

O. R. EMMRICH.

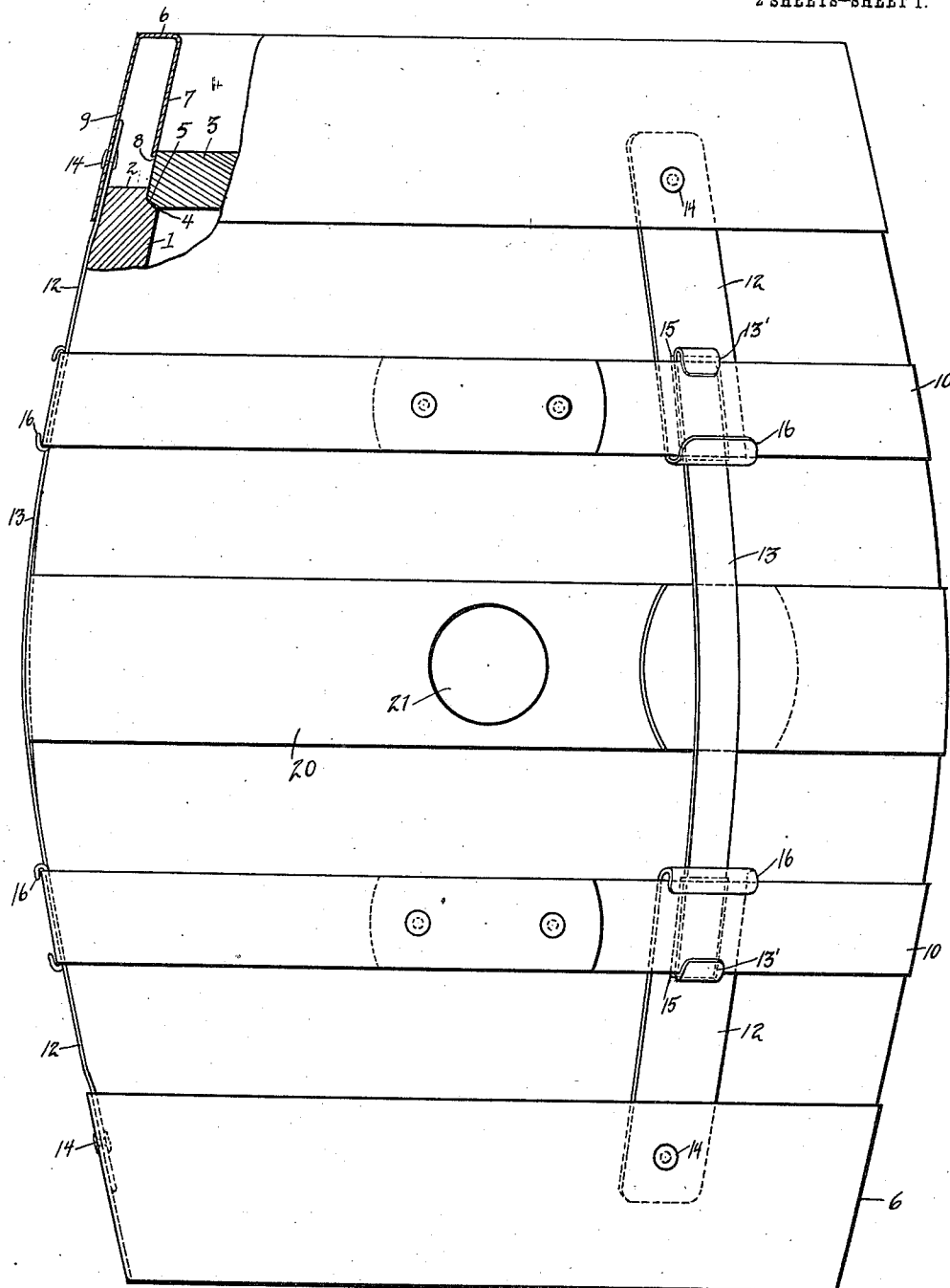
BARREL.

APPLICATION FILED MAY 15, 1911.

1,011,176.

Patented Dec. 12, 1911.

2 SHEETS-SHEET 1.



WITNESSES:

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Fig. 1.

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Fig. 2.

