

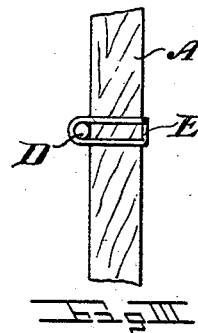
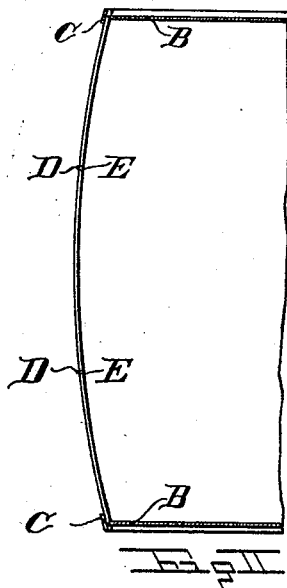
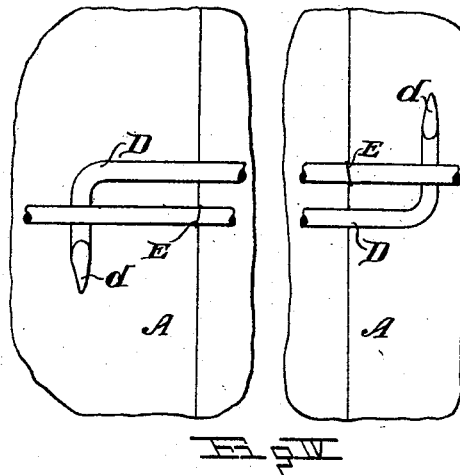
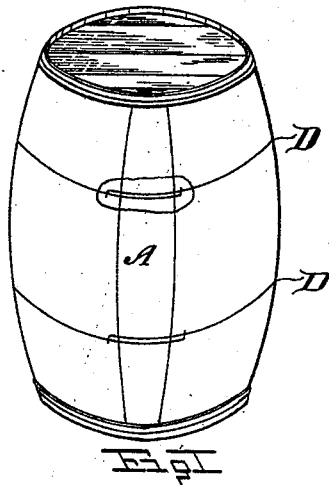
(No Model.)

2 Sheets—Sheet 1.

C. RICHARDSON.
KNOCKDOWN PACKAGE OR BARREL.

No. 525,158.

Patented Aug. 28, 1894.



WITNESSES:

B. C. BARNES,
W. H. LOCKWOOD

INVENTOR

Charles Richardson

BY

William Macomber

ATTORNEY.

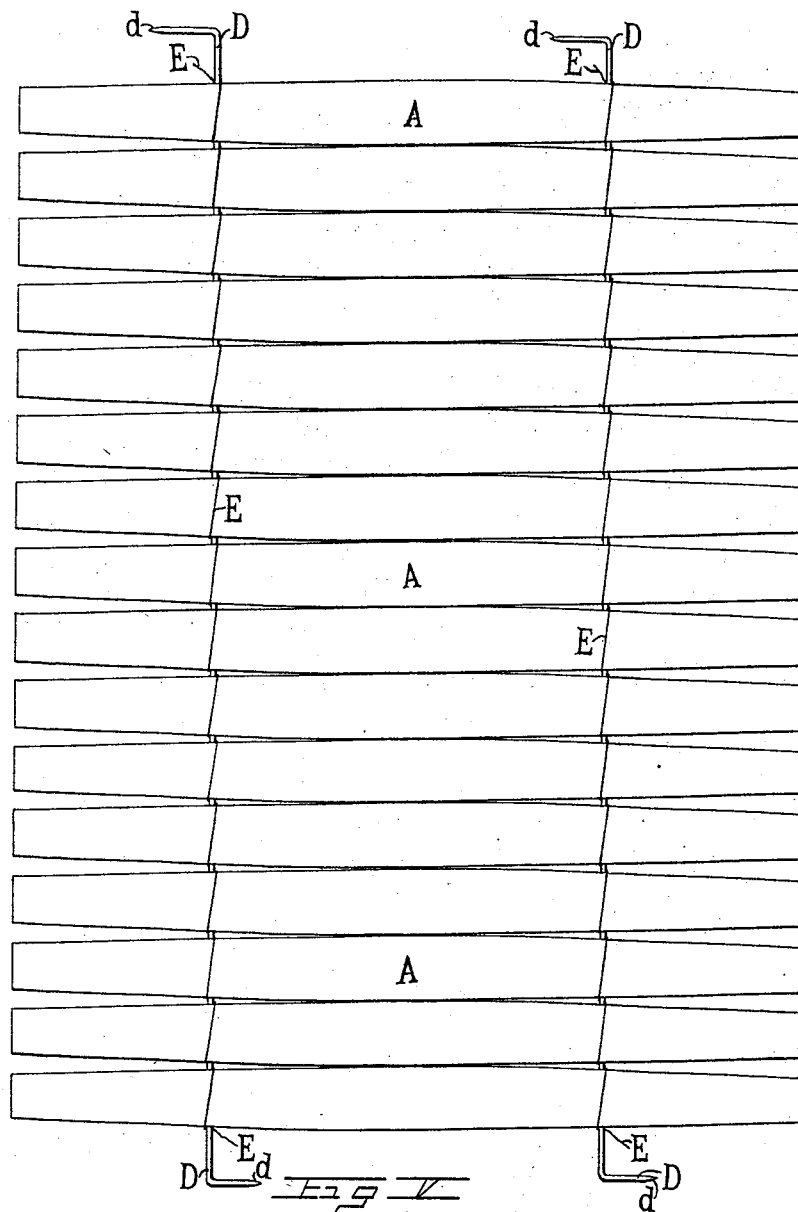
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WITNESSES:

