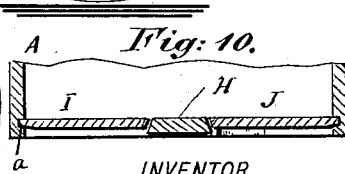
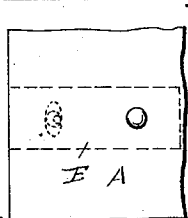
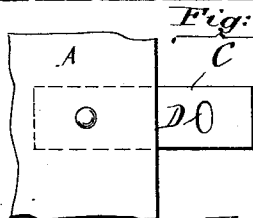
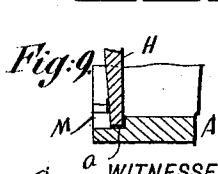
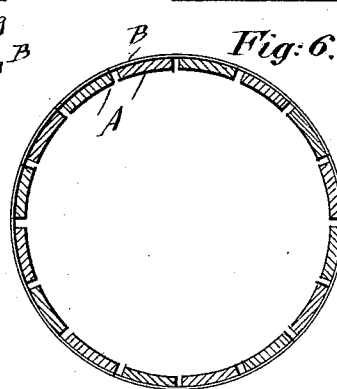
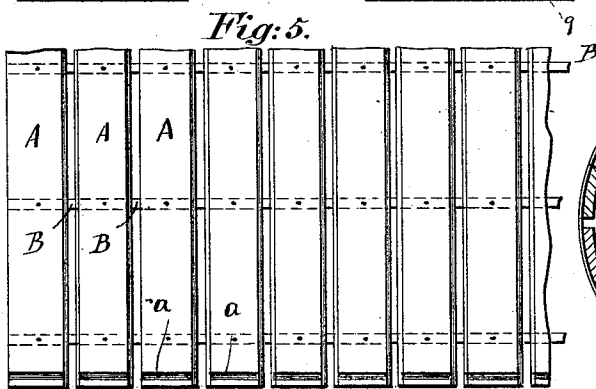
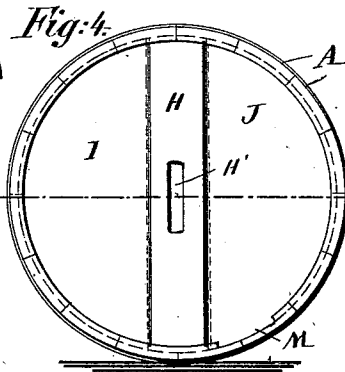
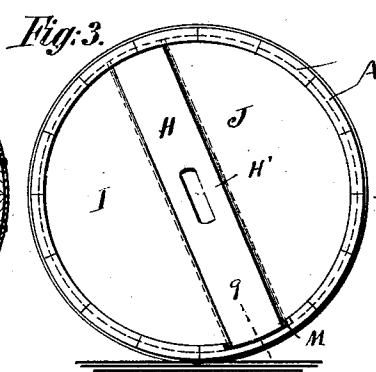
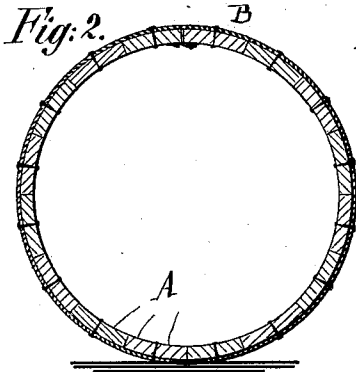
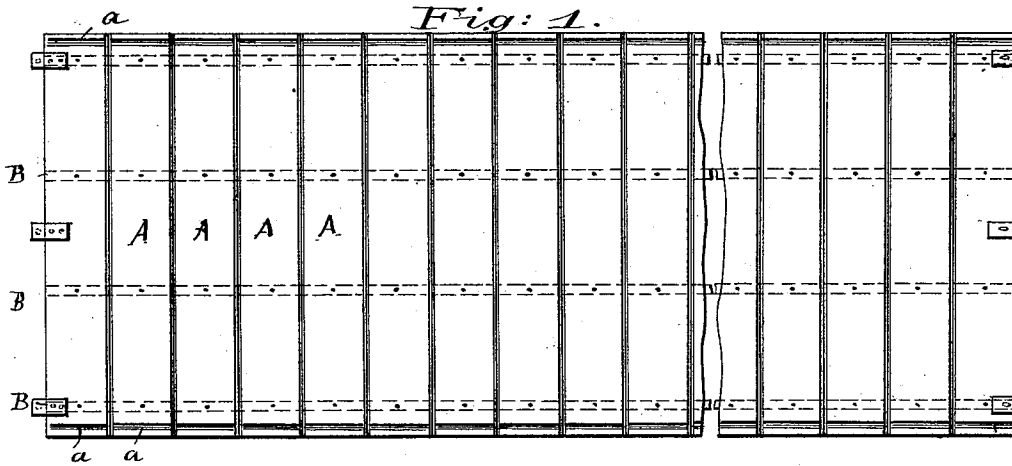


(No Model.)

G. R. LUND.
KNOCKDOWN BARREL.

No. 521,290.

Patented June 12, 1894.



WITNESSES:
Charles Schroder
Adolph Scherer

INVENTOR
G. R. Lund
BY *Gustaf Remyer*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE R. LUND, OF NEW YORK, N. Y.

KNOCKDOWN BARREL.

SPECIFICATION forming part of Letters Patent No. 521,290, dated June 12, 1894.

