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G. H. OSGOOD

2,031,729

BARREL HEAD FASTENER

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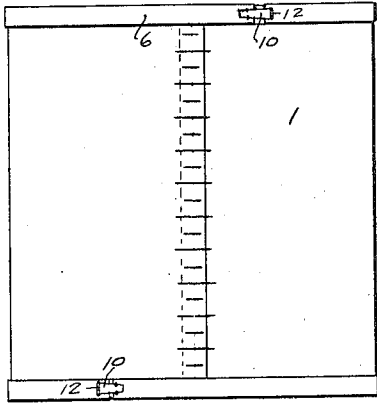


Fig. 1.

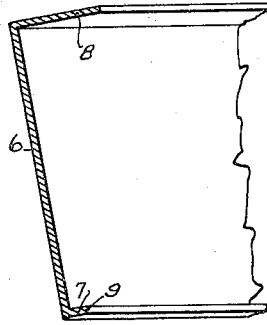


Fig. 2.

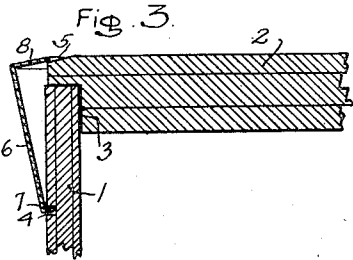


Fig. 3.

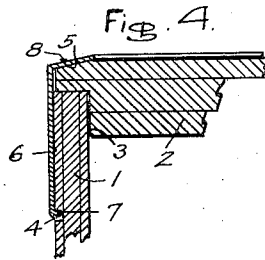


Fig. 4.

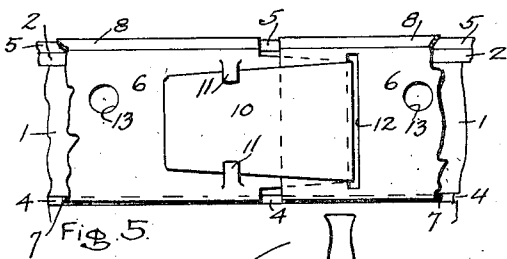


Fig. 5.

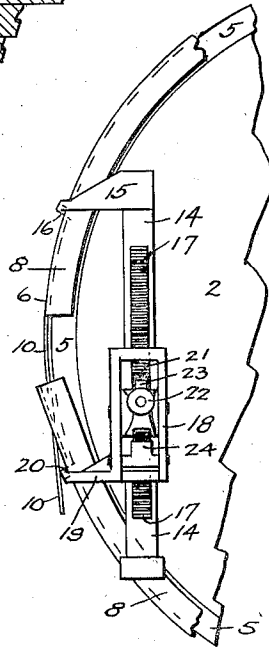


Fig. 6.

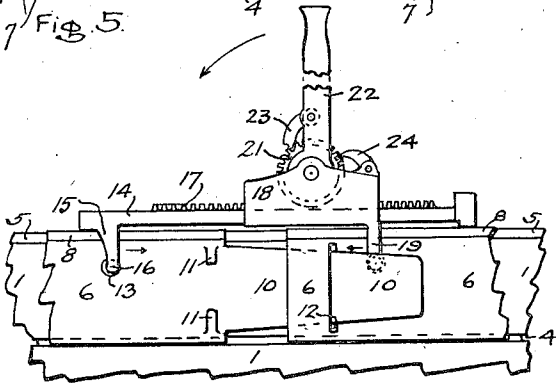


Fig. 7.

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# UNITED STATES PATENT OFFICE

2,031,729

## BARREL HEAD FASTENER

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### 1 Claim. (Cl. 217—89)

This invention relates to means for fastening the head of a barrel in place thereon and has special reference to barrels and heads made of plywood, and is, more especially an improvement, in the barrel-head fastener patented by me on September 12th, 1933, under Number 1,926,302.

The objects of my invention are to provide a fastening which will secure the head to the barrel with such strength and under such pressure that the head is substantially hermetically sealed thereby and yet which requires no nails and in no way damages the barrel or the head; and which may be removed from the barrel without damage thereto or to the head.

I attain these and other objects by the devices and arrangements illustrated in the accompanying drawing, in which—

Fig. 1 is an elevation of a barrel fastened with my improved fasteners;

Fig. 2 is a cross-section of my improved fastening band;

Fig. 3 is a section of the edge of a barrel and head showing the fastening band as it is being applied thereto and before it has been tightened;

Fig. 4 is a similar view of the same parts after the band has been tightened and showing the head pressed down on the barrel by the strain of the bent upper flanges of the band;

Fig. 5 is an elevation of the means for fastening the ends of the band together;

Fig. 6 is a plan view showing the tightening tool in the act of tightening the band on the barrel; and

Fig. 7 is a front elevation thereof.

Similar numerals of reference refer to similar parts throughout the several parts.

My invention applies primarily to plywood barrels but may be used with other types of construction. It will be seen from the drawing that the barrel 1 and head 2 are of laminated construction, and that the end of the barrel lies in the groove 3 formed around the under edge of the head 2. Usually I provide a circumferential groove 4 around the barrel 1, parallel with its end and slightly removed therefrom but, as explained later, in some cases such groove 4 may be dispensed with.

