T. W. CORKELL.

COLLAPSIBLE BARREL.

APPLICATION FILED DEC. 15, 1913.

1,176,736.

Patented Mar. 28, 1916.

2 SHEETS—SHEET 1.

Fig. 1

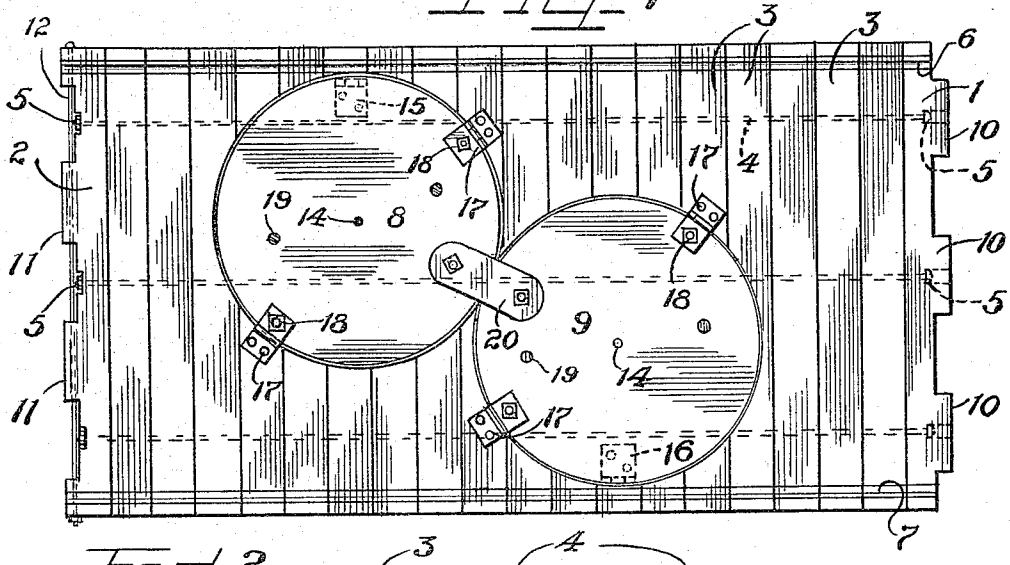


Fig. 2

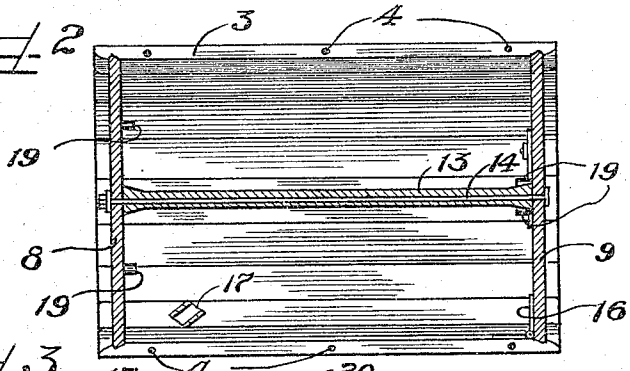


Fig. 3

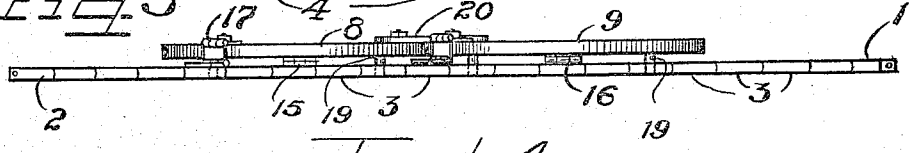
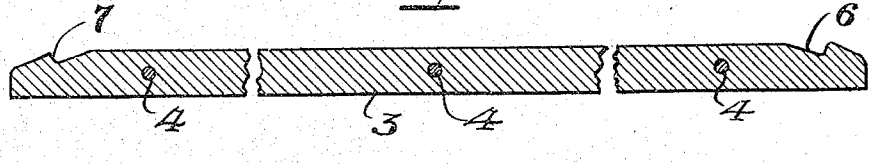


Fig. 4



Witnesses

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2 SHEETS—SHEET 2.

