(No Model.)

# S. C. CARY.

## METAL HOOP.

No. 420,900. Patented Feb. 4, 1890.

*Fig. 1.*

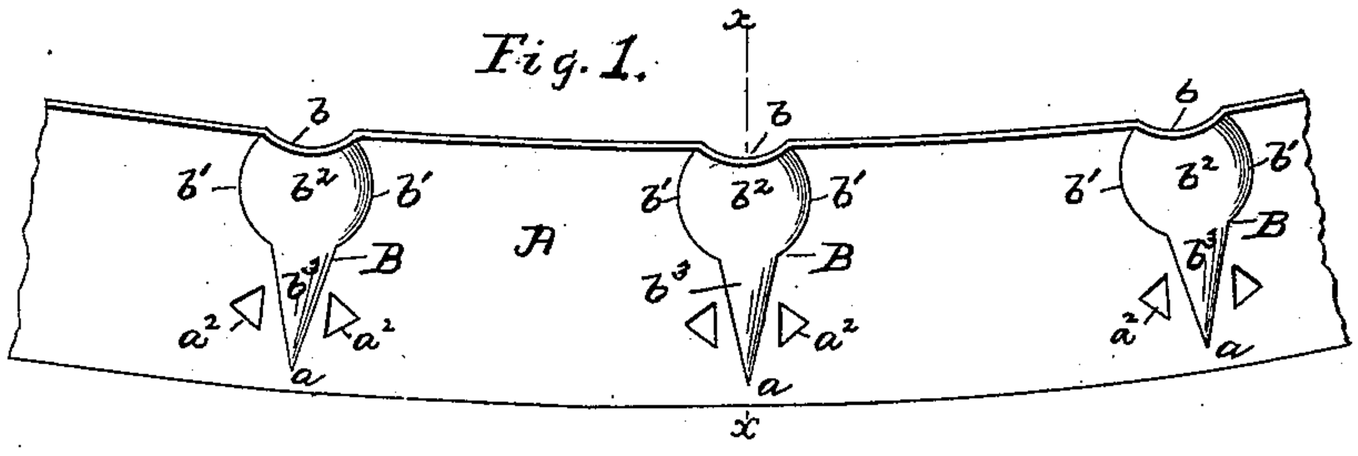



*Fig. 2.*

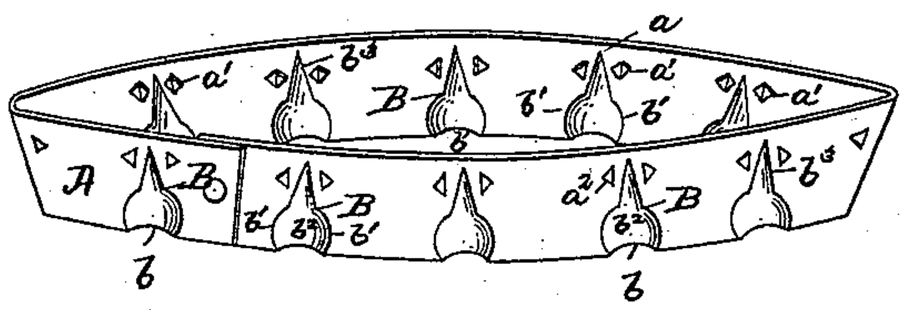



*Fig. 3.*

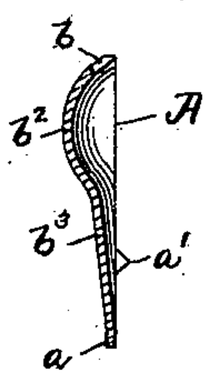
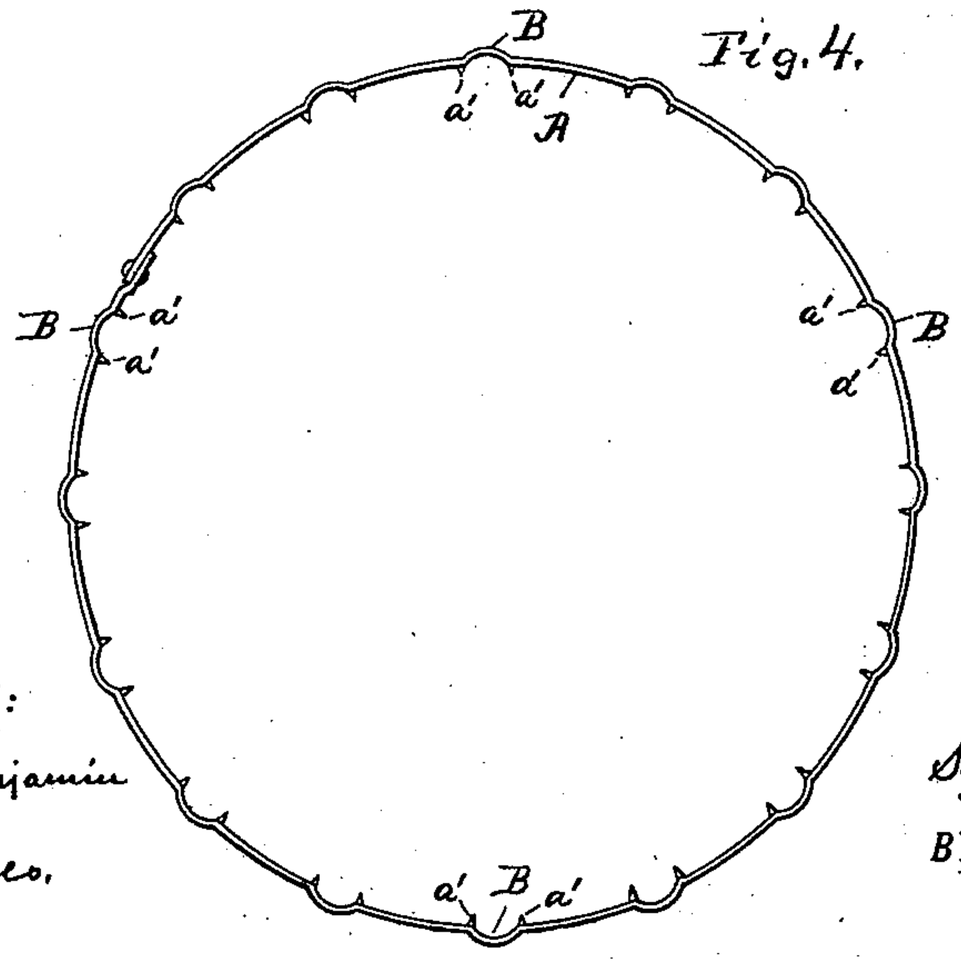



*Fig. 4.*

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## METAL HOOP.

SPECIFICATION forming part of Letters Patent No. 420,900, dated February 4, 1890.

Application filed March 23, 1889. Serial No. 304,483. (No model.)

*To all whom it may concern:*

Be it known that I, SPENCER C. CARY, of Baldwin, county of Queens, State of New York, a citizen of the United States, have invented certain new and useful Improvements in Metal Hoops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a metal hoop for round packages and utensils—such as barrels, pails, &c.; and my invention consists in a metal band having therein the corrugations hereinafter described, whereby the results set forth are accomplished, and as more particularly recited in the claims.

Figure 1 is a side elevation of a metal band containing my invention. Fig. 2 is an elevation in perspective of a metal hoop composed of a band made in accordance with my invention. Fig. 3 is a cross-section of the band on the line *x x*, Fig. 1; and Fig. 4 is a plan of the hoop shown in Fig. 2.

In carrying out my invention I take a metal band A, of the desired width, and I form therein and laterally thereof a series of corrugations B, each of which is wider or deeper at one edge of the band than it is at the other or opposite edge thereof, as shown. Each corrugation of the series has its wider or deeper portion at one and the same edge of the band throughout the length thereof, as shown, and the wider or deeper portion of the corrugations is preferably immediately upon and embraces a part of the said edge of the band, as shown at *b*.