B. C. Anderson
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Charles Richardson INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES RICHARDSON, OF BUFFALO, NEW YORK, ASSIGNOR TO THE QUEEN CITY VENTILATED BARREL AND BASKET COMPANY, OF SAME PLACE.

KNOCKDOWN PACKAGE OR BARREL.

SPECIFICATION forming part of Letters Patent No. 525,158, dated August 28, 1894.

Application filed February 2, 1894. Serial No. 498,939. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHARDSON, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Knockdown Packages or Barrels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a new and useful article of manufacture in the form of a barrel or keg and more particularly in that particular class of articles which are constructed with jointed staves which are held together with hoops or bands so as to give the barrel or keg a bilge. Hitherto it has been necessary in making this class of receptacles to employ not only end hoops to draw in the ends of the staves to form the bilge and to hold the heads in place, but it has also been necessary to employ truss or bilge hoops to give additional strength and rigidity to the package. On the other hand I am aware that barrels and kegs have been constructed with wire hoops or bands to take the place of the truss or bilge hoops, constructed in various ways; but in none of these uses made either of wire hoops or in the use of woven wood-and-wire barrel fabric has it been possible to construct a bilge barrel or a barrel with substantially tight joints. The article as manufactured by me overcomes all of these difficulties by employing a new and improved slat weave and method of joining which enables me to provide as an article of manufacture a bilge barrel or keg and also a knock-down barrel or keg.

To show my construction, reference is at once had to the accompanying drawings, in which—

Figure I is a perspective view of my invention. Fig. II is a vertical sectional cross section of the same. Fig. III is an enlarged detail section showing the edge of a stave and the application of the wire weave. Fig. IV is an enlarged view of a portion of the barrel showing the method of securing the ends of the wire. Fig. V is an enlarged view of a

complete section of the fabric ready to be trussed into shape to form a barrel.

Like letters refer to like parts throughout the drawings.

A, A, are the tapered staves of which the barrel is constructed, in which the staves are jointed in the usual well-known manner.

B, B, Fig. II are the heads inserted in the usual form, and C, C, are the end hoops provided in the usual form.

D, D, are the exterior steel wire hoops or bands which serve the purpose of bilge or truss hoops.

E, E, are the small, pliable wires by means of which the staves are woven together in the manner hereinafter described.

The wire D, is preferably a rigid steel wire of considerable size and strength, and is placed at the proper distance from the ends of the staves to form the truss or bilge hoops, and at right angles to the length of the staves. The pliable wire, E, is then by proper mechanism turned about the wire D, as clearly shown in Figs. III and V, a single turn and then is carried across the inside of the stave to the opposite edge, where it again makes a turn over the edge of the stave and about the wire D, and thence back and across the inner side of the next succeeding stave, and then about the wire D again, and so on. In this manner the fabric is woven. But an improved feature must be here noted, which is, that the pliable wire, instead of making a full turn, or several turns, about the body wire, as is commonly the case, merely passes about it in the form of a U loop, and, moreover, a loop not drawn so tightly about the body wire that it will not slip or slide upon the body wire. This is an essential feature in enabling me to construct a bilge barrel. A sufficient quantity of staves having been woven together in this manner to constitute a package the staves being in contact with each other at their central or middle portions, but separated toward their ends, by reason of their being tapered, as shown in Fig. V, the fabric is then bent into a cylindrical form approaching the shape of a barrel. The ends of the body wire, D, are allowed to project at both ends of the fabric a distance of a trifle

