

Nov. 10, 1942.

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2,301,519

HOOP AND STAVE STRUCTURE

Filed May 29, 1940

2 Sheets-Sheet 1

Fig. 1.

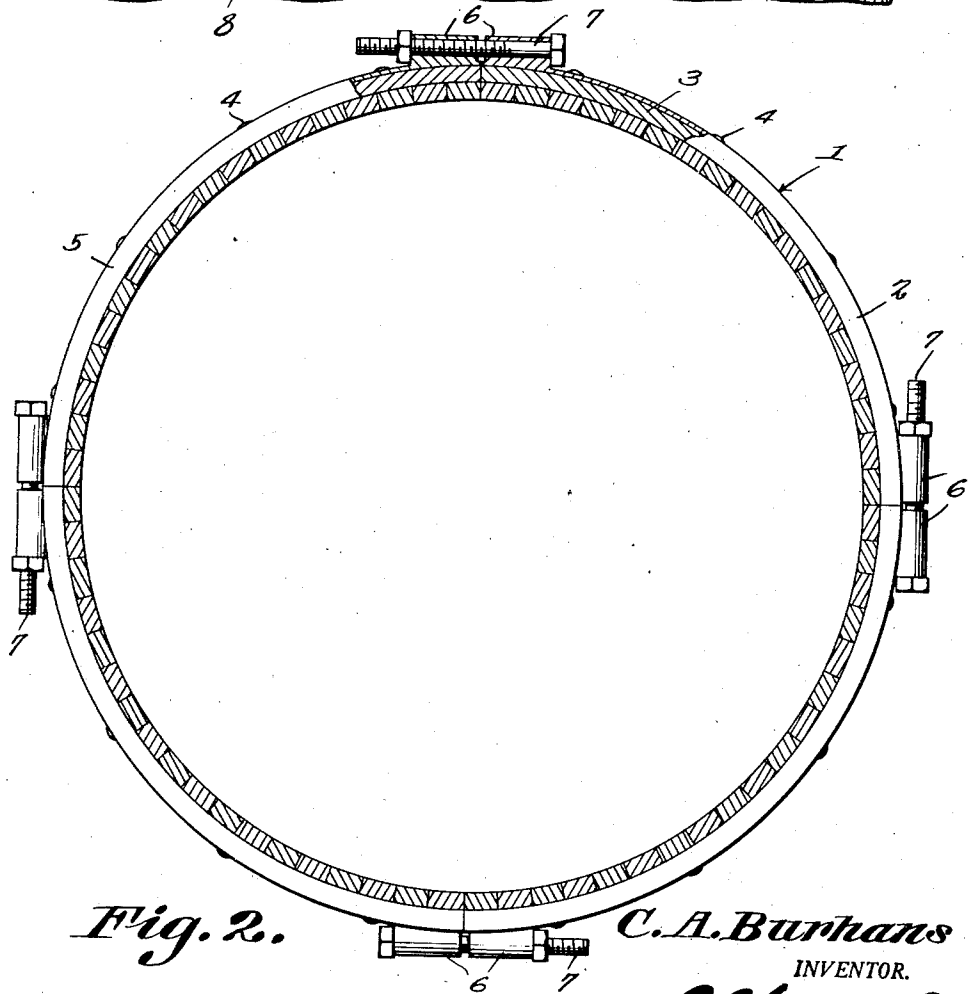
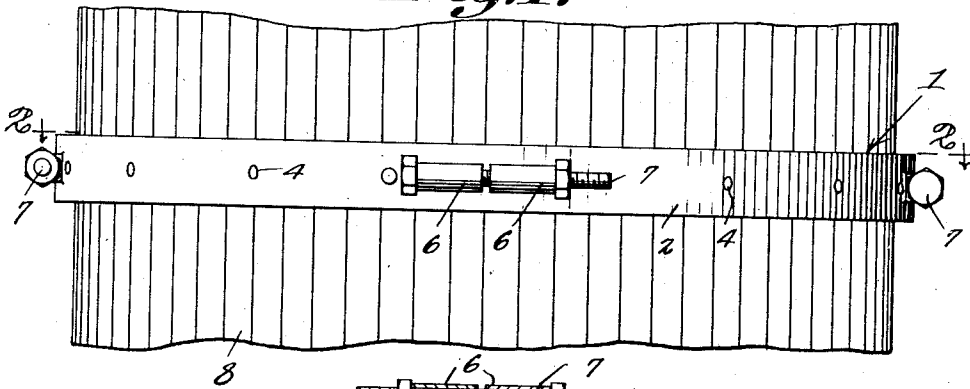


Fig. 2.

