L. A. BRIGEL.

HOOP KEEPER.

APPLICATION FILED DEC. 16, 1907.

929,912.

Patented Aug. 3, 1909.

Fig. 1

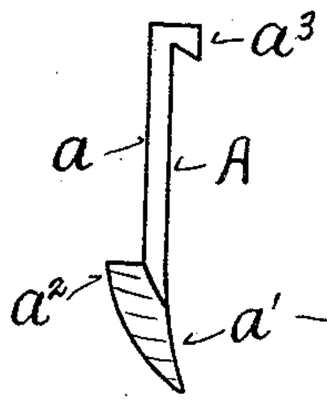

Fig. 2

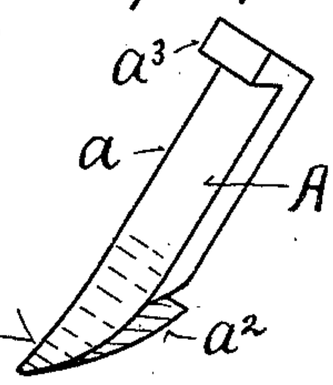

Fig. 3

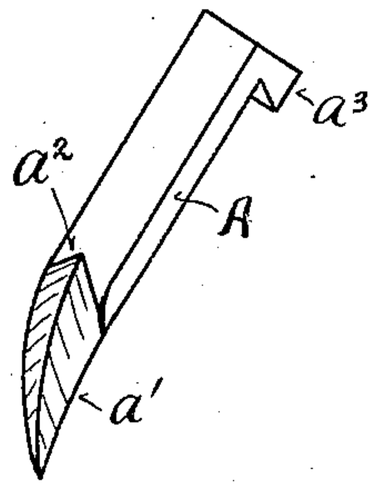

Fig. 4

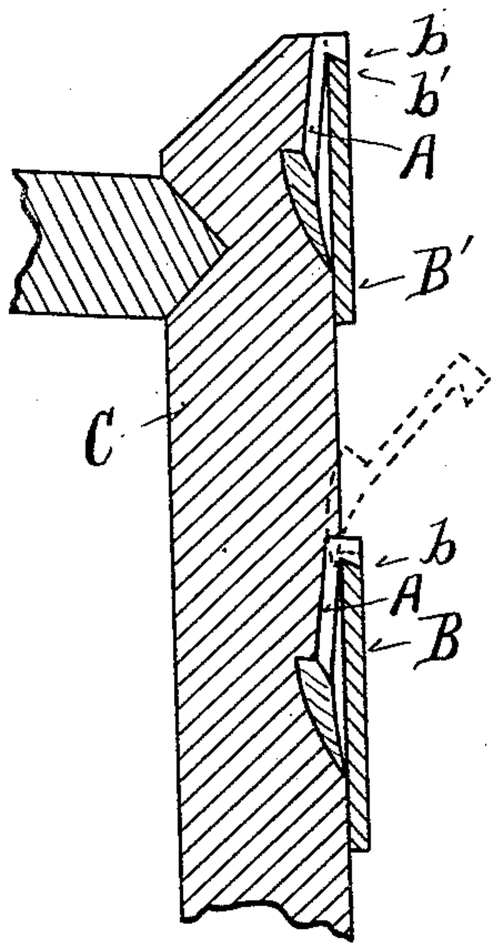

Fig. 6

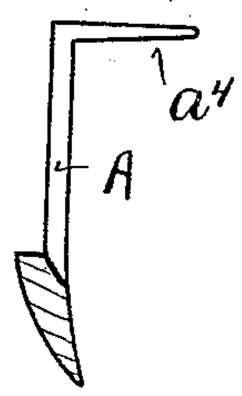

Fig. 7

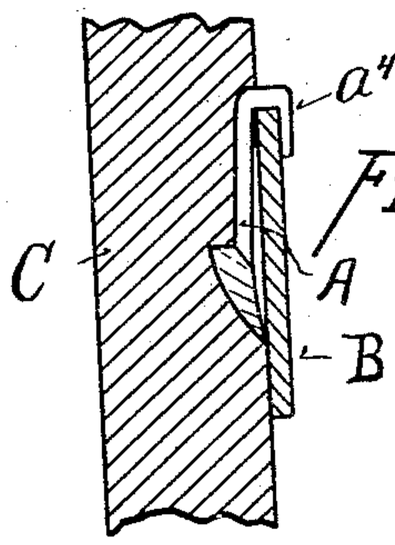

Fig. 8

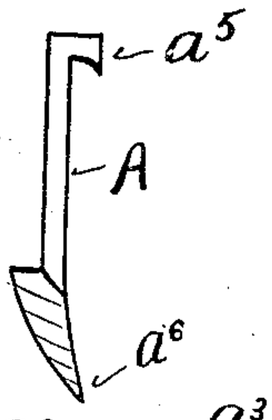

Fig. 10

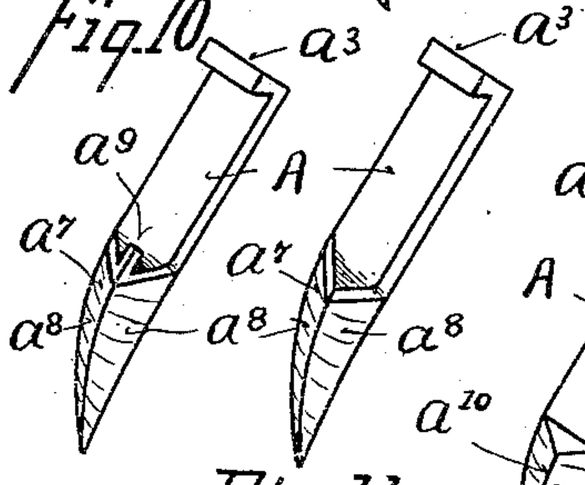

Fig. 11.

Fig. 9

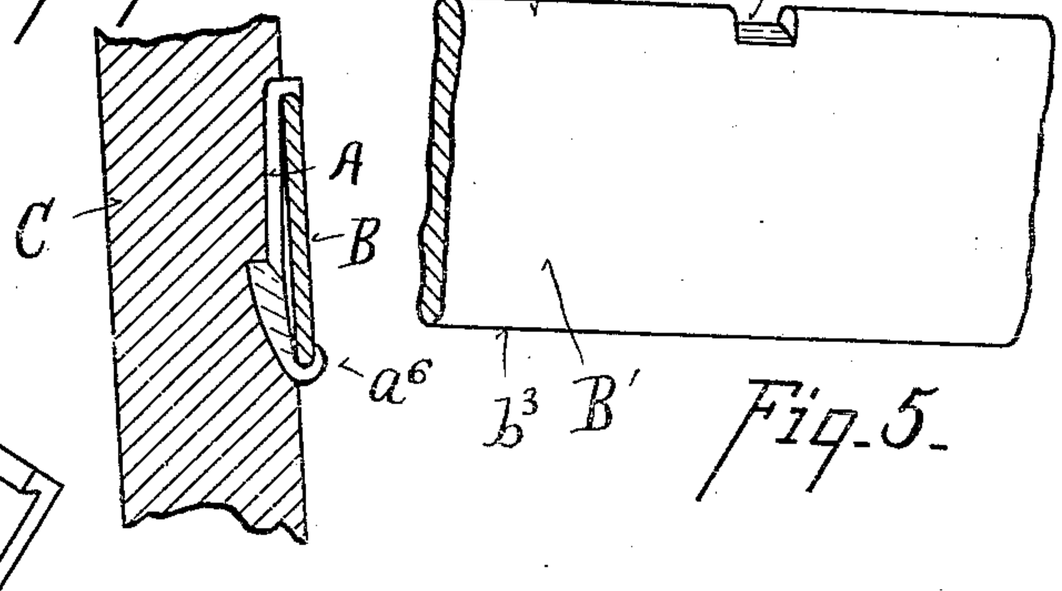

Fig. 5.

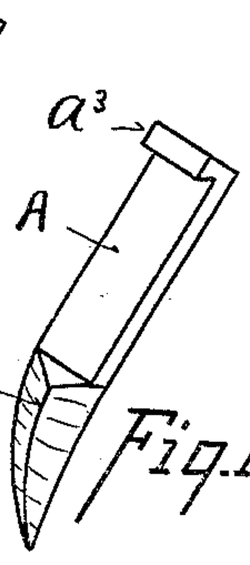

Fig. 12.

Witnesses

A. Mc Cormack.

C. W. Barth

Inventor

Leo A. Brigel

By C. W. Miles

Attorney

UNITED STATES PATENT OFFICE.

LEO A. BRIGEL, OF CHEVIOT, OHIO.

HOOP-KEEPER.

No. 929,912. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed December 16, 1907. Serial No. 406,665.

To all whom it may concern:

Be it known that I, LEO A. BRIGEL, a citizen of the United States, residing at Cheviot, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hoop-Keepers, of which the following is a specification.

My invention relates to improved articles for securing hoops to barrels, casks, and other articles of cooperage.

One of its objects is to provide a barbed hoop holder to be driven between the hoop and staves, and which is so shaped as to cause its forward end to follow or hug the inside of the hoop, and to secure an elastic or spring engagement between the barbs and stave.

Another object is to provide a barbed hoop holder with simple and improved means for locking the same to the hoop, and which will permit the hoops and holders being driven tighter upon the staves when desired.