Application filed August 31, 1893. Serial No. 484,447. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. LUND, a subject of the Emperor of Germany, and a resident of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Knock-down Barrels, of which the following is a specification.

The object of my invention is to provide a new and improved barrel which is simple in construction, strong and durable, can be erected for use very easily and rapidly and secured firmly, and when emptied, can easily be taken apart and packed in a very small space.

The invention consists, in a barrel formed of a series of staves, and a series of straps or bands extending across the staves, and fastened to each stave, the end staves having devices for drawing together and locking the united staves after they have been brought into cylindrical shape. The heads are each formed of two sector-shaped pieces and a quadrilateral piece between them, the ends of the quadrilateral shaped piece and curved edges of the sector-shaped pieces fitting in the croze of the barrel.

The invention also consists in the construction and combination of parts and details, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is an inside face view of the united staves for making my improved barrel, parts being broken out. Fig. 2 is a vertical transverse sectional view of a barrel made from the united staves. Figs. 3 and 4 are end views of the barrel. Fig. 5 is an inside view of the staves differently arranged. Fig. 6 is a vertical transverse sectional view of a barrel, made from the staves as shown in Fig. 5. Fig. 7 is a face view of a locking device. Fig. 8 is a vertical longitudinal view of the same. Fig. 9 is an enlarged detailed sectional view on the line 9, 9, Fig. 3, and Fig. 10 is a vertical transverse sectional view through the bottom barrel head.

Similar letters of reference indicate corresponding parts.

The barrel is made of a series of staves A, which staves have their sides slightly beveled so that the inner width of a stave is

slightly less than the outer width. Three or more steel bands B are placed on the outer surface of the staves, preferably equi-distant from each other, and in such a manner that they cross the staves at right angles as shown in Fig. 1. Each stave is fastened by means of a rivet or clinched nail to each strap or band B. Each stave is provided a short distance from each end in its inner surface with a groove a parallel with the end of the stave, which groove forms the croze of the barrel. To one end stave, a sheet metal clip C is fastened on the inner surface, preferably one clip C at the end of each strap or band B, which clips project beyond the outer edge of the stave, as shown in the right hand side of Fig. 7, and each clip C is provided in the projecting part with a transverse slot D. To the inner surface of the opposite end stave as many plates E are fastened as there are clips C, and in such a manner that when the united staves and bands are bent to form a cylinder, the projecting ends or parts of the clips C, rest on the plates D. Each plate D is provided with a pin F, having an eccentric head F', which, when the projecting parts of the clips C are placed on the plates E, pass through the slots D of the clips C. By turning said pins F axially, the eccentric heads act on the edges of the slots D in such a manner as to draw the end staves toward each other. The end staves can be pressed against each other with greater or less pressure until the barrel is sufficiently tight, by turning the eccentric head F' more or less. To erect a barrel for use, the staves are first bent to form a cylinder and locked in place by means of the locking device described, or any equivalent thereof. It now remains to provide the barrel with heads. The heads are composed of three pieces, H, I and J, of which I and J are sector-shaped, and the former consists of a flat strip of a length equal to the barrel diameter at the bottom of the croze. The straight edges of the pieces I and J are beveled downward and inward from the outer to the inner surface, as is clearly shown in Fig. 10. The ends of the central piece H and the curved edges of the pieces I and J have their upper surfaces slightly tapered off so as to sit snugly in the croze of the barrel. The pieces I and J of the head are each inserted

in such a manner, that the beveled rounded edges pass into the croze of the barrel, leaving a space between the straight edges of said pieces. The pieces I and J are then so
5 adjusted, as to be at either side of a recess M extending from the edge of the barrel to the croze, the length of said recess being slightly greater than the width of the piece H. One end of the piece H is passed into the
10 croze diametrically opposite the recess M, the other end of the piece passing down through said recess and beveled sides on the beveled straight edges of the pieces I and J forces said pieces from each other and presses their
15 rounded edges into the croze, thus producing a close and tight fit. The piece H with the pieces I and J is then turned on the axis of the barrel, the ends and edges of the several pieces traveling in the croze, whereby they
20 are brought from the positions in Fig. 3, to the positions shown in Fig. 4. Thereby the piece H is locked in place as are likewise the pieces I and J which can only be removed after the piece H has been removed. Both
25 heads are inserted in this manner after having been brought back in line with the recess M. When the barrel is to be knocked down, the heads are turned until one end of the piece H is at the recess M, the said piece H
30 is removed, then the pieces I and J are removed, the ends of the united staves are unlocked and the staves laid down, as shown in Fig. 1. The barrel can be made with greater or less openings between the several staves,

as shown in Figs. 5 and 6, in case the barrels 35 are to be used in transporting vegetables, fruits, &c. The piece H has a recess H' in its outer surface for receiving a suitable implement for turning said piece and with it the pieces I and J. 40

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a barrel having a croze at each end and a recess extending 45 from the end of the barrel to the croze, a cover formed of two sector-shaped pieces and a quadrilateral shaped piece between them, the ends of said quadrilateral shaped piece and the curved edges of the sector-shaped 50 pieces fitting in the croze, substantially as set forth.

2. The combination, of a head formed of two sector-shaped pieces, and a quadrilateral piece between them, the curved edges of the 55 sector-shaped pieces and the ends of the quadrilateral piece fitting in the croze of the barrel, the quadrilateral piece having a recess in its outer surface for receiving an implement for turning it on the axis of the barrel, sub- 60 stantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GEORGE R. LUND.

Witnesses:

OSCAR F. GUNZ,
CHARLES SCHROEDER.