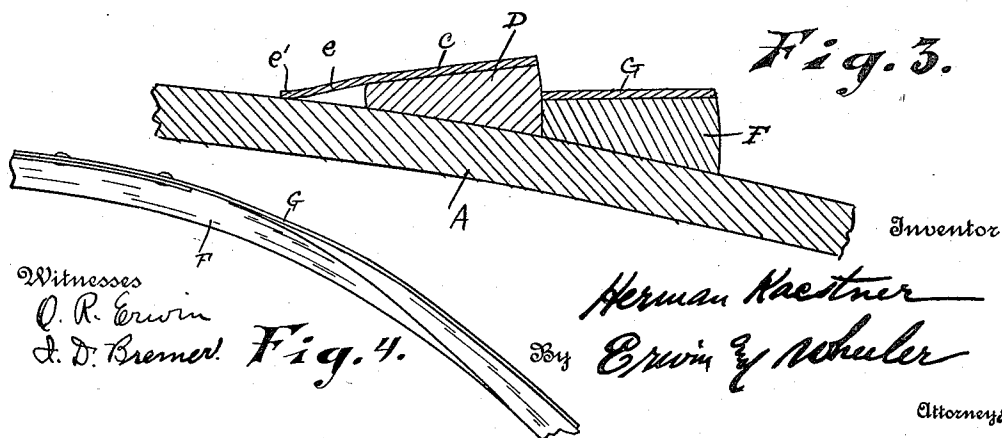
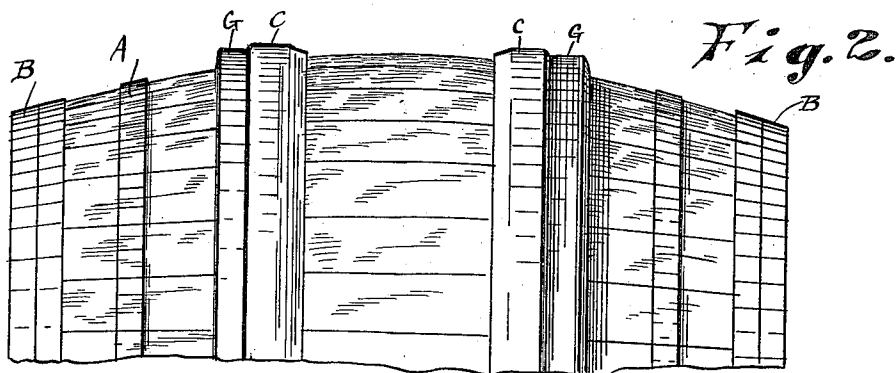
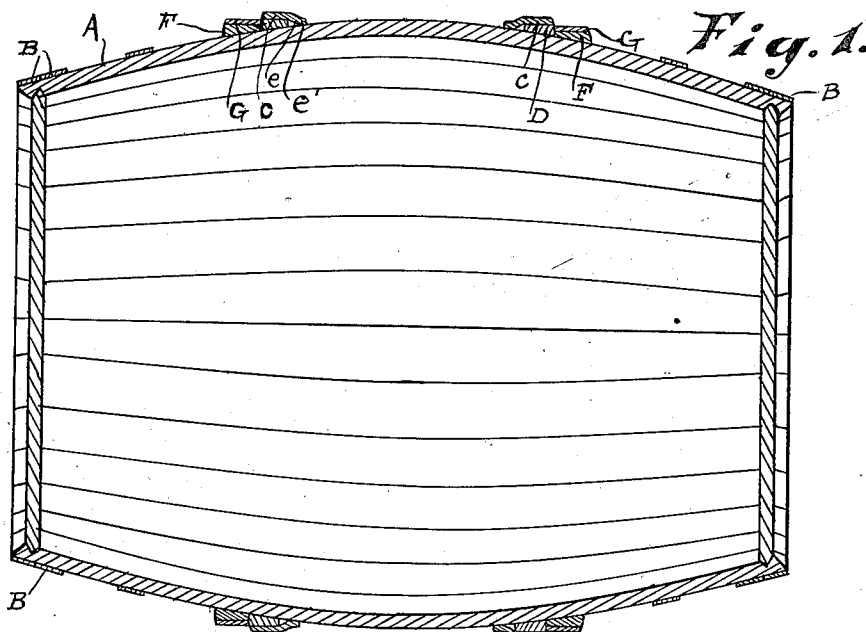


H. KAESTNER.
BULGE HOOP FOR BARRELS.
APPLICATION FILED OCT. 25, 1909.

1,014,005.

Patented Jan. 9, 1912.



