

G. A. LE FEVRE.
 KNOCKDOWN BARREL.
 APPLICATION FILED AUG. 14, 1920.

1,417,337.

Patented May 23, 1922.

Fig. 1

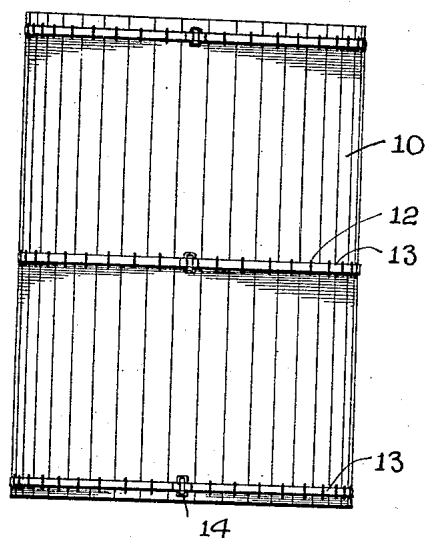


Fig. 2

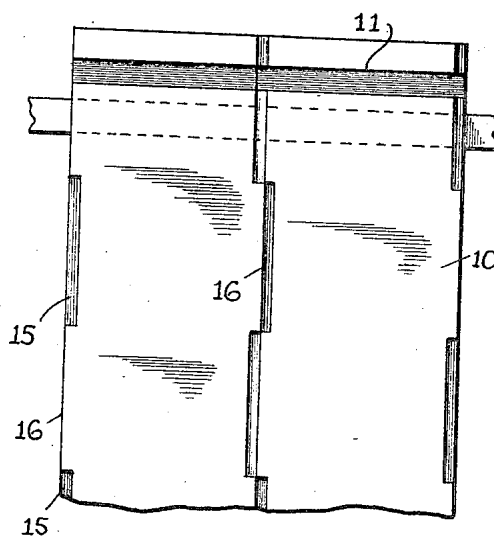


Fig. 4



Fig. 3

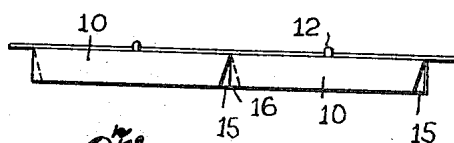


Fig. 5

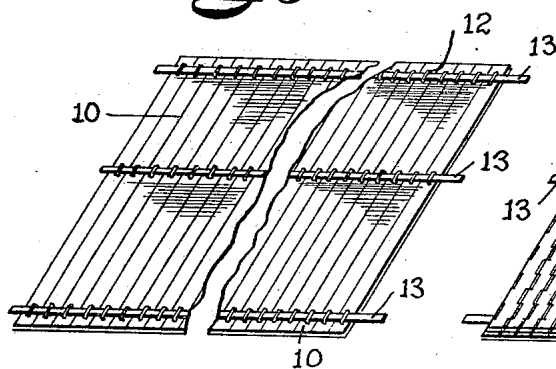
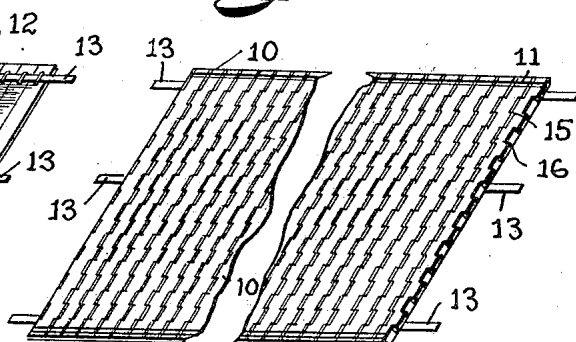


Fig. 6



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UNITED STATES PATENT OFFICE.

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KNOCKDOWN BARREL.

1,417,337.

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To all whom it may concern:

Be it known that I, GEORGE A. LE FEVRE, a citizen of the United States, and a resident of Richmond Hill, Queens County, New York, have invented a new and useful Improvement in Knockdown Barrels, of which the following is a full, clear, and exact description.

My invention relates to improvements in barrels and other containers, and particularly to knock-down barrels of the type in which the barrel can be laid out flat with its staves and hoops connected, then rolled up around the heads and the hoop ends fastened together to make a package ready for use. The object of my invention is to produce a very simple and inexpensive structure of this kind which is also exceedingly strong. If barrels without a bilge have the staves fastened together edge to edge, the staves are likely to slip endwise with relation to each other so that the barrel is apt to rack and get out of shape. To obviate this difficulty I construct the stave edges so that they will interlock, and preferably construct them so that they will interlock on the inner sides, but the outer sides will meet edge to edge at all times, so that the barrel exteriorly will look like any close barrel or package, but inside the parts by reason of their interlocking, cannot slip, and thus a very strong package is made which has almost the same strength as if made from a single piece of wood. My invention is also intended to connect the staves by hoops which slide with relation to the staves, so that there will be no strain on the hoop fastenings, and the hoops can be moved longitudinally and the ends fastened together as desired. All of which will be more clearly understood from the description which follows.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a side elevation of a barrel embodying my invention.

Figure 2 is a broken enlarged inside view showing a pair of connected staves and the manner in which they interlock.

