

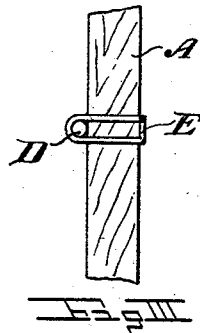
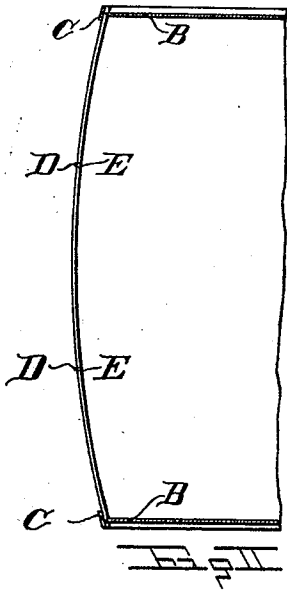
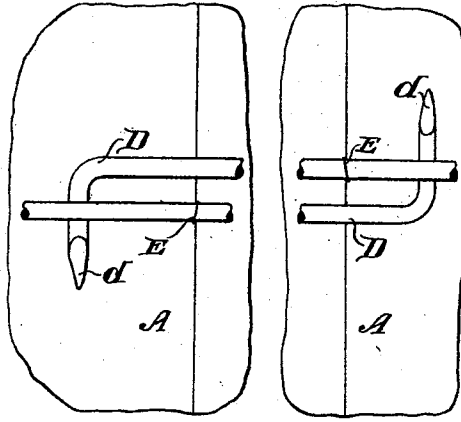
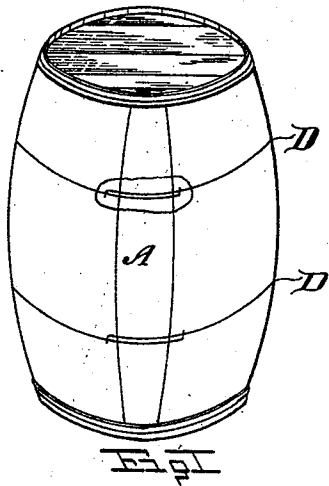
(No Model.)

2 Sheets—Sheet 1.

C. RICHARDSON.
KNOCKDOWN PACKAGE OR BARREL.

No. 525,158.

Patented Aug. 28, 1894.



WITNESSES:

B. C. Moore,
W. Rockwood

INVENTOR

Charles Richardson

BY

William Macomber

ATTORNEY.

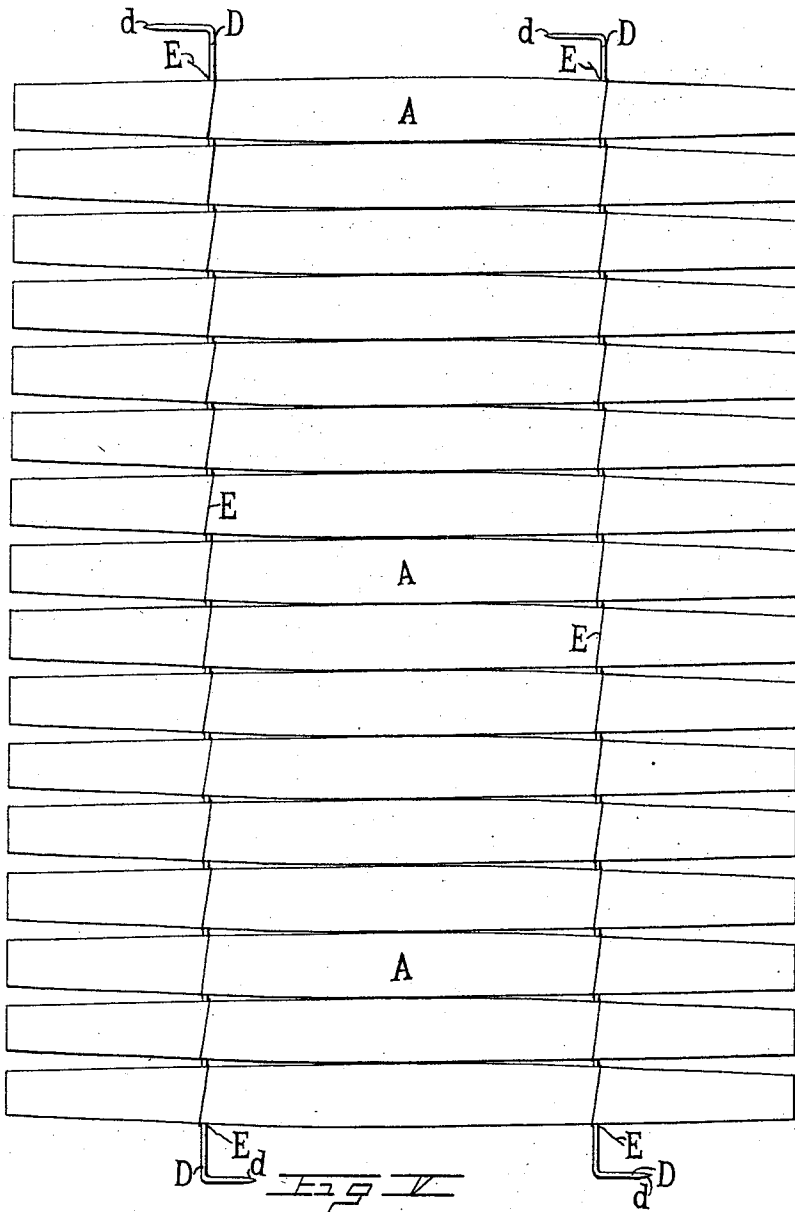
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KNOCKDOWN PACKAGE OR BARREL.

