

Jas. Tomlinson.
Barrel.

No. 119,546.

Fig. 1.

Patented Oct. 3, 1871.

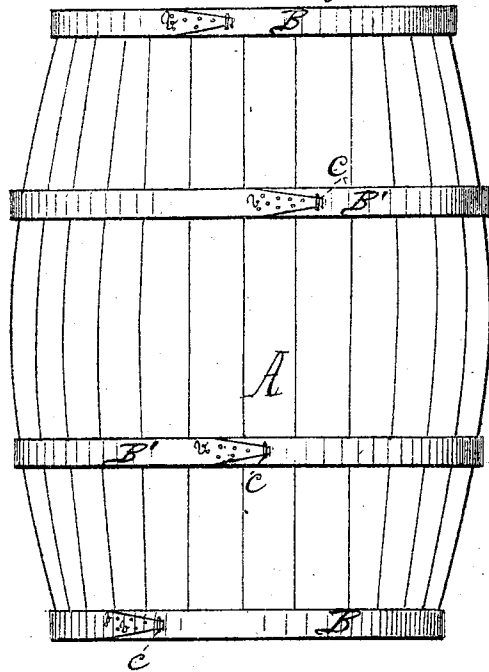


Fig. 2.

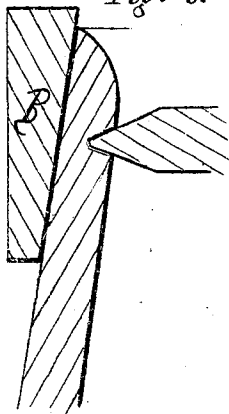


Fig. 3.

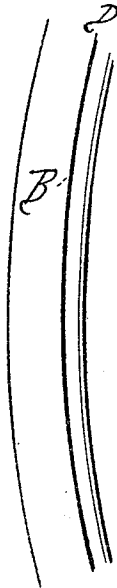
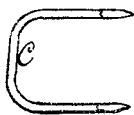


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES TOMLINSON, OF GODERICH, PROVINCE OF ONTARIO, CANADA, ASSIGNOR
TO HARRIETT M. GAGE, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN BARRELS.

Specification forming part of Letters Patent No. 119,546, dated October 3, 1871.

To all whom it may concern:

Be it known that I, JAMES TOMLINSON, of Goderich, in the county of Huron and Province of Ontario, Canada, have invented a certain new and useful Improvement in the Manufacture of Barrels, of which the following is a specification:

My invention consists in securing together the hoops of an ordinary barrel by means of a combined fastening device by a certain combination of devices, as will hereinafter more fully be set forth.

In the drawing, Figure 1 is an elevation of a barrel with my improvement; Fig. 2, a section of one of the chines and the hoop that protects it; Fig. 3, a plan of the hoop and the tightening strip or packing; Fig. 4, an elevation of one of the clasps.

A represents the barrel, which is made of staves in the usual way. B B' are the hoops, of which but four are used upon a barrel—one at each chine and one on each quarter. These hoops are made much thicker and wider than usual, as shown, and are sawed from the plank or lumber in bevel form, so as to fit the bilge of the barrel. The width is such that when fitted upon the end of the barrel, as in Fig. 2, the upper thick edge may project a little over the end of the barrel and still project over and cover the entire chine and the bearing of the head, for the purpose hereafter described. One end of each of the hoops is tapered, as shown at *a*. To apply the hoops to the barrel they are first bent around the barrel in the proper position. The tapered end is lapped over the other, and a nail or tack driven into the two thicknesses but without passing into the barrel. By this means the proper gauge is attained. The hoop is then removed from the barrel and placed upon an iron form for clinching. The staple C is now placed in a suitable instrument or tool and its ends made to embrace the taper end of the hoop, as in Fig. 1, when it is driven in and clinched down upon the iron form. This securely holds the end of the hoop and prevents splitting out or starting up. In addition to this staple, nails *b* are also driven through and clinched. In this manner the lap or connection of the hoop is made perfectly secure—much more so than the lock of ordinary hoops, which must be cut half off to form the locking-shoulders. The hoop, formed as above

described, is then applied to the barrel and driven closely in place.

By this construction I gain a greater strength than in a larger number of hoops as in the usual manner of hooping. The same amount of material in a single body is much stronger than when separated in three or four separate parts. The hold is also much more effective, as a single body tightens over its whole bearing, while, if a series is used, the driving of one tighter than the others causes that one to receive all the strain, while the others are loose. There is also less danger of breakage in rolling, as the combining of the whole in a single solid body renders the hoop capable of resisting any ordinary action. In rolling, the projection of these hoops is such that they really form the bearing, thus relieving the staves from the strain.

A more distinct advantage results from the arrangement of the chine-hoops, as shown in Fig. 2. In this case the projection of the hoop beyond the chine protects the latter by taking the bearing at that point, and its strength is such that it can withstand any ordinary usage. It also protects the chine against outward or inward lateral pressure, thus preventing breakage or the springing of the chine away from the head. This is of special importance in heavy barrels, where cant-hooks are used for moving them. The upper part of the heavy hoop being the thickest, allows the embrace of the cant-hook without springing or breaking. These hoops are also of importance in use on barrels for holding petroleum and other ethereal liquids.

Heretofore iron hoops have been used, as the ordinary small wooden hoops could not be trusted for the purpose. Iron hoops, when heated in the sun, expand to such a degree as to open the joints of the staves and allow the liquid to escape.

My hoops are particularly adapted to this use, as they do not expand, and yet they retain, in a solid and compact body, the strength necessary, and which cannot be insured by hoops of small size.

In addition to all this there is an advantage in the method of producing the hoops themselves. Ordinary small wooden hoops cannot be sawed in bevel form from the lumber with any degree of success, owing to the shaking of the material

and the great loss by the cut of the saw. My hoop can be sawed without trouble, as the thickness of the body will prevent shaking, and but few cuts are made compared with those of small hoops.

The method of uniting the laps of the hoop by means of the staple C is also of much importance. In this manner I clamp the whole end of the outer lap in place and prevent any splitting or starting up. This staple, by sinking into the wood, also holds against spreading or expansion. Such a device could not be applied in ordinary narrow wooden hoops.

I am aware that in truss-hoops a T-nail is employed for connecting the ends, but such is not the equivalent of my invention.

In case of shrinkage or loosening of the hoop I employ a packing, D, Fig. 3, consisting of a thin strip or shaving of wood, which is inserted and driven into the joint between the hoop and

the barrel. It may extend partially or entirely around, as may be desired. In some cases this is also of importance, especially in transportation.

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

A barrel composed of a series of wooden hoops the ends of which are united together by the combined fastening device, consisting of the rivets *b* and staple *c*, the latter embracing the taper lap and clinched on the under side of the hoop before placing the hoop upon the barrel, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 17th day of April, 1871.

JAMES TOMLINSON.

Witnesses:

JAS. LORENZO GAGE,
ARCHD. BAINE.