It further consists in certain details of form, combination and arrangement, all of which will be more fully set forth in the description of the accompanying drawings, in which,

Figure 1 is a side elevation of the preferred form of my improved hoop holder for general use. Fig. 2 is a perspective view of the same. Fig. 3 is a perspective view showing the reverse side to that shown in Fig. 2. Fig. 4 is a detail section through a portion of a barrel with my improved hoop holders in place. Fig. 5 is a detail view of a section of notched hoop employed with my improved holder. Fig. 6 is a side elevation of a modified form of holder. Fig. 7 is a sectional detail through a hoop and stave showing the modified form, Fig. 6 in use. Fig. 8 is a side elevation of another modification. Fig. 9 is a view similar to Fig. 7 showing the holder, Fig. 8, in use. Figs. 10, 11, and 12 are perspective views of modified holders, formed from sheet metal.

In the accompanying drawings Figs. 1 to 4, A, represents the hoop holder, which consists of a shank a, which is curved through the central portion. The forward end a' is pointed to enable it to readily enter between the hoop, B, and the stave, C. a^2, represents a barb formed integral with the curved pointed end of the shank and preferably V-shaped forming a triangular shaped wedge so as to divide rather than tear the fibers of the stave. a^3, represents the head by means of which the holder is driven to position between the stave and hoop, said head being of a form to hook over or overhang the edge of the hoop which it engages, so as to lock the holder and hoop together and prevent the head of the holder being driven into the stave by accident or otherwise so as to fail to perform its function of holding the hoop in place. The hoop, and particularly the end hoops, B', are preferably notched at, b, with the bottom, b', of the notch beveled as indicated in Fig. 5, which may be readily and quickly done with a file, so that the beveled edge of the overhanging head, a^3, will register therewith and the top of the head, a^3, come flush with or nearly flush with the edge of the hoop, as indicated in Fig. 4. The curve in the shank of the holder brings the head a^3 outwardly away from the stave into convenient position for the initial drive as indicated in dotted line, Fig. 4, and during the remainder of the driving operation causes the curved point of the holder to closely follow or hug the inner face of the hoop, and when fully driven tends to hold the central portion of the shank away from the hoop as indicated in Figs. 4, 7, and 9, and thus holds the barb with a yielding pressure against the stave, causing it to firmly grasp and sink into the fiber of the stave, and upon being redriven, causes the point of the barb to spring away from the hoop to obtain a firm grasp upon the stave in its new position.

In the modification Figs. 6 and 7, the head, a^4, is made longer and tapering, and its end is bent or hooked over the edge of the hoop after the holder has been driven to position, as indicated in Fig. 7, and may also be employed with a notched hoop.

In the modifications Figs. 8 and 9, the under side of the head, a^6, is curved to engage the edge of a hoop having rounded edges, as shown at b^2, Fig. 5, this form of head being also adapted to engage notches, b, in the edge of the hoop, if desired. In this modification the shank is long enough so that the curved point, a^6, extends beyond the opposite edge, b^3, of the hoop to that engaged by the head, a^5, and may be bent up or hooked over the edge of the hoop after the holder is driven to place, as indicated in Fig. 9.

In the modification Fig. 10, the holder is formed from sheet metal, and the barb, a^7,

formed by folding over wings, a^8, the inner edges, a^9, of which are turned in and abut each other.

In the modification Fig. 11, the inturned edges, a^9, are omitted and the edges of wings, a^3, abut at the angle of the barb.

In the modification Fig. 12, the barb is formed by indenting the metal from the rear or opposite face, causing it to project as shown, to form the barb, a^{10}.

Having described my invention, what I claim is:

1. In an article of the character indicated, a head to engage the edge of a hoop to lock the same to the staves, a shank adapted to be driven between the hoop and stave, said shank being curved between the point of the barb and the head of the shank to cause the central portion of the shank to stand away from the hoop, and on the opposite side armed with a barb to engage the stave.

2. In an article of the character indicated, a shank adapted to be driven between a hoop and stave to lock the hoop in place, said shank being curved to cause the central portion of the shank to stand away from the hoop and armed with a barb to engage the stave, and an overhanging head engaging and overhanging the edge of the hoop.

3. In an article of the character indicated, a shank pointed at the forward end and adapted to be driven between a hoop and a stave to lock the hoop in place, said shank being armed with a wedge shaped barb of triangular cross-section to engage the stave, and an overhanging head engaging and overhanging the edge of the hoop.

4. In combination with a hoop having notches in the edge thereof, hoop holders each comprising a shank adapted to be driven between the hoop and a stave, opposite one of said notches, said shank being armed with a wedge shaped barb of triangular cross-section to engage the stave and an overhanging head adapted to engage and hook over the edge of the hoop at the bottom of said notch.

5. In combination with a hoop having bevel edged notches, hoop holders each comprising a shank adapted to be driven between the hoop and a stave, opposite one of said notches, said shank being armed with a barb to engage the stave and an overhanging head adapted to engage and hook over the edge of the hoop at the bottom of said notch.

In testimony whereof I have affixed my signature in presence of two witnesses.

LEO A. BRIGEL.

Witnesses:
WALTER F. MURRAY,
C. W. MILES.