

(No Model.)

L. L. FROST.  
HOOP FOR COOPERS' WARE.

No. 440,999.

Patented Nov. 18, 1890.

Fig. 1

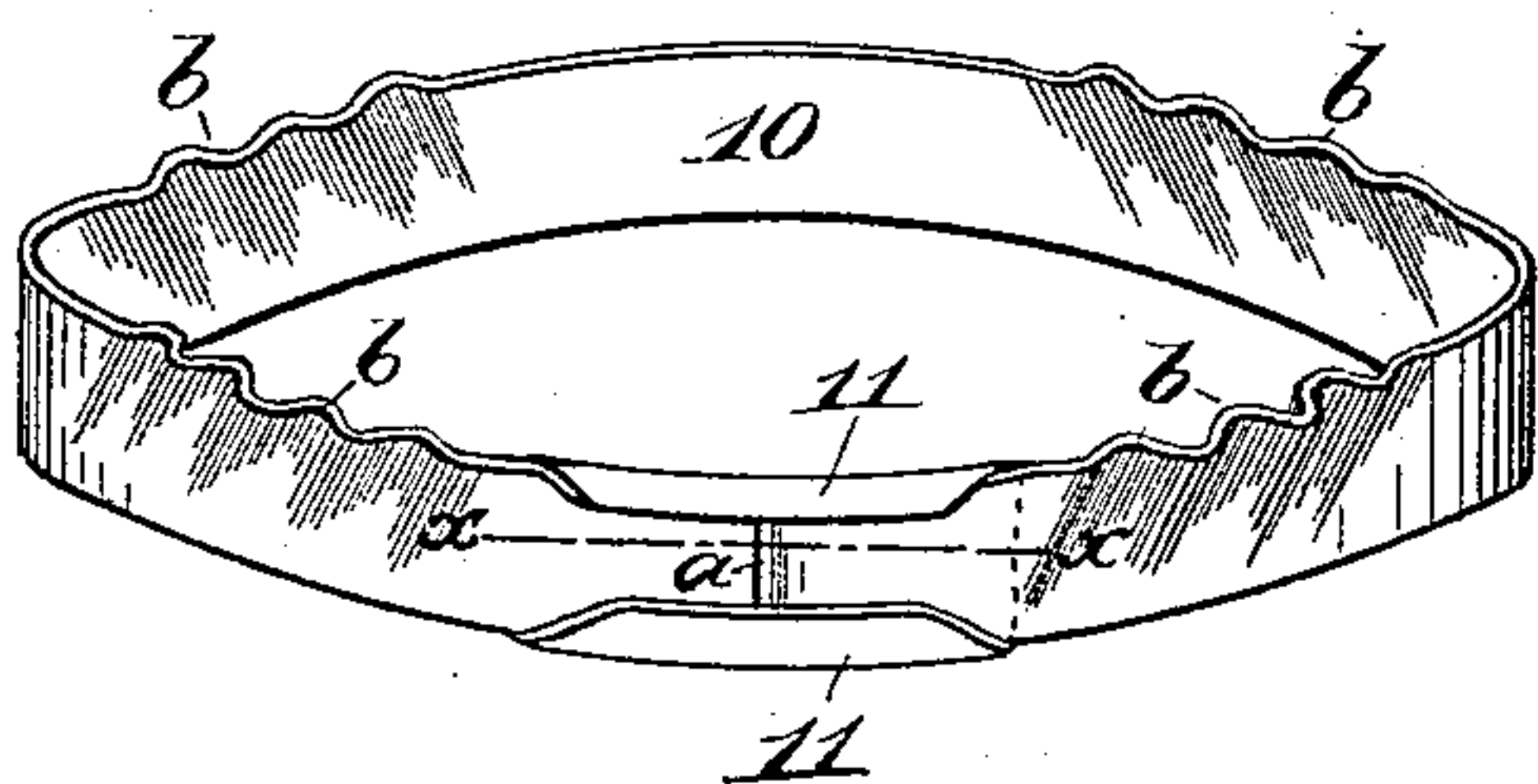


Fig. 2.

