

973,671.

Patented Oct. 25, 1910.

Fig. 1.

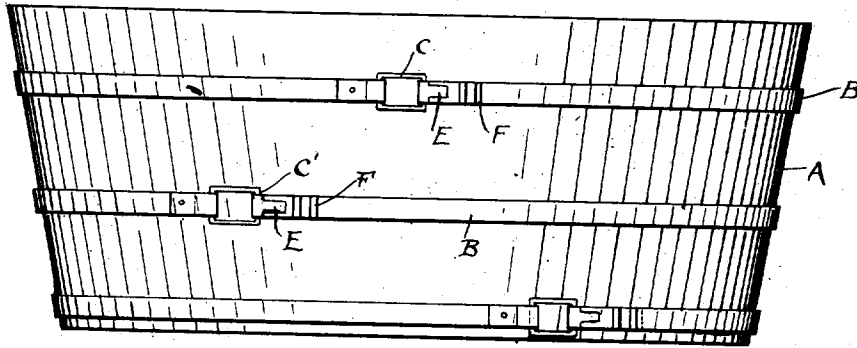


Fig. 2.

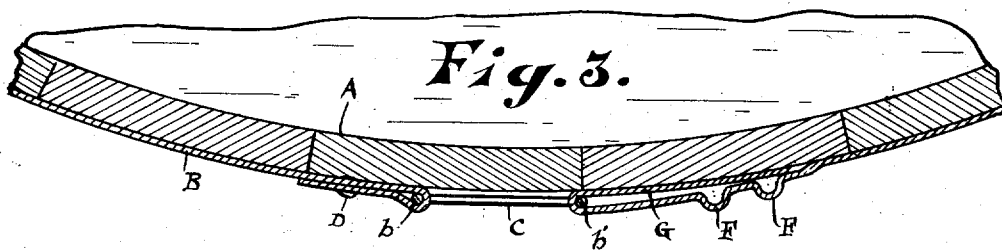
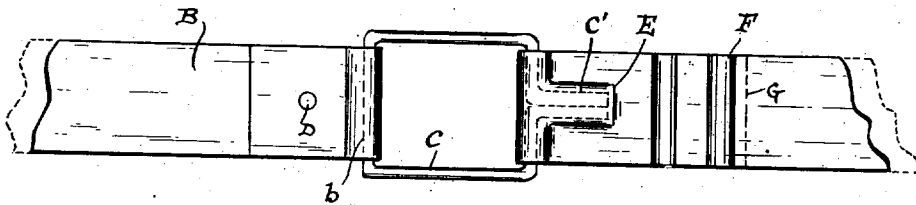


Fig. 4.

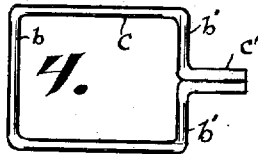
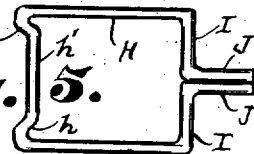


Fig. 5.



WITNESSES:

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FREDERICK KNOLLE, OF MILWAUKEE, WISCONSIN.

HOOP.

973,671.

Specification of Letters Patent.

Patented Oct. 25, 1910.

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To all whom it may concern:

Be it known that I, FREDERICK KNOLLE, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Hoops, of which the following is a specification.

My invention relates to improvements in hoops.

The object of my invention is to provide a form of hoop for tubs, barrels, etc., which will expand with the expansion of the tub and contract as the tub shrinks. Also to provide an improved form of link for the hoop ends.

In the following description, reference is had to the accompanying drawings in which,

Figure 1 is a side view of a tub provided with a hoop embodying my invention. Fig. 2 is a detail view of a portion of the linked end portions of my improved hoop. Fig. 3 illustrates a segmental section of the tub showing the linked portion of the hoops, also in section, drawn longitudinally through the band near its lower margin. Fig. 4 is a detail view of the link. Fig. 5 is a detail view showing a modified form of link.

Like parts are identified by the same reference characters throughout the several views.

A is a tub, the hoop bands B of which embody my invention. The ends of the hoops are connected together by a link C composed of a piece of resilient wire bent into a generally rectangular form and having the extremities C' extended outwardly from the central portion of one end of the link substantially at right angles to the end of the link, and parallel with each other. One end of the hoop band B is looped through and folded over the integral end *b* of the link and preferably riveted at D. The other end of the band is similarly looped through and folded over the other end members *b'*, *b'* of the link and the metal of the band pressed around the extremities of the link, forming a pocket E therefor which prevents them from spreading when the hoop is subject to strain. The hoop band B is provided with one or more transverse corrugations F, preferably near the link C, so that the metal of the band is held out of heavy binding contact with the tub. The end portion G of the band is preferably turned inwardly so that it will be held in position by the tub. It

may extend backwardly any desired distance.

Referring to Fig. 5, it will be observed that the integral end of the link H is offset inwardly between the abrupt bends *h*, the central portion *h'* extending substantially at right angles to the sides in the same relative position as the corresponding end of the link C, except as to the inward offset. The outer end of the link has members I parallel with the end *h'* and outwardly extending extremities J similar to the extensions C' of the link shown in the other views. This offset portion of the link and the transverse corrugations in the hoop are adapted to permit an expansion of the hoop under heavy strains. The inwardly offset portion *h'* of the link yields under the heavy strains of expansion when the wood composing the body of the tub is wet. The link being of resilient material, this portion *h'* tends to draw straight across from the point of junction with the side bars of the link, straightening the bends *h* but tending also to spread the side bars of the link, but these being also under longitudinal tension, it is obvious that they will strongly resist a spreading movement, but will yield sufficiently to permit a slight yielding of the portion *h'* in the line of strain. When the tub is again dried, the link in resuming its normal or original position draws on the band and maintains the hoop in binding relation to the tub after the latter has shrunk. The same result may be secured to some extent by means of the transverse corrugations F, although the material of which the ordinary tub hoop is composed, is less capable of resuming its normal position after having once been distended than a wire link such as is shown in Fig. 5 and there is also less tendency on the part of the band to break where the expansion is permitted in the link than there is where abrupt bends in the band are subjected to the expansive strains. Also in case the link is broken, a new link can be inserted without destroying the band.

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

1. A tub hoop comprising a band, a link having end portions extending transversely of the band and connected with the respective ends thereof, said link being composed of wire having meeting ends extending lon-

5 longitudinally of the band beyond the end of the link, and said band being folded over the meeting ends and indented to form a pocket for said ends with the sides of the indented portion engaging said ends of the wire to prevent them from spreading.

10 2. A tub hoop comprising a band, a link having end portions extending transversely of the band and connected with the respective ends thereof, said link being composed of wire having end portions extending substantially parallel to each other, and longitudinally of the band beyond the end of the

link, and said band being folded over said respective ends of the link concealing the end portions of said wire, the band being indented to form a pocket for the end portions with the side walls of the pocket engaging said ends of the wire to prevent them from spreading. 15

In testimony whereof I affix my signature in the presence of two witnesses. 20

FREDERICK KNOLLE.

Witnesses:

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