May 15, 1934. S. T. PLAYFORD 1,958,799

STAVE STRUCTURE FOR BINS AND THE LIKE

Filed Feb. 11, 1930

Fig. 1.

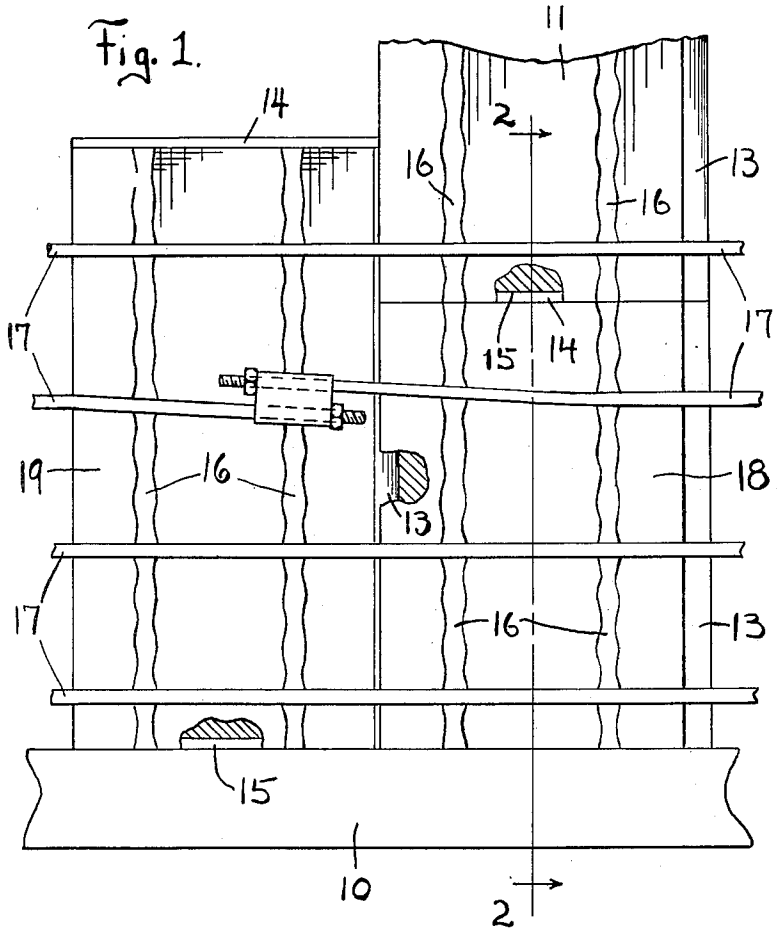


Fig. 2.

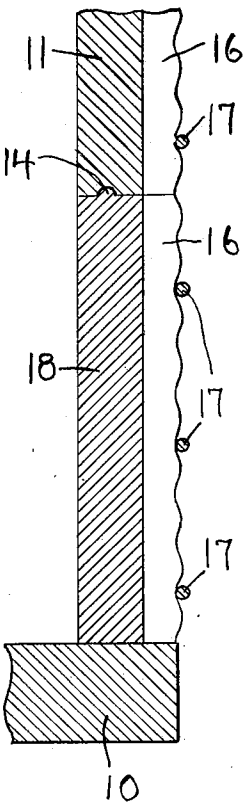
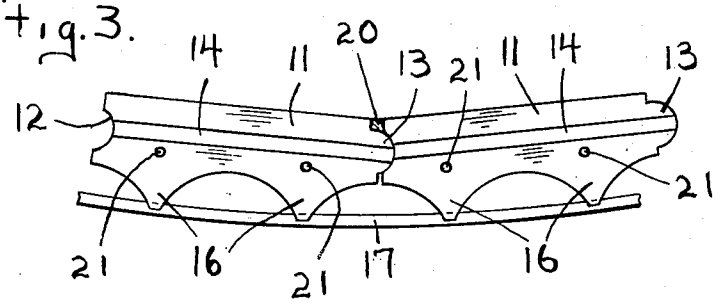


Fig. 3.



Inventor—
Sterling T. Playford
By Fricke & Debler,
Attorneys.

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STAVE STRUCTURE FOR BINS AND THE LIKE

Sterling T. Playford, Forest Park, Ill.

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4 Claims. (Cl. 72—6)

My invention relates to stave structures for bins and the like, and it has for its object the provision of a new and improved form and arrangement of parts by the use of which a builder is enabled more easily and more quickly to put up a structure in proper condition, by reason of which the danger of breaking or cracking a block or stave by the pressure applied thereon through the medium of the binding rods may be very greatly reduced, whereby the appearance of the block and of the bin or other building comprising such blocks may be improved, whereby the difficulty of obtaining proper seats for the binding rods may be greatly reduced, whereby a better and stronger joint may be insured between staves, and whereby a stave or block may be otherwise improved in sundry details as hereinafter pointed out. The preferred means by which I have accomplished my object is illustrated in the drawing and is hereinafter specifically described. That which I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawing,—

Fig. 1 is an outer face view of a plurality of blocks shown in built-up relation to each other for the formation of a bin or other structure;

Fig. 2 is a vertical section taken at line 2—2 of Fig. 1; and

Fig. 3 is a top plan view of two of the staves as shown in Fig. 1.

In the several figures of the drawing, in which corresponding parts are indicated by the same reference characters, 10 indicates a base of concrete or the like forming the floor of the bin or other structure to be built thereon.

