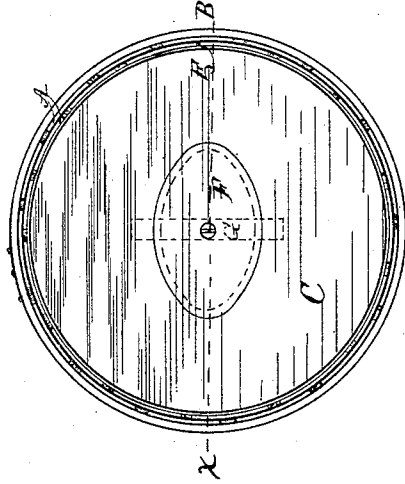
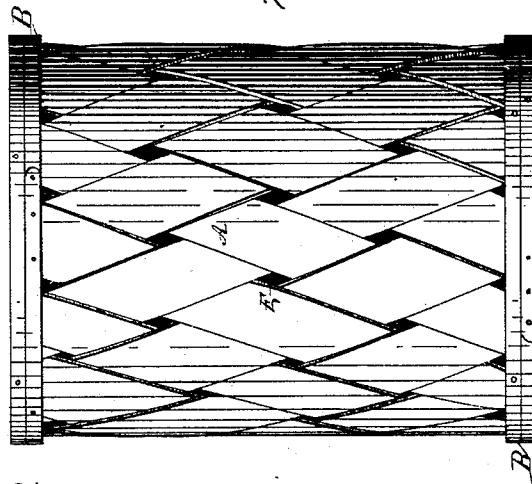


Fig 1.



Witnesses:
L. E. Stevens.
P. C. Stevens.

Inventor:
John A. Tanner.
Per *H. X. Stevens Atty.*

UNITED STATES PATENT OFFICE.

JOHN ALEXANDER TANNER, OF LOUISVILLE, KENTUCKY.

BARREL, TUB, &c.

SPECIFICATION forming part of Letters Patent No. 353,386, dated November 30, 1886.

Application filed May 12, 1885. Renewed May 15, 1886. Serial No. 202,333. (Model.)

To all whom it may concern:

Be it known that I, JOHN ALEXANDER TANNER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Barrels; 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 appertains to make and use the same.

This invention relates to that class of barrels which are used for packing, storing, and transporting merchandise.

Heretofore barrels have been made of longitudinal staves held together by hoops, and prevented from falling inward by their outer faces being of greater breadth than their inner faces, their edges being radial planes. Thus a transverse section of each stave is wedge-shaped, pointing inward, so that its movement to fall or to be crowded inward is resisted by the two adjacent staves. Let any stave be removed and the barrel falls to pieces. In basket-work the hoops and staves, both of thin material, are interwoven, the hoops passing around, and the staves up and down and sometimes across the bottom, and the basket is far superior to the common barrel in strength, durability, and lightness; but the basket is not sufficiently stable and stiff to maintain its form if subjected to the various services for which barrels are used, and it is easily mashed out of shape, not securely protecting its contents.

The object of my invention is to utilize the advantages of both the barrel and the basket, and to avoid, as far as possible, the disadvantages of both.

To this end the invention consists in the construction and combination of parts forming a barrel hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my barrel. Fig. 2 is a plan view thereof; and Fig. 3 is a central vertical section of the same on the dotted line through *x*, Fig. 2.

The exterior body of the barrel is constructed of very thin strips of wood A, called by the trade "splits" or "splints," like basket stuff, being hardly more than heavy shavings. These splits are woven together in di-

agonal lattice-work, each split extending the whole length of the barrel and partly around it, the weaving being so joined circumferentially that there is no vertical seam, and nothing to show where the work of weaving began or ended. These strips are near enough parallel with the barrel to prevent any possibility of crushing it endwise, at the same time the strips or staves are sufficiently diagonal to act to a great extent like the hoops of a basket. When the staves are thus diagonally woven closely, they maintain their position as a barrel, without the assistance of hoops, against a great deal of strain; yet I do not consider the barrel complete without hoops B, at the ends at least, to bind the ends of the staves upon common barrel-heads C. There may be as many more external hoops as the case may require.