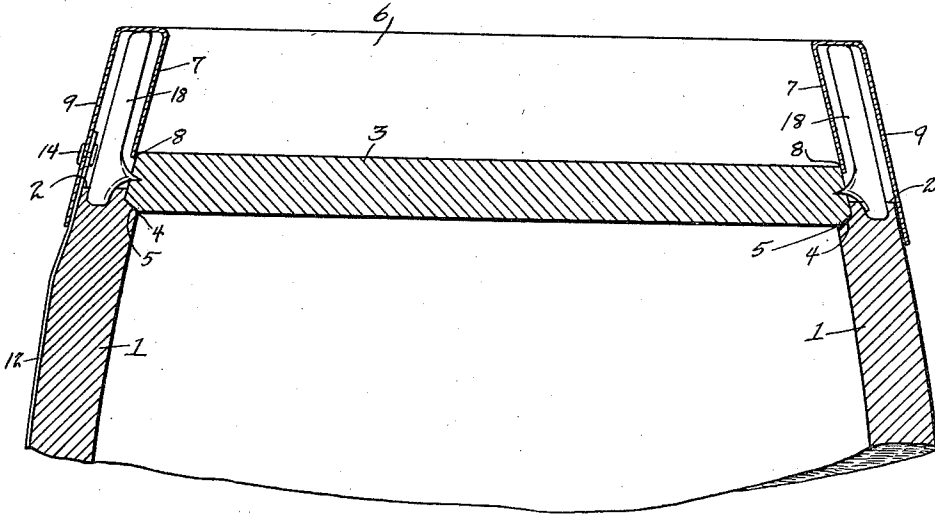


Fig. 3.

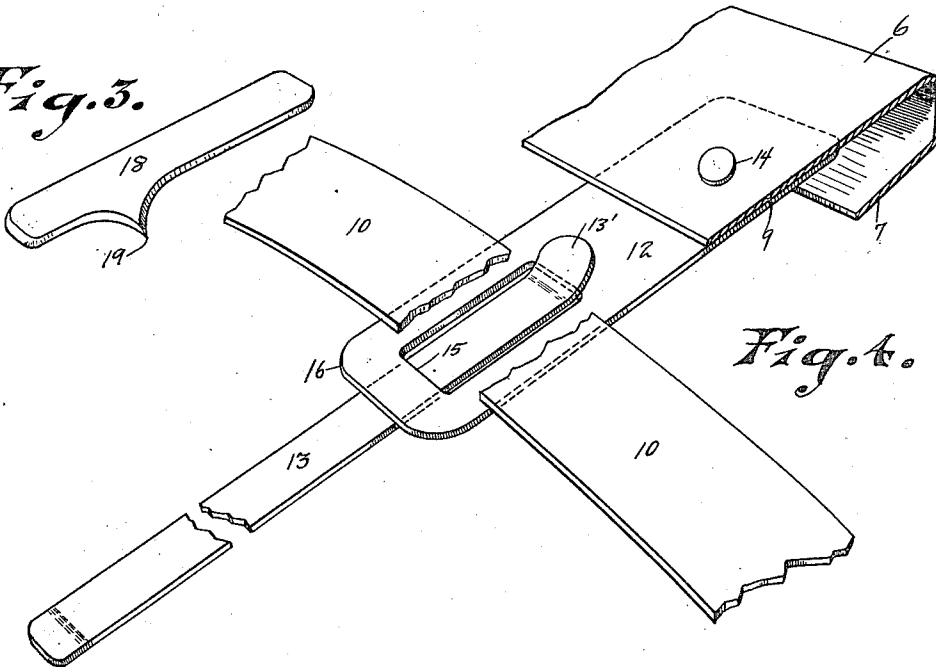


Fig. 4.

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UNITED STATES PATENT OFFICE.

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BARREL.

1,011,176.

Specification of Letters Patent.

Patented Dec. 12, 1911.

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To all whom it may concern:

Be it known that I, OTTO R. EMMRICH, a citizen of the United States, residing at West Bend, county of Washington, and State of Wisconsin, have invented new and useful Improvements in Barrels, of which the following is a specification.

My invention relates to improvements in that class of barrels for which Patent numbered 924,649 was issued to me June 15th, 1909, in which an annular collar is substituted for the ordinary chime for retaining the heads of the barrels in place.

My present improvement pertains more especially to a device for connecting the hoops upon the respective sides of the center or bilge of the barrels with each other and said head retaining collar, whereby the liability of said hoops or heads becoming loose by the shrinkage of the barrel is prevented.

My invention is further explained by reference to the accompanying drawings, in which—

Figure 1 is a side view part broken away to show the interior construction. Fig. 2 is a vertical section of one end of the barrel. Fig. 3 is a perspective view of one of the series of head retaining plates, and Fig. 4 is a perspective view of a portion of the head retaining collar, one of the hoops, and two of the collar and hoop retaining straps as the same are to be connected together.