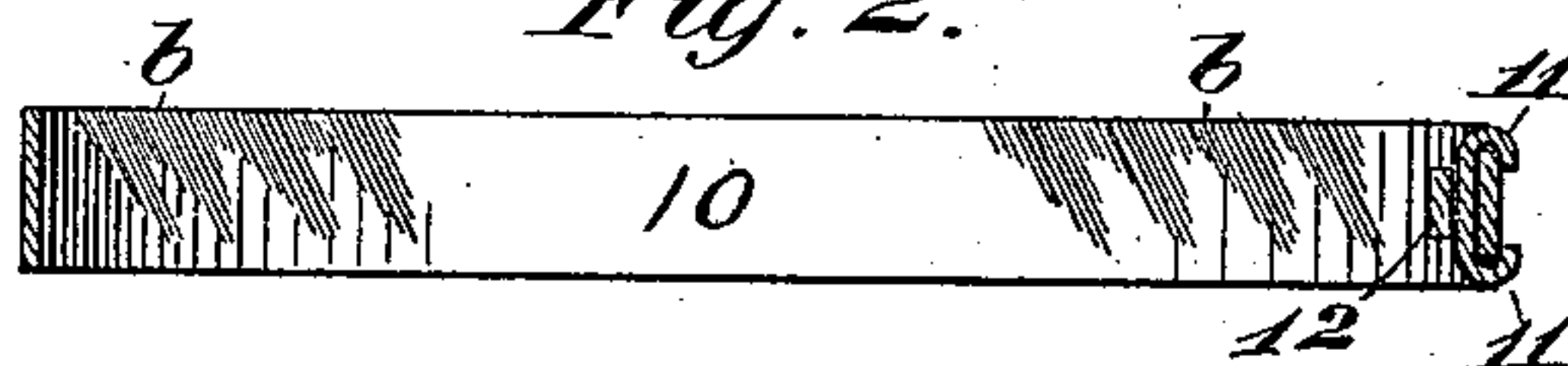


Fig. 3.