I find it preferable to have the narrow or shallow end of the corrugations terminate somewhat back from the opposite edge of the band, so that the said opposite edge constitutes a flat web, as shown at *a* in Fig. 1, beyond the ends of the corrugations thereat. I also find it preferable to form the corrugations with their widest or deepest portions somewhat back from the edge upon which the aforesaid wide or deep portions are formed, as indicated at *b'*, and to accomplish this the portion of each corrugation formed immediately upon one edge of the band may be hemispherical, as shown at $b^2$, the diameter of the hemisphere being substantially parallel to the edge of the band and somewhat back from the edge, while leading out from this hemispherical corrugation and extending in the direction toward the opposite edge of the band may be formed a hemi-conical corrugation $b^3$, with its apex within or back from the said opposite edge of the band, as shown in Figs. 1 and 2.

By means of the described series of corrugations in the metal band the metal at and along one edge is drawn upon itself, so that the said edge of the band, as such, is made shorter than the opposite edge of the band, whereby the band is given an edgewise curve or bend on a radius of greater or less length, depending upon the width or depth of the corrugations in the series. When the thus-formed band is bent flatwise upon itself into the form of a hoop, the hoop will have a flare, as indicated in Fig. 2, adapted to fit upon the taper or bulge of the surface of the barrel or pail. In driving the hoop the outwardly-bent portions of the edge thereof included in the wide end of the corrugations, as shown at *b*, will furnish projections standing away from the barrel or pail surface, and which may be struck by the driving-tool. While the hoop is being thus driven, and when it is seated in place on the barrel or pail, the fact that the widest portion *b'* of the corrugations is back from the edge of the band, as described, will prevent the said edge of the band from so stretching at the corrugations as to become flat, and hence loose upon its seat on the barrel or pail, the said widest portions *b'* of the corrugations maintaining the said shortening of the edge of the band permanently, owing to their location in the band.

Upon the face of the band which is opposite to that above which the corrugations B are raised, and between the corrugations of the series, and preferably alongside the narrow ends of said corrugations, I form the sharp short nibs *a'*, projecting above the said face of the band, as shown, and I accomplish this by making the convergent cuts $a^2$ through the band, as shown, and turning the tongues thus formed in the band metal to an angle with and projecting above said face of the band, as shown. When the described hoop

is driven upon the barrel or pail, these nibs $a'$ on the inner face of the hoop will enter the grain of the wood and be embedded therein, so that in case the barrel or pail should shrink after the hoop is seated the hoop will be held in place by said nibs. The nibs $a'$ are so cut from the web and turned up, as described, that their exposed edges on the inner face of the hoop extend laterally of the hoop, as shown, so that they will readily enter the grain of the wood, as described.

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

1. A metal hoop-band having therein a series of corrugations extending laterally of the band and all wider or deeper toward one and the same edge of said band than toward the opposite edge thereof, with the wide deep portion of each corrugation immediately upon and including part of said one edge of the band, and with the widest or deepest portion of each corrugation located somewhat back from said one edge of the band, substantially as and for the purpose set forth.

2. A metal hoop-band having therein a series of corrugations extending laterally thereof, each composed of a hemispherical corrugation at and including part of one edge of the band, with its diameter parallel to and back from said edge, and a hemi-conical corrugation leading from said hemispherical corrugation, with its narrow end toward the opposite edge of said band, substantially as and for the purpose set forth.

3. A metal hoop-band having therein a series of corrugations, each extending laterally of the band and all wider and deeper toward one and the same edge of the band than toward the opposite edge thereof, together with tongues or nibs integral with the band and projecting therefrom on the side thereof opposite to that from which the corrugations project, and with their edges extending laterally of the band, substantially as and for the purpose set forth.

4. A metal hoop-band having therein a series of corrugations extending laterally of the band and all wider or deeper toward one and the same edge of said band than toward the opposite edge thereof, and with the widest or deepest portion of each corrugation located somewhat back from said one edge of the band, substantially as and for the purpose set forth.

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