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WITNESSES:

W. B. Anderson
R. L. Lathrop

Charles Richardson INVENTOR

BY
William Macomber
ATTORNEY.

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
 5 stave, the ends are cut upon a bevel or cham-
 10 fered to give them a point, as shown at *d, d*,
 15 Fig. IV. These free ends are bent at a right
 20 angle and in such a manner that when the
 25 fabric is placed in form the bent ends will lie
 30 flat upon the surface of the staves, or nearly
 35 so, so that the ends will have a tendency to
 40 engage in the surface of the stave. The fabric
 45 thus placed in a cylindrical form is placed
 50 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 se-
 cured by ordinary hoops, C, C. In this pro-
 cess 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 im-
 20 provement of the U loop formed by the turn of
 25 the wire E, is seen. For in order that the di-
 30 ameter of the barrel may be reduced in truss-
 35 ing, not only at the ends but at the points mid-
 40 way upon the staves which are occupied by the
 45 truss or bilge hoops, the wire D must be free to
 50 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, giv-
 ing 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 re-
 45 versal of the operation in putting the barrel
 50 together, the same may be knocked down so
 as to lie flat, thus affording great economy
 both in storing and shipping. And it is ap-
 parent that in this way a single article may
 be repeatedly set up and knocked down, thus
 55 increasing the life and use of the article sev-
 eral 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
 55 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
 60 described which consists of the employment
 of the body wire and the pliable wire engag-
 ing with the slat or stave, nor do I claim the
 process of manufacture of wood-and-wire fab-
 ric of this character, nor do I claim broadly
 65 the construction of a barrel having wire
 hoops; but

What I do claim is—

1. A knock-down barrel or package consist-
 ing of jointed staves, body wires constituting
 the truss or bilge hoops and secured to said
 staves by pliable wires taking over the edges
 70 and inside of the staves and forming a slid-
 ing U loop about the truss or bilge hoops be-
 tween each two staves, substantially as de-
 scribed.

2. A fabric for making barrels, &c., consist-
 75 ing of tapering staves, wires adapted to con-
 stitute 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
 80 weave wires being U-looped to the hoop wires,
 whereby they are free to slide thereon, sub-
 stantially as set forth.

3. A fabric for making barrels, &c., consist-
 85 ing of staves, wires adapted to constitute the
 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
 90 hoop or band wires, the said weave wires be-
 ing U-looped to the hoop wires, whereby they
 are free to slide thereon substantially as set
 forth.

4. A knock-down barrel or package consist-
 95 ing 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 slid-
 ing connections with the hoop wires whereby
 100 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 consist-
 105 ing of jointed staves, wire truss or bilge hoops,
 and a pliable weave or connecting wire, unit-
 ing the staves to the wire truss or bilge hoops,
 the said weave wires being looped around the
 wires constituting the said hoops, whereby
 110 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. 115

6. A knock-down barrel or package consist-
 ing 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
 120 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, substan-
 tially as set forth.

In testimony that I claim the invention 125
 above set forth I affix my signature in pres-
 ence of two witnesses.

CHARLES RICHARDSON.

Witnesses:

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