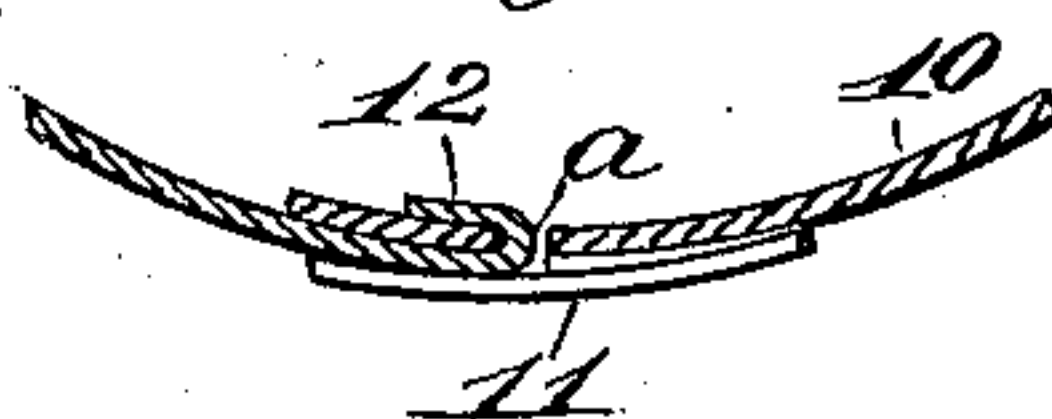


Fig. 4

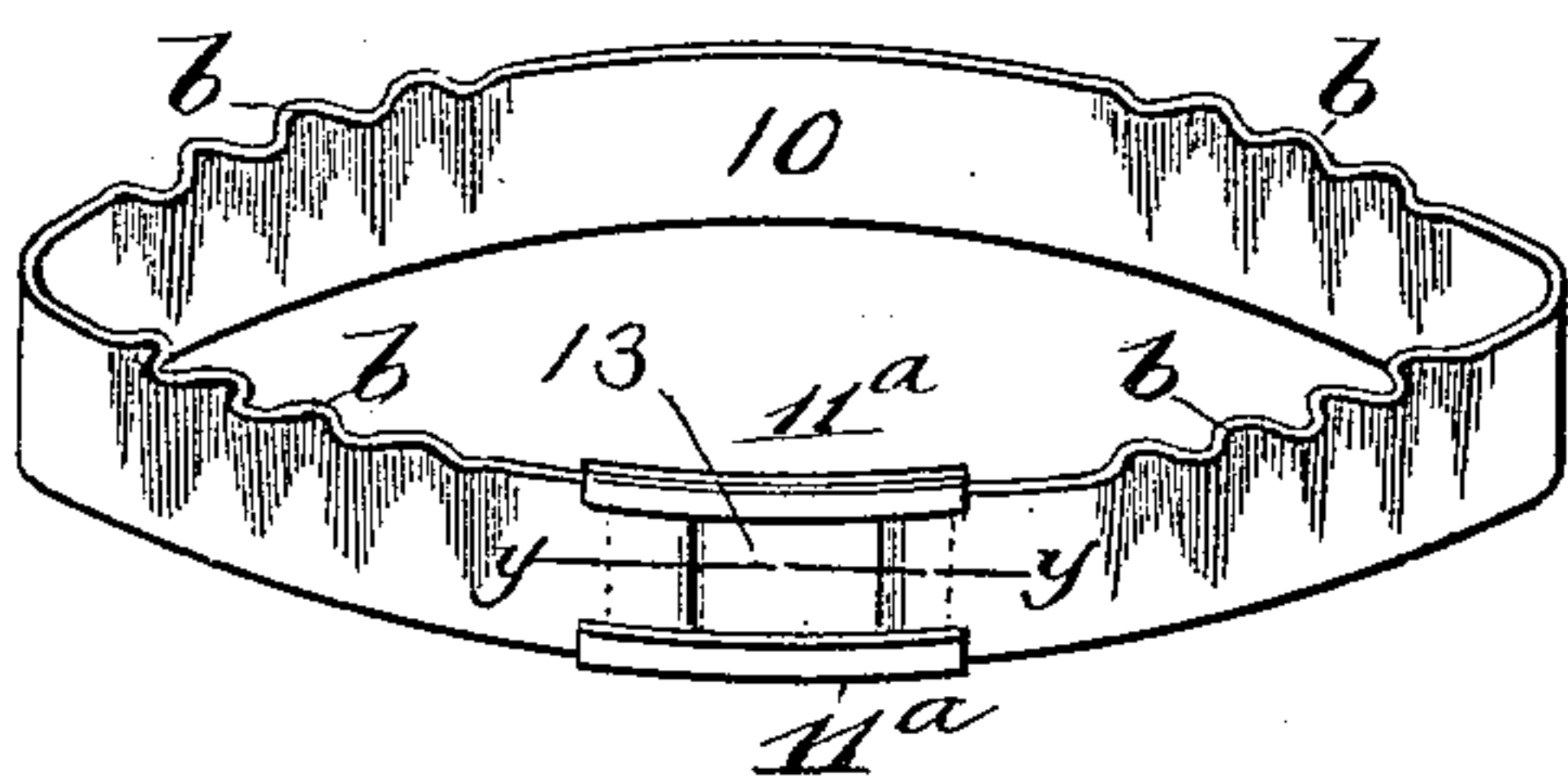


Fig. 5.