My improved block, preferably formed of concrete has a body portion 11, with a groove 12 in one side edge and a correspondingly shaped tongue 13 at its opposite side edge, the arrangement being such that a plurality of the blocks or staves are adapted to have tongue and groove engagement with each other in the well known manner. At the upper end of each of the blocks, I have provided a horizontally disposed tongue 14 which is adapted to engage a correspondingly formed and positioned groove 15 in the bottom end of the adjacent block or stave, it being understood, of course, that each of the several blocks employed is provided with such groove 15.

Each of the blocks is provided on its outer face with two outwardly projecting ribs 16 arranged in longitudinal position thereon, the arrangement being such that in a built-up structure comprising a plurality of the staves the adjacent ribs 16 are in substntially equally spaced relation. As is best shown in Fig. 2, the outer face of each of the ribs 16 is in corrugated form providing a series of indentations each of which is of considerably greater size vertically than horizontally. By the provision of such mildly curved corrugated form, suitable seats are provided for the binding rods 17, such binding rods being enabled to find proper seats on the ribs with considerable latitude with respect to their vertical position, it being unnecessary that the binding rod engage the indentation precisely at the center of its curvature. The equal spacing of the ribs is effected in the construction shown by locating such ribs in equally spaced relation to the side edges of the outer face of the stave and at a distance from each other corresponding substantially to one-half the width of said outer face.

For erecting a bin or other structure of the kind, a number of special blocks are provided, such as the block 18 as shown in Figs. 1 and 2 of a smaller length than the normal size of the blocks, such blocks 18 being formed special or being provided by cutting off the lower end of one of the regular blocks, such as the block 19 shown in Fig. 1. When a complete tier of blocks 18 and 19 have been set up in proper position, the binding rods 17 are applied and tightened about the blocks. By reason of the mild curvature of the corrugations in the outer faces of the ribs 16, the binding rods 17 may be applied very easily and quickly without regard to any slight lack of alignment of the indentations of the several blocks in which the rod is placed, the rod being adapted to apply its pressure evenly upon the block whether or not it is seated in centered position in the indentation. I have found in practice that when blocks of my improved type are employed and when the rods 17 are drawn up very tight, this is accomplished without putting any undue strain upon the blocks. I have found that in the use of my improved stave any ordinarily careful workman can build up a structure in the manner indicated in the drawing without the breakage of any of the staves even though the binding rods 17 are made as tight as they can readily be made. By using full-length blocks for successive tiers, the joints will be broken throughout the entire structure. Since it is necessary in building up one tier of staves to enter the staves between the staves of the previous tier, it will be understood that the binding rods are preferably not tightened completely for one tier until the next tier is in position.

The edge portions of the staves at their inner faces are shaped in such manner that clearance is

provided between the staves so as to make possible the formation of a bin or other structure upon a comparatively small radius. After the tightening of the staves in position, the joints between the staves are filled with cement mortar or grout for providing a key 20, as is shown in Fig. 3, between each of the adjacent blocks. As is shown in Fig. 3, the key 20 is substantially flat on its inner face and the side faces of the key converge outwardly. With this arrangement, there is very little danger that the key will be broken and the key is definitely locked in position so as to prevent its escape.

By the provision of the ribs 16 on the outer face of the block, I have provided thickened portions of the body so as to provide for the insertion of reenforcing rods 21, as is best shown in Fig. 3, such reenforcing rods being positioned directly opposite the ribs. By this arrangement, the reenforcing rods are amply protected with respect to the weather and with respect to fire.

I have found in practice that my stave structure is very useful, in that by its use a workman can build up a structure of the desired size very rapidly and very easily. The completed structure comprising the staves is of very great strength and is very attractive in appearance.

While I prefer to employ the construction as shown in my drawing and as above described, it will be understood that I do not limit my invention thereto except so far as the claims are so limited by the prior art, it being understood that changes may well be made in the construction and arrangement without departing from my invention.

I claim:—

1. A stave for bins and the like, comprising a body portion having outwardly projecting ribs extending longitudinally thereof on its outer face, said ribs being substantially equally spaced from the side edges of the outer face of the stave and being spaced at a distance from each other corresponding substantially to one-half of the width of the outer face of the stave.

2. A stave for bins and the like, comprising a body portion having outwardly projecting ribs longitudinally thereof on its outer face and having a groove at one side edge and a tongue at the other side edge whereby the stave is adapted to have tongue and groove engagement with similar staves at opposite sides thereof, the outer face of each of said ribs being provided with a series of indentations each of which is of considerably greater size vertically than horizontally providing seats for the reception of binding rods.

3. A stave for bins and the like, comprising a body portion having outwardly projecting ribs longitudinally thereof on its outer face and having a groove at one side edge and a tongue at the other side edge whereby the stave is adapted to have tongue and groove engagement with similar staves at opposite sides thereof, the outer face of each of said ribs being corrugated, with the curvature comparatively very mild whereby a binding rod may find a seat with considerable latitude with respect to vertical position thereon.

4. A stave for bins and the like, comprising a body portion having outwardly projecting ribs longitudinally thereof on its outer face and having a groove at one side edge and a tongue at the other side edge whereby the stave is adapted to have tongue and groove engagement with similar staves at opposite sides thereof, said ribs being so arranged on the face of the stave that in a built-up structure comprising a plurality of the staves adjacent ribs have substantially equally spaced relation, the outer face of each of said ribs being corrugated, with the curvature comparatively very mild whereby a binding rod may find a seat with considerable latitude with respect to vertical position thereon.

STERLING T. PLAYFORD.