Fig. 6

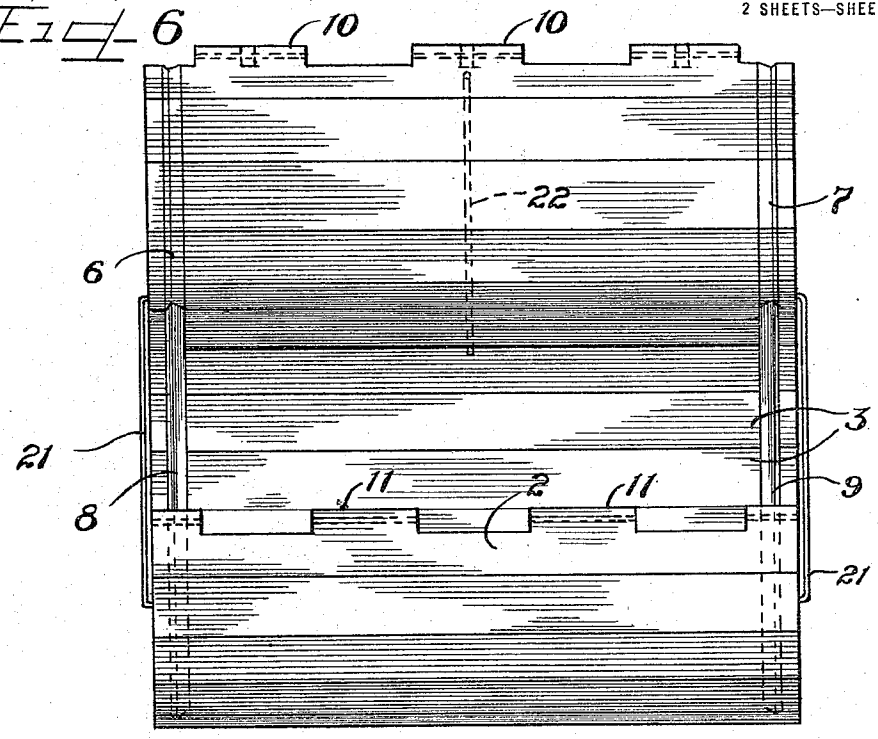


Fig. 7

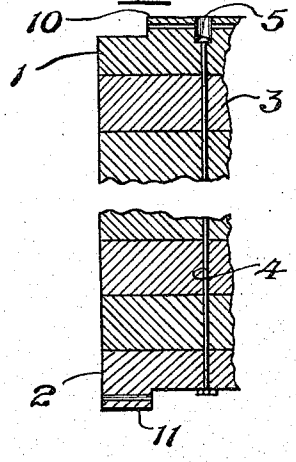


Fig. 5

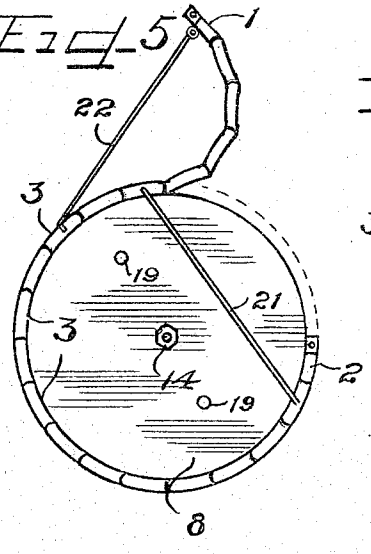
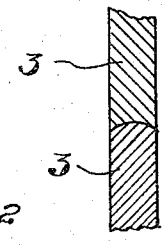


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS W. CORKELL, OF CHICAGO, ILLINOIS.

COLLAPSIBLE BARREL.

1,176,736. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed December 15, 1913. Serial No. 806,735.

To all whom it may concern:

Be it known that I, THOMAS W. CORKELL, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Collapsible Barrels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

Barrels are well adapted for shipment and transference of certain commodities, but the cost of a barrel as compared with other containers is generally larger. Then, too, an empty barrel, although not of very great weight, occupies considerable space, so that the return thereof to the shipper in some cases would entail an expense greater than the cost of the barrel itself.