less than the width of an ordinary barrel stave, the ends are cut upon a bevel or chamfered to give them a point, as shown at *d, d*, Fig. IV. These free ends are bent at a right angle and in such a manner that when the fabric is placed in form the bent ends will lie flat upon the surface of the staves, or nearly so, so that the ends will have a tendency to engage in the surface of the stave. The fabric thus placed in a cylindrical form is placed upon an ordinary trussing frame and the ends of the staves are brought together in the usual form to engage the heads, B, B, and are secured by ordinary hoops, C, C. In this process it will be at once seen that the truss or bilge hoops, in the process of drawing in the ends, must have a slightly smaller diameter when the ends are drawn in; and here the improvement of the U loop formed by the turn of the wire E, is seen. For in order that the diameter of the barrel may be reduced in trussing, not only at the ends but at the points midway upon the staves which are occupied by the truss or bilge hoops, the wire D must be free to slip or slide within the loops in order that the staves may come together upon their jointed edges to form a tight joint. It is apparent that the free ends of the body wire, D, will thus be forced slightly farther outward, giving them a slightly longer lap, as shown in Fig. IV. The free ends of the flexible wire will then be upon the inside of the barrel, which are first twisted together, and with a stroke of the hammer are bent down out of the way. The bent ends of the body wire, D, as they overlap each other are tucked under the body of the wire and are driven into place as shown in Fig. IV, and the pointed ends will engage slightly in the body of the staves, sufficiently to hold them in place and to make a smooth surface, and yet not sufficiently to puncture the stave.

It is apparent that by a substantial reversal of the operation in putting the barrel together, the same may be knocked down so as to lie flat, thus affording great economy both in storing and shipping. And it is apparent that in this way a single article may be repeatedly set up and knocked down, thus increasing the life and use of the article several times over that of an ordinary barrel.

Another feature of my improvement is, that by using small and tough pliable wire, and employing the U loop as described, and by having staves well jointed and end hoops of sufficient strength, I am able to construct a substantially water tight barrel or keg.

I do not herein claim broadly the weave described which consists of the employment of the body wire and the pliable wire engaging with the slat or stave, nor do I claim the process of manufacture of wood-and-wire fabric of this character, nor do I claim broadly the construction of a barrel having wire hoops; but

What I do claim is—

1. A knock-down barrel or package consisting of jointed staves, body wires constituting the truss or bilge hoops and secured to said staves by pliable wires taking over the edges and inside of the staves and forming a sliding U loop about the truss or bilge hoops between each two staves, substantially as described.

2. A fabric for making barrels, &c., consisting of tapering staves, wires adapted to constitute encircling bands or hoops, extending transversely across the tapering portions of the staves, and the pliable weave wires which connect the staves to the hoop wires, the said weave wires being U-looped to the hoop wires, whereby they are free to slide thereon, substantially as set forth.

3. A fabric for making barrels, &c., consisting of staves, wires adapted to constitute bands or hoops, extending transversely across the staves, the ends of the wires being bent at substantially right angles to the main or body parts thereof, and the pliable weave wires which connect the staves to the said hoop or band wires, the said weave wires being U-looped to the hoop wires, whereby they are free to slide thereon substantially as set forth.

4. A knock-down barrel or package consisting of tapering staves, hoop wires extending around the staves at their tapered portions and the weave wires which connect the staves to the hoop wires, having the loose and sliding connections with the hoop wires whereby the staves and the weave wires are free to move relative to the hoop wires when the package or barrel is set up, substantially as set forth.

5. A knock-down barrel or package consisting of jointed staves, wire truss or bilge hoops, and a pliable weave or connecting wire, uniting the staves to the wire truss or bilge hoops, the said weave wires being looped around the wires constituting the said hoops, whereby they are free to slide thereon, and their ends being secured together upon the inside of the package or barrel, the ends of the truss or bilge hoops being secured upon the outside of the barrel, substantially as set forth.

6. A knock-down barrel or package consisting of the jointed tapering staves, the bilge or truss hoops D, D of wire, the end hoops, the head, and the connecting or weave wires E, by which the staves are secured to the hoops D, D, the wires E passing around the hoops D, in U-shaped loops, whereby the wires are free to slide upon the said hoops, substantially as set forth.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

CHARLES RICHARDSON.

Witnesses:

J. C. ALMENDINGER,
B. C. CANDEE.