R. S. BOLGER.

PAPER BARREL.

APPLICATION FILED OCT. 7, 1914.

1,210,406.

Patented Jan. 2, 1917.

2 SHEETS—SHEET 1.

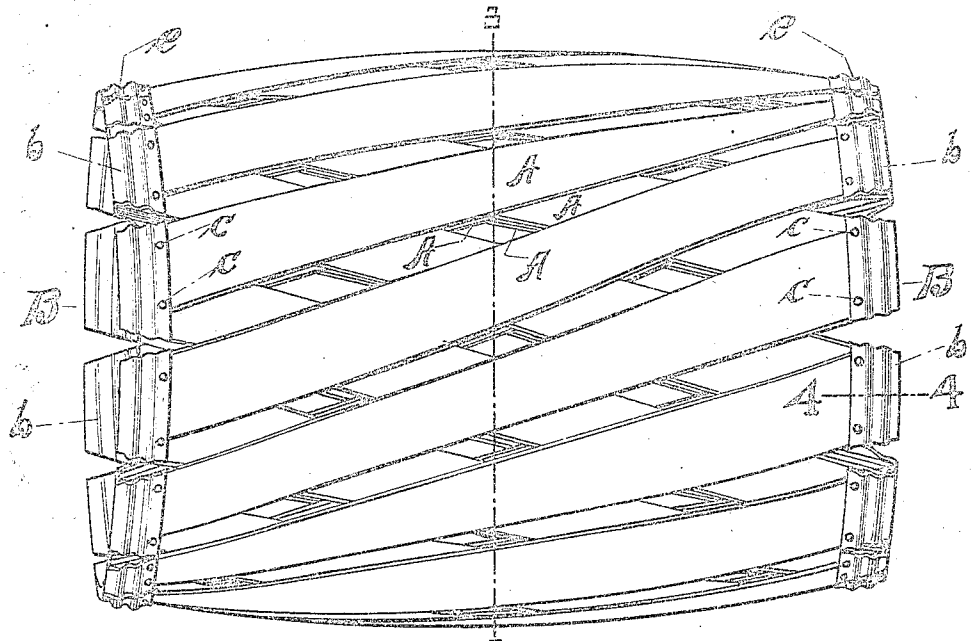


Fig. 1

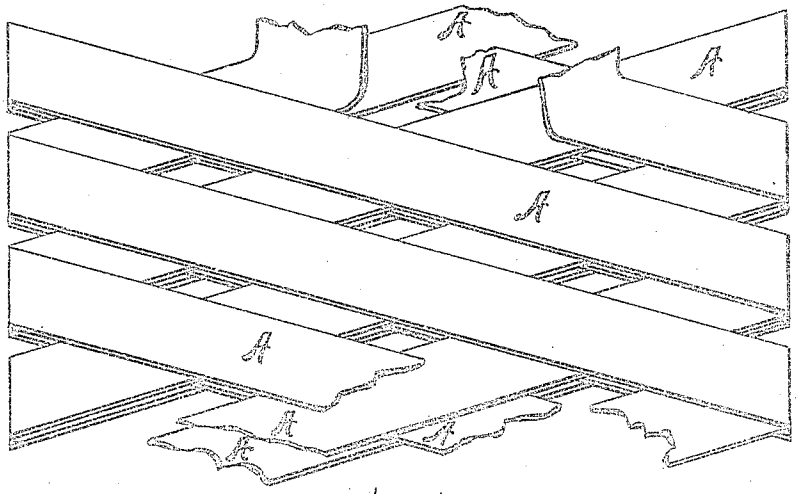


Fig. 2

Witnesses:
Geo. K. Christler
William D. Heller

Inventor
Robert S. Bolger
By Attorney
Percival M. Evans

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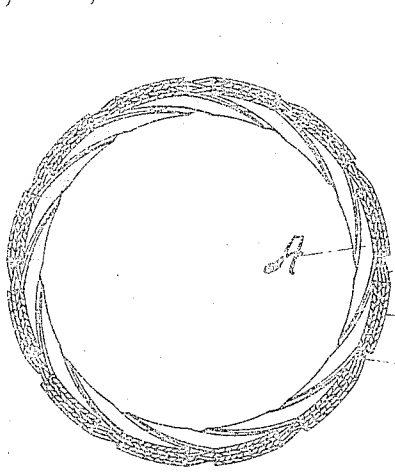