Figure 3 is a broken plan or end view showing a pair of staves connected but lying straight so that they do not interlock,

Figure 4 is a view similar to Figure 3 but with the hoops bent and the staves arranged to assume the position they would in the barrel when set up.

Figure 5 is a broken outside view of the barrel body when laid flat, and

Figure 6 is a broken inside view of the barrel body when laid flat.

The barrel is made without the bilge, and the body comprises a series of parallel staves 10 which are adapted to meet edge to edge as usual in such structures, and I have shown them provided with the customary croze groove 11 so that any usual or suitable head can be placed in the groove. At desired intervals the staves are provided with staples 12, which align transversely so that the hoops 13 which should be of metal can be run through the staples, or the staples can be driven in over the hoops as desired. Obviously there can be as many transverse rows of staples, and as many hoops used as necessity may require. The hoops are fastened together at the ends when the barrel is set up as shown at 14, but this fastening is not shown in detail as it forms no part of the present invention, and any suitable fastening can be used.

Each stave is provided on its inner side and edges with notches 15 which are spaced apart so that a flush or straight portion 16 will lie between the notches, and the part 19 and notches 15 should be of the same length, and by reference to Figure 2 it will be seen that the flush part 16 of one stave comes opposite the notched part 15 on the opposite edge of the same stave. In other words, on the two edges the notched and flush portions 16 are staggered, and as every stave is similarly made, the parts 16 and 15 of meeting staves will always register without regard to which end of the stave is placed uppermost.

When the staves are laid out flat edge to edge with the hoops connected there- through as in Figure 3, it will be seen that the parts 16 and 15 will not interlock, as the staves will be perfectly parallel and on the same plane; but when the staves are rolled up around the head, the hoops 13 bend to the curve of the barrel, and the staves can swing inward with relation to each other so that the members 16 of one stave will enter the notches 15 of the next adjacent stave, as clearly shown in Figure 6, and

thus the staves will all be interlocked so that they can have no endwise movement except as a whole.

It will be noticed that by having the 5 notches 15 on the inner edge of the staves, the barrel is kept tight, as the outer edges of the staves meet edge to edge, and furthermore, the appearance of the barrel is very much better, as obviously the parts 15 and 16 do not show at the outside, (see Figures 1 and 5).

It will be understood, of course, that the size and shape of the parts 15 and 16 is not material, the essential thing being to have 15 the parts interlock, and while the notches 15 might be cut through to the outer side, this is not so desirable, and the resulting package is not so good for use nor of such good appearance.

It will be seen from the foregoing description that I have devised an exceedingly simple and strong package which can be shipped flat and easily rolled up into position for use around its heads. It will also be understood that if desired the staves can be 25 shipped separately from the hoops, and the hoops then run through the staples of the staves. It will also be noticed that the staves must be substantially flat, as if they are 30 curved and notched as shown, the notched parts would not interlock when the barrel was put into cylindrical shape: but when the staves are substantially flat, they lie flat when laid out, and when rolled into curved 35 form the inner edges interlock. I am aware that barrels have been made with tongue and groove connections between the slats, but this is not interlocking, and does not serve the purpose of uniting the staves so that they 40 will not slip endwise with relation to each other.

I claim:—

1. A knock-down barrel having essentially flat staves with meeting edges in substantial contact at all times at the outer faces 45 of the staves, and with transversely coacting complementary members at the inner corners of the staves which are out of engagement when the barrel is flat, but which 50 engage when the barrel is set up in arc form to prevent endwise movement of the staves.

2. A structure of the kind described comprising staves adapted to be positioned in angular relation to each other and having 55 mating edges in substantial contact at all times at the outer faces of the staves, said

mating edges at the inner faces of the staves being provided with parts adapted to coact with each other when the staves are disposed in such angular relation, while maintaining such edges at the outer faces of the 60 staves in substantial contact, said coacting parts operating to prevent the relative longitudinal movement of the staves.

3. A knock-down barrel having essentially flat staves with straight outer corners meeting edge to edge while the barrel is flat, and with their inner corners constructed to transversely interlock to prevent endwise 65 movement of the staves when the barrel is set up.

4. A barrel having its staves constructed to transversely interlock at their inner edges to prevent endwise movement of the staves when the barrel is set up, said staves having 75 straight meeting edges at their outer corners.

5. A barrel having essentially flat staves with straight meeting edges at their outer corners, and with the inner corners of adjacent staves constructed to transversely 80 interlock when the barrel is set up to prevent endwise movement of the staves, and hoops detachably and slidably secured to the outer parts of the staves.

6. A knock-down barrel formed of essentially flat staves with straight meeting outer 85 edges, said staves being constructed to transversely interlock at their inner corners to prevent endwise movement of the staves, staples on the outer sides of the staves, and 90 hoops detachably secured to the staves and adapted to slide through the staples.

7. A knock-down barrel formed of staves which meet at their outer corners and have their inner corners notched, with the notches 95 of adjacent staves in staggered relation, whereby when set up the projections of one stave will enter the notches of the next adjacent stave.

8. A knock-down barrel having essentially flat parallel staves with straight outer 100 corners meeting edge to edge and with their inner corners provided with notches having inclined walls, and with the notches of adjacent staves in staggered relation so that the 105 projections of one stave will enter the notches of the next.

GEORGE A. LE FEVRE.

Witnesses:

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