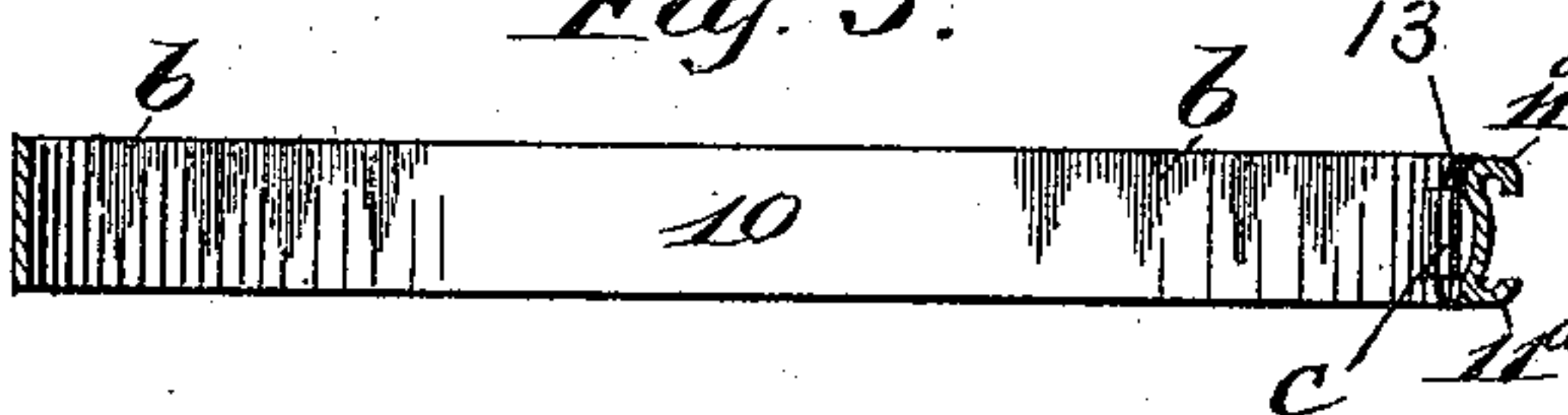


Fig. 7.

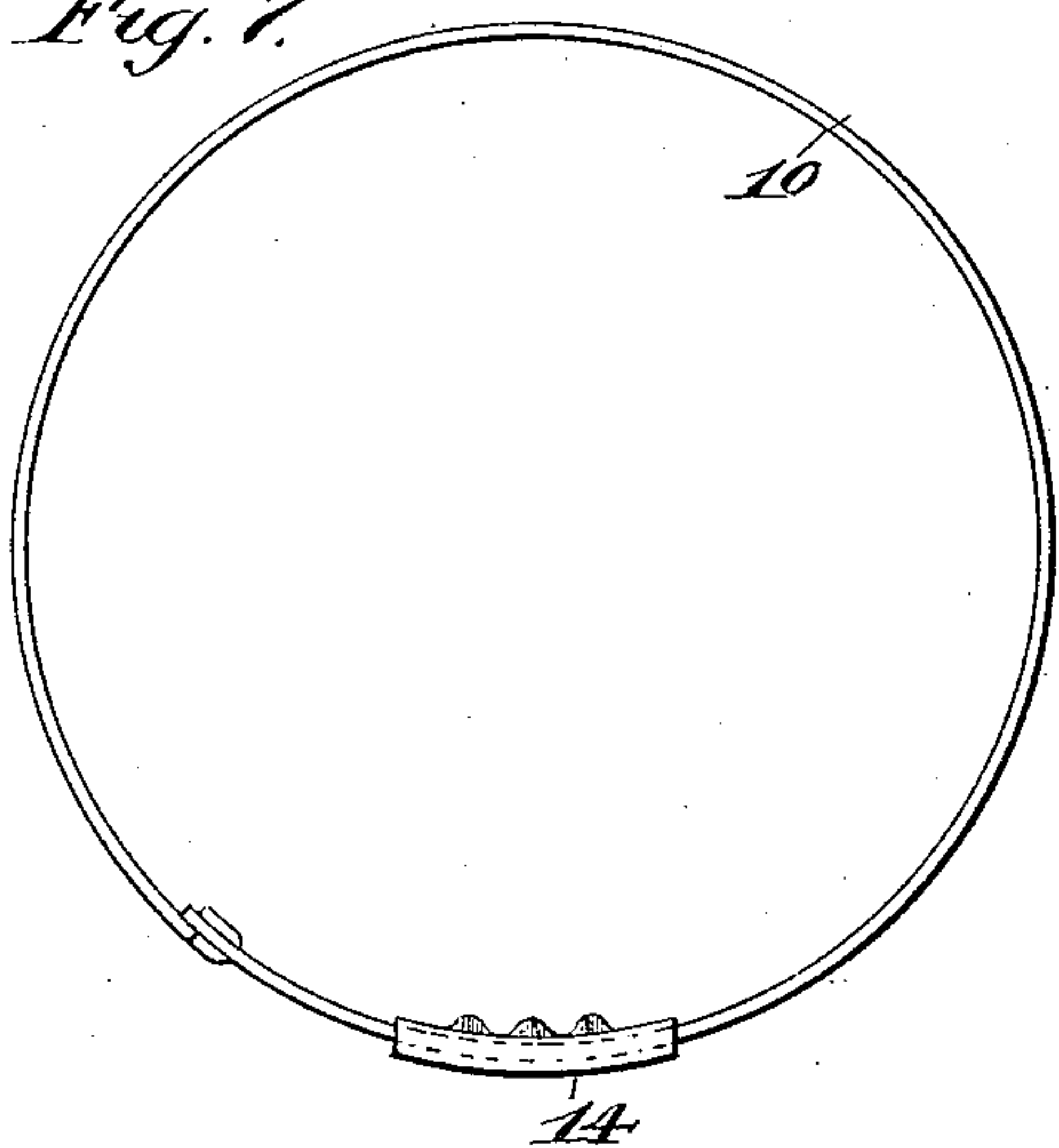


Fig. 6.