Fig. 3

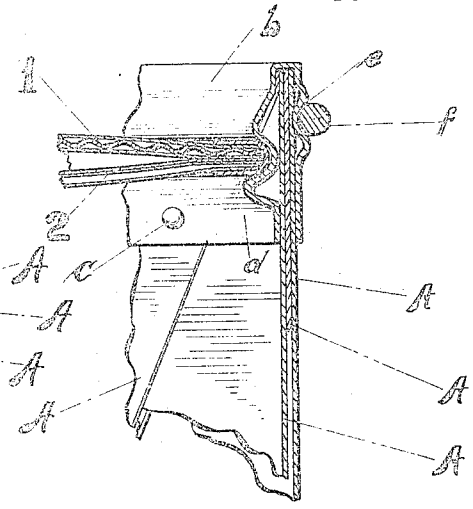


Fig. 4

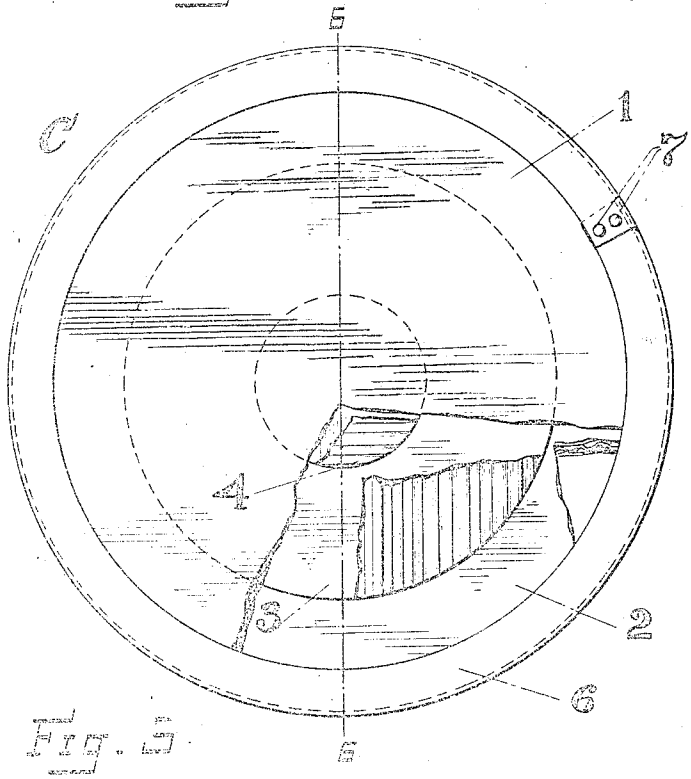


Fig. 5

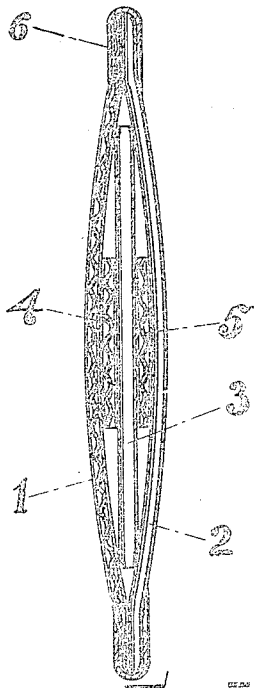


Fig. 6

Witnesses:
Geo. F. Christler
William A. Heller

Inventor
Robert S. Bolger
By Attorney
Rexford M. Brista.

UNITED STATES PATENT OFFICE.

ROBERT S. BOLGER, OF RICHMOND HILL, NEW YORK, ASSIGNOR OF ONE-HALF TO GEORGE F. WHISTLER, OF NEW YORK, N. Y.

PAPER BARREL.

1,210,406. Specification of Letters Patent. Patented Jan. 2, 1917.

Application filed October 7, 1914. Serial No. 865,469.

To all whom it may concern:

Be it known that I, ROBERT S. BOLGER, a citizen of the United States, residing at Richmond Hill, in the county of Queens and State of New York, have invented new and useful Improvements in Paper Barrels, of which the following is a specification.

This invention relates to paper barrels, the object of the invention being to produce a cheap and yet efficient barrel the body of which is composed of strips of paper so arranged, combined and united as to form a unitary body structure.

A further object of the invention is to provide means whereby one or more heads or covers may be securely fastened to the barrel body and easily removed therefrom.

Another object of the invention is to provide a barrel head of novel construction particularly designed with reference to the barrel body and adapted to be held in place in proper relation thereto.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, as herein described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of a barrel body constructed in accordance with the present invention. Fig. 2 is a plan view of a portion of the body of the barrel as it would appear if spread out flat, showing the relation of the stave forming strips. Fig. 3 is a cross section on the line 3—3 of Fig. 1 on a reduced scale. Fig. 4 is a fragmentary section on the line 4—4 of Fig. 1 on an enlarged scale. Fig. 5 is an enlarged plan view of a barrel head, the same being partly broken away to illustrate the construction thereof. Fig. 6 is a diametrical section on the line 6—6 of Fig. 5.

The body of the barrel is constructed as clearly shown in Figs. 1 and 2, said body being composed of a number of strips A arranged in series one series being superimposed upon another until a foraminated or open work wall is formed. It will be observed that the strips forming one series extend in a reversely oblique direction to the strips forming the next adjacent series, this reversely oblique arrangement of the strips of the series being continued until the desired thickness of barrel wall is obtained.

