

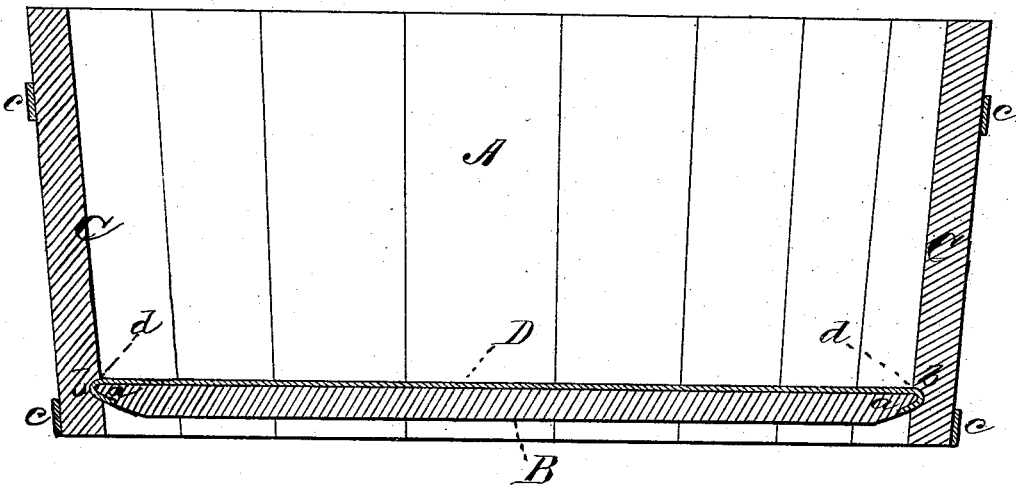
H. W. FARLEY & M. C. RICHARDS.

TUBS, PAILS, CASKS, &c.

No. 190,299.

Patented May 1, 1877.

*Fig 1*



WITNESSES

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# UNITED STATES PATENT OFFICE

HENRY W. FARLEY AND MARCIUS C. RICHARDS, OF OSWEGO, ILLINOIS.

## IMPROVEMENT IN TUBS, PAILS, CASKS, &c.

Specification forming part of Letters Patent No. **190,299**, dated May 1, 1877; application filed March 14, 1877.

### *To all whom it may concern:*

Be it known that we, HENRY W. FARLEY and MARCIUS C. RICHARDS, of Oswego, in the county of Kendall and State of Illinois, have invented a new and valuable Improvement in Pails, Buckets, Cisterns, Tubs, Barrels, and other Vessels; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical central section of my invention, showing the shield applied.

This invention has relation to improvements in tubs, pails, casks, and other like wooden vessels for holding fluids.

The object of the invention is mainly to relieve the hoops binding the staves of such vessels together of a very great strain, by shielding the bottoms or heads thereof from the direct contact of the fluid, and the expansion consequent thereon, which is the cause of such strain; to render the joint of the staves and bottom or heads invariably tight by preventing absorption of moisture, which, upon evaporating, causes the same to shrink and become warped; and to render light and porous woods available as heads or bottoms, which, under ordinary circumstances, from allowing the fluid to permeate and escape from the vessel, cannot be advantageously employed.

The nature of the invention consists in a disk of sheet metal, which is turned or spun over the edge of a wooden bottom or head, and then forced along with it, in the customary manner, into the groove of the vessel-sides, and forms a tight joint therewith, as herein-after shown and described.

In the annexed drawings, the letter A designates an ordinary wooden vessel, in connection with which my invention will be illustrated. The bottom B has the usual beveled edge *a*, adapted to be received in the correspondingly-shaped annular groove *b* of the

vessel-walls C. These latter are formed, in the usual manner, of staves, which are bound together by hoops *c*.

D represents a sheet-metal shield of slightly greater diameter than the bottom, which is laid upon the said bottom, and has its edges bent or spun over the edge of the same, as shown in Fig. 1.

The spun-over portion of the shield fits accurately and snugly upon the beveled edge of the bottom, and may at times be let into a rabbet formed upon its edge, so that the contiguous surfaces of this part and of the bottom may be flush with each other and present a neat appearance.

The bottom B and its shield D are inserted, in the usual manner, into the groove *b*, and secured therein by the forcible application to the staves of a suitable number of hoops. When thus applied the metal shield will be forcibly jammed into the said groove, as shown at *d*, and will form, in connection with the bottom, a water-tight joint with the side walls of the vessel, and will effectually prevent the wood of the bottom from becoming wet or water-sodden. By this means I am able to use, in the making of the bottoms, any of the light porous woods, which, if exposed to the direct action of water, would allow it to gradually pass through. The shield, also, by protecting the bottom, prevents it from expanding by the absorption of water, and thus prevents the hoops from being subjected to undue pressure, whereby they are frequently broken.

Shield D will be made of any suitable sheet metal, as zinc, tin, brass, and the like, and is applicable to the bottoms of pails, buckets, cisterns, or other vessels, and to the heads of barrels, casks, and kegs. It will be found especially useful when applied to wine-casks, which, from the value of their contents, are always hooped very completely, to prevent the unavoidable expansion of the heads from causing a leak, and also when applied to ordinary household wooden-ware.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with a vessel, A, having an annular groove, *b'*, and the bottom or head having a beveled edge, *a*, adapted to be received in said groove, of the metallic shield applied upon the inside of said bottom or head, and turned or spun over upon the said beveled edge, substantially as specified.

In testimony that we claim the above we have

hereunto subscribed our names in the presence of two witnesses.

HENRY W. FARLEY.  
MARCUS C. RICHARDS.

Witnesses:

A. NEWTON,  
T. C. RICHARDS.