This invention relates to a collapsible barrel which can be knocked down and packed in a relatively small space permitting a great number thereof to be shipped at a low cost. As now constructed, the staves are manufactured by a few companies and coopers in various parts of the country receive the staves, assemble the barrels and dispense them to the local users. By my invention, however, a barrel of exceedingly great strength may be easily constructed and readily taken apart or knocked down and packed in a small space for shipment, and may be easily assembled by one not having had previous experience therewith.

It is an object of my invention to construct a barrel the staves of which are hingedly connected together and the heads readily removable, permitting assembly of the same without nails or screws.

It is also an object of my invention to construct a barrel wherein the staves are flexibly connected to one another and may be curved around the heads of a barrel and locked therein, or may be opened into a flat position for shipment from place to place.

It is also an object of my invention to construct a barrel wherein the staves are flexibly connected to one another at all times, and interfit with one another to remain closely in contact, regardless of the angle or movement between adjacent staves.

It is also an object of this invention to provide a barrel which may be assembled without hoops, and provided with a central brace acting to maintain the heads properly disposed against pressure from either within or without the barrel.

It is also an object of this invention to construct a barrel comprising flexibly connected staves hingedly connected with the heads of the barrel, permitting rapid assembly of the barrel without in any way altering or changing the members of the device.

It is also an object of this invention to construct a barrel wherein a series of flexibly connected staves grooved to permit disposal thereof about the heads of the barrel to retain said heads in position, may be wound around said heads and locked in such position, preventing access to the interior of the barrel until the release of said locking means.

It is also an object of this invention to construct a barrel wherein a series of flexibly connected staves are used in combination with heads about which the staves may be disposed, the device when in unassembled condition, opening flat with the heads lying thereon.

It is furthermore an object of this invention to construct a knock-down barrel provided with a plurality of apertured staves having cables threaded therethrough to maintain the staves connected to one another, and with interfitting concave and convex edges on said staves adapting the same to remain in close fitting relation when angled relative to one another.

It is finally an object of this invention to construct a barrel cheap to manufacture and simple in assembly, and capable of being packed in a small space for shipment.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings: Figure 1 is a plan view of my device in knock-down condition with the dowel pins in the heads of the barrel shown in section. Fig. 2 is a central vertical section through the assembled device. Fig. 3 is an edge view of the device shown in Fig. 1. Fig. 4 is a central longitudinal section through one of the staves. Fig. 5 is a top plan view of the assembled device with certain of the flexibly connected staves swung outwardly to display the contents of the barrel. Fig. 6 is a side view of the device as shown in Fig. 5. Fig. 7 is a fragmentary section, partly broken away, taken longitudinally through the staves showing the flex-

ible connection joining the same one to another. Fig. 8 is a fragmentary sectional view illustrating the interfitting connection or joint between adjacent staves.

As shown in the drawings: The reference numerals 1, and 2, denote respectively the complementally shaped end staves of a series of connected staves, the intermediate ones of which are denoted by the reference numeral 3. One longitudinal edge of each stave is grooved or concave in shape, and the opposite edge thereof is convex, so that a number of said staves may be arranged to interfit with one another and the curvature of the interfitting portions of the staves permits a certain amount of relative movement therebetween without causing a separation or opening which, when the device is assembled, would afford a means of loss of the contents of the barrel.

For the purpose of flexibly connecting the staves one to another each of the same is provided with a number of apertures extending transversely therethrough from the convex to the concave edge respectively, and threaded therethrough is a flexible steel wire or cable 4, which, at its ends is caught and retained in nuts 5, in any suitable manner, the nuts being recessed into the edges of the end staves 1 and 2, respectively. Each of said staves near the extremities thereof and on the interior surface is provided with grooves designated by the reference numerals 6, and 7, respectively.