Witnesses

O. R. Erwin

J. D. Bremer

Fig. 4.

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HERMAN KAESTNER, OF CUDAHY, WISCONSIN.

BULGE-HOOP FOR BARRELS.

1,014,005.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed October 25, 1909. Serial No. 524,352.

To all whom it may concern:

Be it known that I, HERMAN KAESTNER, a citizen of the United States, residing at Cudahy, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Bulge-Hoops for Barrels, of which the following is a specification.

My invention relates to improvements in bulge hoops for barrels.

10 The objects of my invention are to provide a barrel with bulge hoops which will have cylindrical metal outer surfaces, extending beyond the central bulge of the barrel, so that the barrel may be rolled upon the hoops, and a series of barrels may be piled with the bulge hoops of one resting upon the bulge hoops of the next whereby stability is secured in the pile, and the weight of the pile is sustained primarily by the hoops.

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

Figure 1 is a sectional view of a barrel embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a detail sectional view enlarged, of a portion of one stave and two bulge hoops in cross section. Fig. 4 is a detail side view of a portion of one of the hoops at the joint.

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

The barrel A is provided with ordinary hoops B near each end. The inner bulge hoops, however, comprises cylindrical metal hoops C, having their ends permanently riveted together and inclosing wooden filling members D, which have their ends beveled and lapped as in an ordinary hoop, but the ends are unconnected with each other and the wooden members D are unconnected with the metal hoops or members C. The metal hoops C, substantially inclose the members D and extend inwardly beyond them preferably with a slight taper at *e*, and a slight expansion at the margin *e'*, which bears upon the barrel as shown. I therefore secure a binding frictional contact of both the wooden and the metal members upon the surface of the barrel. With this construction, there will be no shoulder at the inner margin, which can be struck accidentally and the hoop driven off, for this shoulder will be no higher than that of any ordinary metallic hoop. The part of the

hoop which encircles the wooden member, will, however, be sufficiently distant from the surface of the barrel to project beyond the bulge at the center, and permit the barrel to roll on these hoops, or to be supported in a pile on such hoops.

The outer bulge hoops, if used, have inner wooden members F, which correspond with the members D in all respects. But the outer members G (the metal portions of these hoops) merely cover the wooden portions without extending inwardly from them. Both the wooden members F and the metal members G may be arranged to abut the members D of the inner bulge hoops, as shown.

In adjusting these bulge hoops in position, the wooden hoop will be first adjusted about the barrel, nearer to the end than the position to be finally occupied. The metal hoop is then adjusted to the wooden hoop on the lower side and the upper side pushed inwardly over the meeting ends of the wooden hoop, the latter drawing together during this operation. The two members may then be driven inwardly to a binding position.

The wooden hoop being unconnected at its ends, is expanded by the wedging action of the barrel into binding pressure against the metal hoop, the wooden hoop serving only as a filler, and the entire strain being exerted on the metal. This prevents the metal hoop from knocking off. By extending the metal hoop beyond the wooden hoop into contact with the barrel, I not only secure a binding frictional contact between the metal hoop and the staves, but also eliminate the abrupt high shoulder which is ordinarily presented by combination bulge hoops, and which has heretofore prevented the successful introduction of such hoops, owing to the tendency of both the metal and the wooden hoop to recede together when struck forcibly on such shoulder. By expanding the edge margin of the metal hoop, it is prevented from cutting into the staves when driven on.

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

1. A barrel provided with a bulge hoop on each side of its central portion, each comprising a wooden member and a flat metal band covering substantially the whole outer surface of the wooden member, said hoops

being of such thickness that the metal bands may support the barrel horizontally from a flat surface; each of said metal bands being wider than the wooden member, and arranged to extend therefrom toward the central bulge portion of the barrel and into engagement with the surface of the barrel at a distance from the wooden member, and substantially at the same distance from the longitudinal center line of the barrel as the outer surface of the wooden member, without forming an abrupt shoulder at the inner margin of the hoop of sufficient height to permit the hoop to be driven off by accidental impacts.

2. A bulge hoop for barrels comprising a wooden hoop member, having its ends beveled and lapped upon each other and un-

connected, in combination with a metallic hoop inclosing the wooden hoop, and having its ends riveted together, the inner margin of the metallic hoop extending beyond the wooden hoop and bearing upon the surface of the barrel and expanded along its edge, in substantial conformity to its tapered surface, together with a second bulge hoop having a similar wooden member, and a metallic hoop of substantially the same width as the wooden member.

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

HERMAN KAESTNER.

Witnesses:

O. R. ERWIN,
LEVERETT C. WHEELER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."