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Fig. 3.

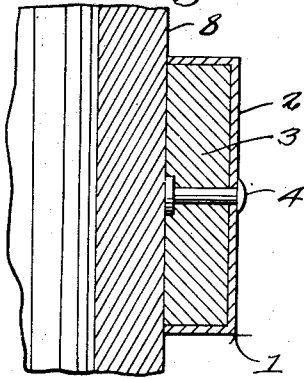


Fig. 4.

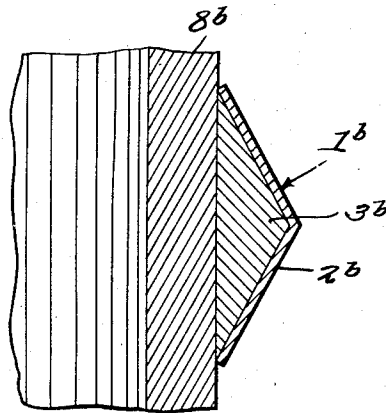
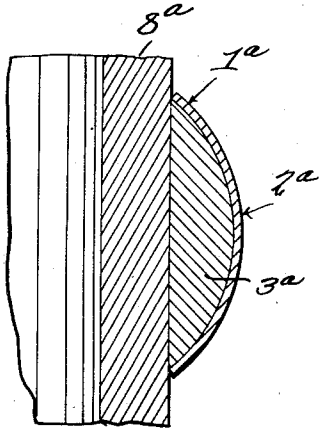
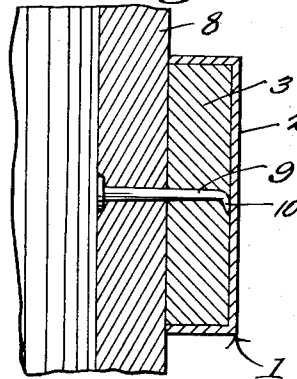


Fig. 5.

Fig. 6.

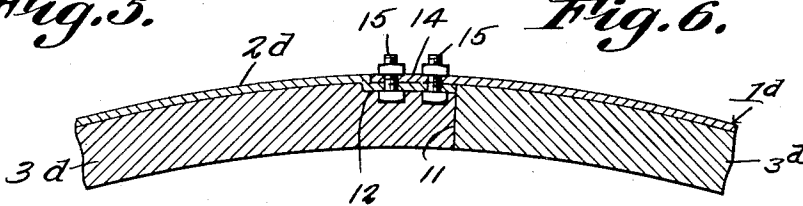


Fig. 7.

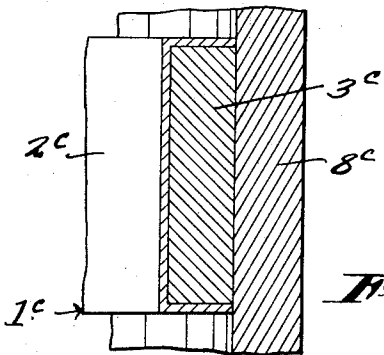


Fig. 8.