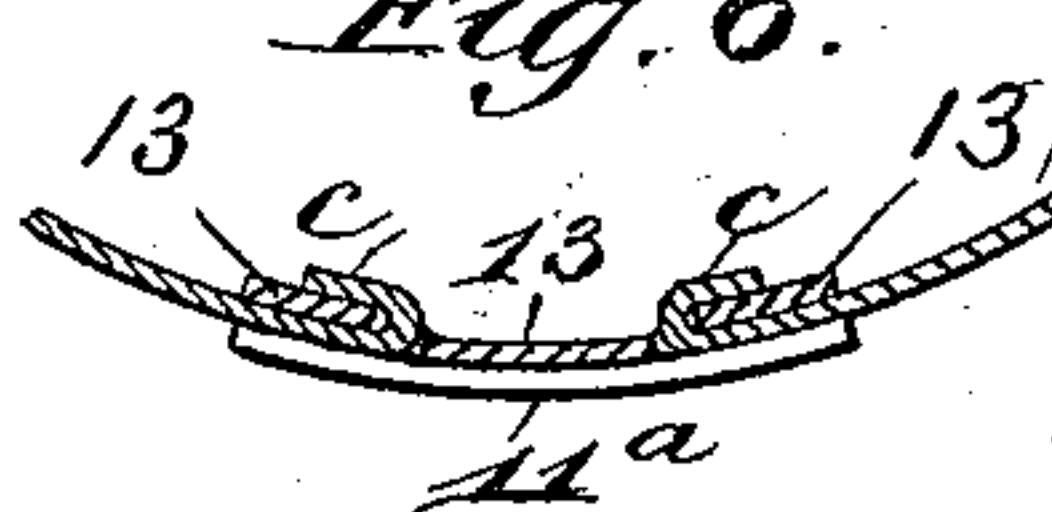
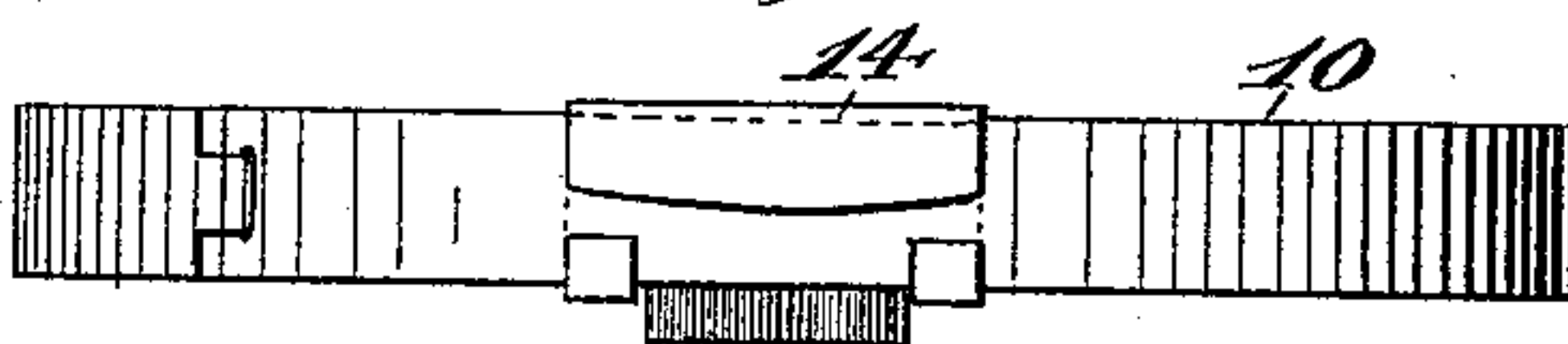


Fig. 8.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LEONARD L. FROST, OF BARADA, NEBRASKA.

## HOOP FOR COOPERS' WARE.

SPECIFICATION forming part of Letters Patent No. 440,999, dated November 18, 1890.