1 represents an annular series of staves, the respective ends of which terminate at the point 2, slightly above the lower surface of the head 3, and the upper ends of the staves are provided with an annular groove 4 for the reception of the lower corner 5 of the head. The heads are retained in place by the annular metallic collars 6, which are struck up or cast from metal, comprising the interior member 7 adapted to bear against the periphery 8 of the head, and the exterior member 9 which is adapted to bear against the upper exterior surface of the staves 1. It will be understood that both ends of the barrel are provided with said annular collars 6, and that said collars are connected with each other and the heads 10, through the end straps 12, 12, and the central connecting strap 13. The end straps 12 are respectively connected with the annular collars 6 by the rivets 14, and they pass from thence beneath the hoops 10, and the respective ends of the members 12 are connected together by said central members 13.

The opposing ends of the straps 12 are provided with angular apertures 15 for the reception of the ends of said central strap 13. When the parts are thus formed, the respective ends of the strap 13 are inserted through the angular apertures 15 of the straps 12, when the ends of said straps 12 and 13 are respectively bent over and around the contiguous edges of said hoops 10, whereby said hoops are securely connected together and drawn toward the bilge or larger central portion of the barrel, while the opposing ends of the straps 12 are also bent over and around the inner edges of said hoops 10, while the opposite ends of said straps 12 are connected, as stated, with said head retaining collars 6 by the rivets 14. Thus it will be understood that by this arrangement, the respective straps are connected at their outer ends with said collars 6, by the rivets 14, and at their inner ends with the respective hoops 10 by the retaining flanges 16, while the opposing inner ends of said straps 12 are connected together by the central strap 13, which strap 13 is connected with said straps 12, as stated, by being first inserted through the angular aperture 15, when the ends 13' of said central straps are bent over and upon the outer edges of said hoops 10, whereby all of said cooperative parts are securely connected together and whereby the liability of the heads or hoops becoming loose is avoided. In case the staves or heads should become shrunken and it should be necessary to tighten them, this object is accomplished by driving down upon the upper edges of the collar 6, whereby the heads will be forced against the opposing ends of the staves and the hoops will be forced toward each other. When this is done, the ends of the strap 13 will be caused to project slightly past the outer edges of said hoops, when the slack thus produced will be taken up by bending the ends 13' of said central members over and upon the inclosed edges of the hoops. The central members 13 are preferably formed of flexible metal which will permit of the respective ends being thus bent to take up the slack caused by shrinkage, and when bent they will thereafter securely hold said hoops and head retaining collars in place on the barrel.

To facilitate retaining the heads in place against the opposing ends of the staves, I preferably insert a plurality of plates 18 be-

tween the members 9 and 7 of the head retaining collar 6, one end of which plates is adapted to bear against the outer end of said collar 6, while the opposing ends are adapted to penetrate the opposing ends of the stave a slight distance, as shown in Fig. 1, and said plates are preferably provided with a V-shaped projection 19, which is adapted to penetrate the opposing surface of the head, whereby as said collars 6 are driven down, said plates 18 will move with them and cooperate with said collars in holding the heads in place against the opposing ends of the staves, as stated.

20 represents a metallic band which is provided with an aperture 21 for the reception of the bung of the barrel. The metallic band 20 is adapted to inclose the bilge or central portion of the barrel and cooperate with the hoops in strengthening and supporting the same.

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

1. In a device of the described class, the combination of an annular series of barrel staves, barrel heads extending across and secured against the respective ends of said staves, a pair of annular collars, one of each pair inclosing one end of said staves and extending inwardly and adapted to bear against the periphery of said heads, stave retaining hoops located between the respective collars and the central bilge portion of said staves, and a plurality of pairs of transversely arranged hoop and collar retaining members, said transversely arranged members being permanently connected at one of their ends with said annular collars and at their opposite ends with transversely ar-

45 ranged central members, the contiguous ends of said transversely arranged members being respectively inserted beneath and bent over and upon the opposite edges of the stave retaining hoops, whereby said collars and hoops are permanently secured in place upon the barrel.

2. In a device of the described class, the combination of an annular series of barrel staves, barrel heads extending across and secured against the respective ends of said staves, a pair of annular collars, one of each pair inclosing one end of said staves and extending inwardly and adapted to bear against the periphery of said heads, stave retaining hoops located between the respective collars and the central bilge portion of said staves, a plurality of pairs of transversely arranged hoop and collar retaining members, said pairs being provided at their respective inner ends with apertures for the reception of the ends of the centrally disposed members, and a plurality of centrally disposed transverse members having their respective ends inserted through the apertures of said first named transverse members, while the contiguous ends of said transverse members are respectively inserted beneath and bent over and upon the opposite edges of said stave retaining hoops, whereby said hoops and collars are permanently connected with each other through said transversely arranged members.

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

OTTO R. EMMRICH.

Witnesses:

JAS. B. ERWIN,
I. D. BREMER.