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UNITED STATES PATENT OFFICE

2,301,519

HOOP AND STAVE STRUCTURE

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Application May 29, 1940, Serial No. 337,943

1 Claim. (Cl. 217-91)

This invention is adapted to be used within wide limits, ranging between a silo or other building on the one hand, and a barrel or butt on the other. To avoid a waste of words, the description will be confined to silos. The object of the invention is to provide a novel metal and wood hoop, to which staves may be secured, and to provide novel means for holding the hoop closed.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings:

Fig. 1 shows in elevation, a device constructed in accordance with the invention;

Fig. 2 is a cross section on the line 2-2 of Fig. 1;

Fig. 3 is a vertical section illustrating one means for attaching the filler of the hoop to the casing thereof;

Fig. 4 is a vertical section showing one means for attaching the staves to the filler;

Fig. 5 is a vertical section showing a modified hoop construction;

Fig. 6 is a vertical section showing another modification in the hoop construction;

Fig. 7 is a fragmental horizontal section showing a modified means for connecting the separable parts of the hoop;

Fig. 8 is a vertical section wherein the hoop is located inside the staves, rather than outside the staves as in Fig. 3 for example.

In carrying out the invention, there is provided a hoop 1. The hoop 1 includes a metal casing 2, shown in Figs. 3 and 4 as of rectangular cross section. The casing may be of a different cross section from that alluded to, for instance, it may be of curved cross section, as shown at 2a in Fig. 5, or of angular cross section, as shown at 2b in Fig. 6.

Within the casing 2 is located a filler 3, fitting closely in the casing. The filler 3a of Fig. 5 fits closely within the casing 2a, and the filler 3b of Fig. 6 fits closely in the casing 2b.

Any suitable means may be provided for hold-

ing the filler, such as the filler 3, in the casing 2. Rivets 4 are shown as filling that office, but the use of rivets is not mandatory.

The hoop may be composed of any desired number of sections 5, four sections being depicted in Fig. 2, but that number may be increased or decreased, as occasion may demand. One means whereby the ends of the sections 5 may be connected, and whereby the hoop 1 may be tightened, includes lugs 6 on the ends of the sections, through which pass tightening devices, such as draw bolts 7.

The staves 8 are set up inside the hoop 1 and are connected to the filler 3 of the hoop 1 by fastening devices 9. If the fastening devices 9 are nails, they go through the filler 3 and are turned over into a clinch 10 (Fig. 4) by contact with the inner surface of the casing 2.

In Fig. 8, parts hereinbefore described have been designated by numerals already used, with the suffix "c." Figure 8 shows that if the operator wishes, he may place the hoops inside the staves, rather than outside the staves.

The multi-part hoop of Fig. 2, for instance, preferably is employed where a temporary silo is to be erected.

When a permanent silo is to be erected, the device of Fig. 7 will be found useful. The hoop 1d is not made up of a plurality of sections, as shown at 5 in Fig. 2, but is severed transversely at a single point only, as shown at 11. One end of the casing 2d is inset to form a seat 12, adapted to receive the opposite end 14 of the casing 2d. The hoop 1d is held closed by securing elements 15 of any desired kind, for instance bolts engaged with the base of the seat 12 and with the end portion 14 of the casing 2d.

The device has the advantages of a non-rusting hoop, and at the same time the staves may be held in place by nails or other securing devices. The casing 2 extends inwardly to the staves 8, and water cannot find its way into the casing 2, to rot the filler 3. The same advantage may be attributed to the devices of Figs. 5, 6, 7 and 8. The device forming the subject matter of this application affords a means whereby a silo may be erected by ordinary and simple methods, either permanently or as a knock-down structure.

In conclusion, it may be repeated that the invention is not confined to use on a silo, although a structure of that kind has been mentioned specifically, by way of illustration.

In view of the specific description of the form shown in Figs. 1 to 4, it will be understood that

all forms have common features, in that they include a hoop and stave structures, comprising a trough-shaped metal casing and a wooden filler in the casing, the edges of the casing being so disposed with respect to the stave engaging surface of the filler that said edges will make stave contact and house the filler against the entrance of moisture thereinto, the fastening devices being mounted in the staves and passing through the filler, into contact with the casing, to form a clinch.

Having thus described the invention, what is claimed is:

A hoop for stave structures, comprising a trough-shaped metal casing, a wooden filler in the casing, staves engaging the hoop, and fastening devices mounted in the staves and passing outwardly through the filler, into contact with the inner surface of the casing, and turned backwardly, by contact with the inner surface of the casing, to form a clinch.

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