Application filed April 1, 1889. Serial No. 305,517. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD L. FROST, of Barada, in the county of Richardson and State of Nebraska, have invented a new and Improved Hoop for Coopers' Ware, of which the following is a full, clear, and exact description.

My invention relates to hoops for coopers' ware generally, but more especially for pails and tubs, the object of the invention being to provide a hoop the lower edge of which will rest in yielding contact with the peripheral face of the vessel in connection with which it is employed.

To the end named the invention consists, essentially, in a hoop having at one edge an inwardly-projecting portion or flute and a plain opposite edge, as will be hereinafter fully explained, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar numbers and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a hoop embodying my invention. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a sectional detail view on line *x x* of Fig. 1. Fig. 4 is a perspective view of a modified construction. Fig. 5 is a cross-sectional view of the construction shown in Fig. 4. Fig. 6 is a sectional detail view on line *y y* of Fig. 4. Fig. 7 is a plan view of a modified form of hoop, and Fig. 8 is a side view of the hoop represented in Fig. 7.

In Figs. 1 to 6 of the drawings above described I have represented the hoop in the inverted position, this having been done in order to more clearly illustrate the construction of the hoop.

Coopers' ware of the class in connection with which I design to employ my improved form of hoop usually tapers from the base upward, so that with an ordinary form of hoop the upper edge will bear closely against the peripheral face of the ware, while the lower edge will be slightly removed from said face, so that as the package shrinks the hoop is liable to drop from its position. To overcome this difficulty I form or provide the hoop with

one or more flutes, the flutes being preferably arranged in groups and preferably at an angle, the lower edge only of the hoop being fluted, the upper edge being left intact.

In the drawings, 10 represents a hoop, one edge of which is provided with side ears 11 and the other with a tongue 12, which passes through an aperture *a*, formed in the opposing hoop end, the arrangement being such that by passing the tongue 12 through the apertures *a* and bending down the ears 11 the hoop ends will be securely clamped together. In the body of the hoop I form a number of fluted sections *b*, four of such sections being shown in the construction illustrated in Figs. 1 and 2, these fluted sections extending upward from the lower edge of the hoop toward the upper edge thereof and being inclined at an angle, any proper inclination being imparted to the flutes.

In Fig. 4 the fluted sections are parallel with the axis of the hoop, and in this construction, instead of forming one of the hoop ends with ears 11, I form each end of the hoop with a tongue, as *c*, which tongues pass through apertures formed in a plate 13, said plate being formed with ears 11<sup>a</sup>, which overlap the hoop ends, as shown.

Instead of fluting the body of the hoop I might employ such a construction as that shown in Figs. 7 and 8, wherein the hoop is represented as being provided with a fluted clip 14, the flutes, however, being formed only at the lower edge of the clip. As many of these fluted clips may be secured to the hoop as may be deemed desirable or advisable.

The hoop above described is applied so that its unfluted edge will be uppermost or toward that end of the package which is of greater diameter, and then as the hoop is driven to place it will form slight grooves in the face of the package, the bottom edge expanding as the hoop is driven home. In this way I secure a firm grip upon the package and prevent the displacement of the hoop through the shrinkage of the package.

Although I have illustrated a specific form of fastening-clip, I desire it to be distinctly understood that the ends of the hoop might be connected in any desired manner.

One of the greatest advantages arising from

the construction above set forth is that owing to the form of the flutes, said flutes being heavy at the lower side and diminishing as they approach the upper side of the hoop, the  
5 flutes will override and compress the fiber of the wood as the hoop is driven on the pail; nor will the flutes cut or gouge the fiber of the wood, as would be the case if the flutes extended entirely across the body of the hoop.  
10 As the hoop is advanced the wood compressed by the flutes will expand by reason of its elasticity and will form a permanent and convenient shoulder beneath every flute to retain the hoops in the desired position.  
15 The hoops may be fluted by passing them between corrugated rolls or by means of suitably-shaped dies.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture, a hoop for coopers' ware, having a plain edge and a projection or flute extending inwardly at its opposite edge, substantially as set forth. 20

2. As a new article of manufacture, a hoop 25 for coopers' ware, having one plain edge and an obliquely-fluted opposite edge, the inner ends of the flutes vanishing between said edges, substantially as set forth.

LEONARD L. FROST.

Witnesses:

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