The head 2 is provided with a beveled or chamfered upper edge 5, which said edge forms a circumferential wedge which coacts with the hereinafter described band flange to bend the said flange and thereby to place the flange under continuous strain and the head under continuous downward pressure therefrom.

The band which secures the head 2 to the barrel

1 comprises a shank portion 6, extending around the barrel; with a short flange 7 at its lower edge, said flange 7 extending substantially the full length of the shank 6 and being adapted to enter the above described groove 4 in the barrel; and with a securing flange 8 at its upper edge. The length of such shank 6 is such as to extend from the groove 4 in the barrel 1 to the outer or lower edge of the chamfer 5 of the head 2. This band, in the normal process of its formation, has to be expanded around its upper portion in order to form the flange 8 and, in consequence, normally assumes a conical shape somewhat as illustrated in Figs. 2 and 3. The upper flange 8 is formed substantially at right-angles to the shank 6. When no groove 4 in the barrel is used, the edge 9 of the short lower flange 7 may either be serrated in form or may be sharpened, as shown. If it is not desired to have the upper flange 8 in one continuous part it may be cut in sections, thereby reducing the necessity of expanding the upper part of the shank 6. However, I prefer to form the shank and flanges as shown. One end of the band is formed without either flanges 7 or 8 and has a tongue 10, extending from the shank 6 and two cut-out clips 11, suitably positioned adjacent thereto. The other end is provided with a vertical slot 12 adapted to receive the tongue 10. Two tightening holes 13 are made in the shank 6 near its ends, said holes being adapted to receive the lugs of a tightening tool whereby the band may be placed under strong tensile stress, drawing its ends towards each other and permitting the tongue 10 to be passed through the slot 12 and then bent back on itself and under the clips 11, whereby it is held in such tightened position. When no groove 4 is provided, then the act of tightening the band around the barrel causes the serrated or sharpened edge 9 of the lower flange 7 to be drawn into the wood of the barrel 1 to prevent the upward movement of the band on the barrel.

Also the act of tightening the band draws the upper part thereof against the barrel 1 but, as shown in Figs. 3 and 4, the flange 8 being at right-angles to the shank 6 and lying at the same level as the lower edge of the chamfer 5 of the head 2, it follows that the said flange 8 must slide up the inclined surface of the wedge or chamfer 5 as the band is drawn taut. But, since the lower flange 7 is already in the groove 4, or is held by its sharpened edge being drawn in the wood of the barrel, and is in shear, it also follows that it prevents the band 6 from rising and therefore the long upper flange 8 is forced

to bend as it slides up the wedge chamfer 5, thereby causing a very strong pressure to be exerted between the end of the barrel 1 and the edge of the head 2, thereby hermetically sealing the end of the barrel.

Any form of tightening tool may be used, such as illustrated which comprises: a bar 14 having an arm 15 carrying a lug 16 adapted to enter one of the above-described holes 13 in the band 6, said bar 14 having rack teeth 17 formed thereon; a head 18, adapted to slide on the bar 14 and carrying another arm 19, having a lug 20 adapted to engage in the other hole 13 in the band 6; a toothed wheel 21, mounted in the head 18 and in toothed engagement with the rack 17; a handle 22 fulcrumed concentric with said wheel 21 and carrying a ratchet dog 23, engaging the teeth of said wheel in such position that, when the handle 22 is forced in the direction of the arrow, the head 18 will be forced to slide on the bar 14 and will draw the lugs 16 and 20 towards each other; and a dog 24 mounted on the head 18 and preventing the return movement of the head on the bar. By the operation of this handle 22 the band may be drawn tight around the barrel and the head 2 will thus be securely fastened to the barrel under great pressure, as above described.

Although I have described above what I conceive to be the most practical form of my invention it is, of course, understood that several variations therein may be made without departing from the spirit thereof as outlined by the appended claim; for instance, under certain con-

ditions, the band might be made a closed ring in which case the tightening and fastening means would be omitted and the lower flange would be serrated and its teeth inclined slightly upward, and the band would then have to be forced down into such position that the upper flange would be placed under bending stress and strain and thereby would seal the cover, as above described.

Having, therefore, described my invention, what I claim, and desire to secure by Letters Patent, is:—

A barrel-closure band for a barrel having a bevelled head and a circumferential groove adjacent to but removed from its end, comprising, a strip of metal adapted to extend around the edge of the barrel, said strip being composed of three sections; the lower section being a narrow inward anchor-flange adapted to lie in the circumferential groove in the barrel; the upper section being a wide inward pressure-flange bent, before being applied to the barrel, at substantially right-angles to the intermediate section; and the intermediate section being, before being applied to the barrel, or larger diameter at its upper edge than at its lower edge; the width of said intermediate section being substantially equal to the distance from the circumferential groove to the lower bevelled edge of the head, whereby when said band is drawn taut around the barrel, said wide flange is bent upwards to lie flat on said bevel surface of the barrel head.

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