To prevent the staves from being closed together by external pressure in the absence of the heads, I secure hoops H within the barrel at the ends thereof, by means of nails J passing through the staves and hoops. These hoops are of the same size as the heads, and are placed sufficiently within the barrel to permit the staves to extend as a chine beyond the heads, while the latter rest on the said hoops within the chines. The heads may be fully secured by hoops B, fitting tightly around the staves, and nails I, driven slantingly through the hoops and staves into the heads.

When it is desired to remove a head, the first hoop, B, is forced off, withdrawing the nails I; and leaving the head free to be pried out from within the staves. The staves being too thin to receive a croze-groove, the heads are not chamfered at the edges, like common barrel-heads.

This barrel is especially adapted to the wants of fruit shippers and dealers by being evenly ventilated, and being easily opened at either end for inspection of the fruit. It is extremely light, and yet so strong as to be practically indestructible.

F represents a removable cover, fastened in by a pivoted cross-bar, G, which is useful for some purposes.

E represents a paper lining for the barrel, to cover the interstices between the staves when the barrel is used for carrying flour, lime, cement, &c. By using tar-paper, oiled paper, or paper in any other way made water-proof, and

having the seams cemented, the barrel is adapted to carry fluids.

Such a barrel may be indented to a considerable extent by the accidents of common usage without springing a leak, and when the indenting force is removed the barrel will return to its normal shape. The lining described is not in any case to be so stiff as to be an inflexible board capable of self-support, but it is to be tough flexible paper, or other cheap sheet material, capable of conforming itself closely to the interior of the barrel with its indentations, so that it will serve simply as a lining to the barrel-staves. On this account barrels intended for carrying fluids should be as closely woven as possible in order that the lining may not be required to bridge broad spaces between the staves. The lining extends the whole length of the barrel, and is bound against the interior face of the staves by the inner hoops, H. The heads of the barrel are placed within the lining, so that when the external hoops are driven on the lining serves as a flexible packing between the heads and the staves, thus insuring a fluid-tight joint.

This barrel is extremely light and strong, and for either of the purposes described it may be made very cheaply in comparison with other barrels for the same purpose.

Common barrels taper both ways from the middle, in order that hoops may be driven tightly upon said tapers, and in order that the barrels may follow long lines of skids automatically in rolling from place to place about warehouses.

Should it be necessary to make my woven barrels larger at the middle than at the ends, the staves may taper each way, like common staves, or they may be woven a little farther apart at the middle than at the ends.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a barrel, of two series of diagonal staves, one series interwoven with the other, each stave extending the length of the barrel and partly around it, two hoops nailed to the inside of the staves at a little distance from the ends of the barrel-heads fitted within the staves upon the said inner hoops, other hoops fitted tightly around the staves over the heads, and nails extending through the outer hoops and staves into the head, substantially as shown and described.

2. The combination, in a barrel, of two sets of staves standing diagonally in opposite directions and interwoven with each other, each stave extending the full length of the barrel and partly around it, a lining of tough flexible sheet material against the inner face of the staves, heads fitted closely within the lining, and hoops around the staves binding them and the lining upon the heads and secured thereto by nails, substantially as shown and described.

3. The combination, in a barrel, of diagonally-interwoven staves, a flexible sheet lining therefor, hoops secured within the lining by nails passing through the staves and lining into the said hoops, heads fitted within the lining to rest on the said hoops, and other hoops around the staves binding them and the said lining upon the said heads, and secured by nails extending through the outer hoops, the staves, and lining into the heads, substantially as shown and described, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN ALEXANDER TANNER.

Witnesses:

A. S. DIETZMAN,
W. McD. BENT.