The purpose of the grooves 6, and 7, is to receive therein the edges of the top and bottom heads 8, and 9, respectively, of the barrel, the grooves not only serving to maintain the heads in immovable relation with respect to the staves, but also affording a means assisting in rapid assembly of the device. For instance, the grooves permit the connected staves to be wound around the edges of the heads, thus instantly positioning all the elements in their proper relation to one another. Said grooves 6, and 7, are somewhat of a V-shape, and the edges of the barrel heads 8, and 9, are chamfered, thus affording a complemental fit between the staves and the barrel heads. The end staves 1, and 2, are of male and female construction, that is they are provided with tongues 10, and 11, respectively, which interfit with one another.

Alined longitudinal apertures extend through the respective tongues 10, and 11, in the end staves, adapting a rod 12 to be inserted therethrough when the device is assembled to maintain the same locked in such position.

For the purpose of maintaining the barrel heads 8, and 9, in immovable relation with respect to one another independent of the staves, a hollow stay 13, is inserted therebetween, as shown clearly in Fig. 2, and inserted within said stay and engaged through apertures in said heads, is a tension rod 14, the outer ends of which are provided with nuts, whereby the rod may be held in position. As clearly shown in Fig. 1, the respective heads 8 and 9, are each connected to a stave by means of hinges 15, and 16, respectively, the hinged connection thus insuring association of the barrel heads with the staves at all times. The hinges also facilitate assembly of the device, and assist in preventing relative movement between the staves and the barrel heads, when assembled. Hinges 17 are also attached at all times on the interior surface of certain of the staves and, when the device is in knock-down condition, engage over the surface of the barrel heads and are held thereto by bolts 18. This connection serves to insure a positive connection between the staves and the heads during shipment in collapsed condition, and relieves the permanently connected hinges from undue stress. Other means are also provided for preventing relative movement of the barrel heads and the staves when in knock-down position, said means comprising dowel pins 19, on the inner surface of the barrel heads, said pins, as the heads are laid over and in contact with the staves, engaging in complementally disposed apertures therein. A strap 20, may also be secured on the two heads 8, and 9, when in knock-down relation, by means of bolts or any other suitable releasable members to prevent movement of the parts during shipment.

The operation is as follows: When it is desired to use the barrel for display purposes without disassembling the same entirely, chord rods 21, are engaged across the heads in apertures in certain of the staves, and the staves 1 and 2, then being released, those staves between the end stave 1, and the stave connected on the rod 21, may be swung back, as shown in Fig. 5. Said latter staves are retained in position by means of a rod 22, which releasably engages in an aperture in one of the staves 3, and likewise in an eye secured upon the end stave 1. Of course when the barrel is knocked down for shipment, the staves and heads lie flat, as shown in Fig. 1, and the stays 13, and bolts 14, together with the rods 21, and 22, are packed therewith in any suitable manner.

Owing to the respective hinge connections 15 and 16, between the barrel heads and the staves, it is a simple matter to assemble the device, it merely being necessary to move the barrel heads to a position at right angles with the staves and attaching the stay and bolts 13 and 14, respectively, between the heads. The flexibly connected staves are then rolled around the heads with the grooves 6, and 7, respectively, engaging the edges thereof.

The staves are all of the same size and shape, with the exception of the end staves 1 and 2, and consequently should a stave become broken it may be readily replaced by merely breaking it away entirely from the cables and sliding the remaining staves an amount to permit attachment of a new stave adjacent the end stave which, of course, must be removed for the purpose.

I am aware that there may be other means of connecting the staves one to another, as well as wide variations in the particular method of assembly, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

In a collapsible barrel, a plurality of staves, the edges thereof being formed concavo-convex so as to interfit with one another, cables threaded through registering apertures in said staves to hold the same flexibly connected, tongues formed on the edges of the end staves adapted to interfit with one another when the device is set up, a rod insertible through apertures in said tongues to retain the staves in set up position, and heads connected to certain of said staves and adapted to seat in grooves formed at the end of all of said staves when the device is in set up position.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

THOMAS W. CORKELL.

Witnesses:
CHARLES W. HILLS,
FRANK K. HUDSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."