In the preferred embodiment of this invention, the strips at their crossing points are united by an adhesive material which enables the strips to be combined with each other in the manner shown in Fig. 2. A barrel shaped form or mandrel is employed upon and around which the body forming structure is made up so as to produce the bulging effect in the completed article as shown in Fig. 1. As soon as the adhesive material sets or becomes dry, the relation of the strips of the different series becomes fixed and therefore the barrel body retains its bulging or barrel shape. The form or mandrel is of the collapsible or knock-down type so that after the barrel body structure is dry and the adhesive material set said form or mandrel may be removed from the body structure, or conversely the body structure may be removed from the form or mandrel.

At the ends of the barrel body I provide head retaining chines designated generally at B and each composed of a circular series of separated sections *b*. Each of these chine sections is formed in cross section as best illustrated in Fig. 4; that is to say each chine section is channeled to receive the laminated extremities of the strips forming barrel staves, said section being formed of sheet metal which is bent into a general U shape as shown in Fig. 4 and fastened to the adjacent portion of the barrel body by means of rivets *c* or the equivalent thereof. Each of the chine sections *b* is shaped as to the inner portion thereof to provide a croze *d* adapted to receive the adjacent portion of the barrel head as shown in Fig. 4. The outer wall or portion of each section *b* is also bent to form a groove *e* adapted to receive and engage a portion of a head retaining hoop *f* preferably formed of wire. It will be noted in Fig. 4 that the groove *e* for the hoop *f* is located nearer the extremity of the barrel body than the croze *d* thereby insuring the proper retention of the barrel head in the croze, the hoop *f* serving to inwardly deflect the extreme portions of the barrel body to which the chine sections are fastened as described.

The barrel head designated generally at C is composed of outer and inner sections 1 and 2, respectively, each composed of a disk-shaped section of double back corrugated paper, the corrugations of one of said sections extending at right angles to the corrugations of the other section as indicated in Figs. 4, 5 and 6. A spreader section 3 of

less diameter is interposed between the sections 1 and 2 and other still smaller spreader sections 4 and 5 are interposed between the spreader section 3 and the outer and inner sections 1 and 2 referred to and all as clearly shown in Figs. 3 and 4. This gives a bulging shape to the barrel head thereby adding materially to the strength and durability of the same. A binder strip or ring 6 preferably of metal bent into U shape in cross section entirely encircles the barrel head, the extremities of said strip or ring being overlapped and fastened together as shown at 7 by rivets or their equivalent.

In placing a head in the barrel, the head is first brought into alinement and partial engagement with the chine sections *b* and then the hoop *f* is placed around the head portion of the barrel body so as to take in all of the chine sections *b*, said hoop being pushed inwardly until it occupies the groove *e*. The size of the hoop *f* is such that when in its final position, the chine sections *b* are all crowded inwardly so as to firmly engage the head C and retain the same in place. The head may be easily removed by simply removing the hoop *f*. This releases all of the chine sections, after which the head may be lifted out of place.

In some cases a cover of bagging such as is now commonly employed in covering barrels may be used in place of the head C, the hoop *f* serving to clamp the marginal portion of said bagging cover around the chine sections *b*.

The barrel hereinabove described is well adapted for the shipment of perishable produce such as vegetables and fruit providing for a thorough ventilation of such produce. The barrel is also well adapted for the shipment of general merchandise as it is exceedingly cheap to manufacture and yet exceedingly strong and tough. By combining the body forming strips in the manner shown and described, a practical unitary body structure is produced. The hoops *f* serve to close or contract the extremities of the staves and their respective chine sections over the barrel head and when the hoops are removed, the extremities of the staves with their chine sections spring outwardly to release the heads.

What I claim is:—

1. A barrel body composed of several superimposed series of obliquely extending strips arranged in parallel and spaced relation to each other, the strips of each series being inclined reversely to those of the adjacent series and intersecting or crossing the same, all of the strips being adhesively united throughout the whole of their contacting area.

2. A barrel body composed of superimposed series of obliquely extending strips, the strips of each series being inclined reversely to those of the adjacent series and intersecting or crossing the same, all of the strips being united throughout the whole area of the crossing and contacting portions to form a unitary body structure, an annular series of separated metal chine sections on the extremities of said strips and having depressions in their outer faces, and a hoop adapted to encircle said series of chine sections and be retained in said depressions.

3. A barrel body composed of superimposed series of obliquely extending strips, the strips of each series being inclined reversely to those of the adjacent series and intersecting or crossing the same, all of the strips being united throughout the whole area of the crossing and contacting portions to form a unitary body structure, an annular series of separated metal chine sections on the extremities of said strips having head receiving depressions in their inner faces and hoop receiving depressions in their outer faces, and a hoop adapted to encircle said series of chine sections and be retained in the last named depressions.

4. A barrel head embodying outer and inner disk-shaped sections of double back corrugated paper, combined with an interposed disk-shaped spreader section arranged centrally thereof and of less diameter, the corrugations of said outer and inner sections extending at right angles to each other.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT S. BOLGER.

Witnesses:
GEORGE F. WHISTLER,
GUSTAV A. MEYER.