J. C. HERON & W. J. CLARK.

FIBER KEG OR BARREL.

APPLICATION FILED SEPT. 19, 1914.

1,154,699.

Patented Sept. 28, 1915.

FIG. 1

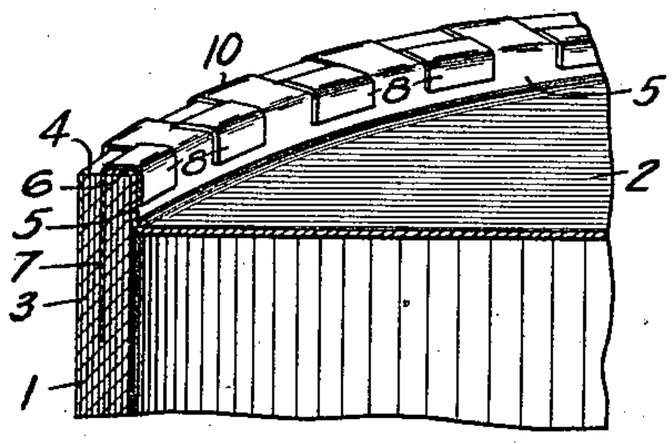
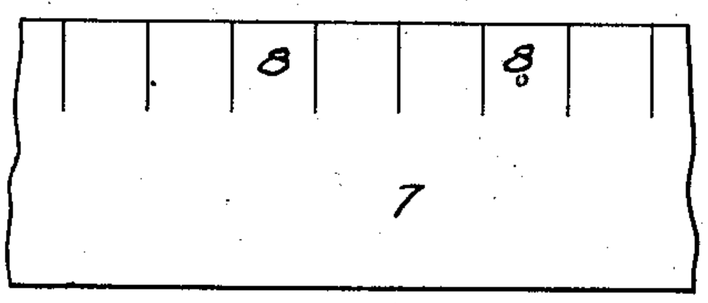


FIG. 4



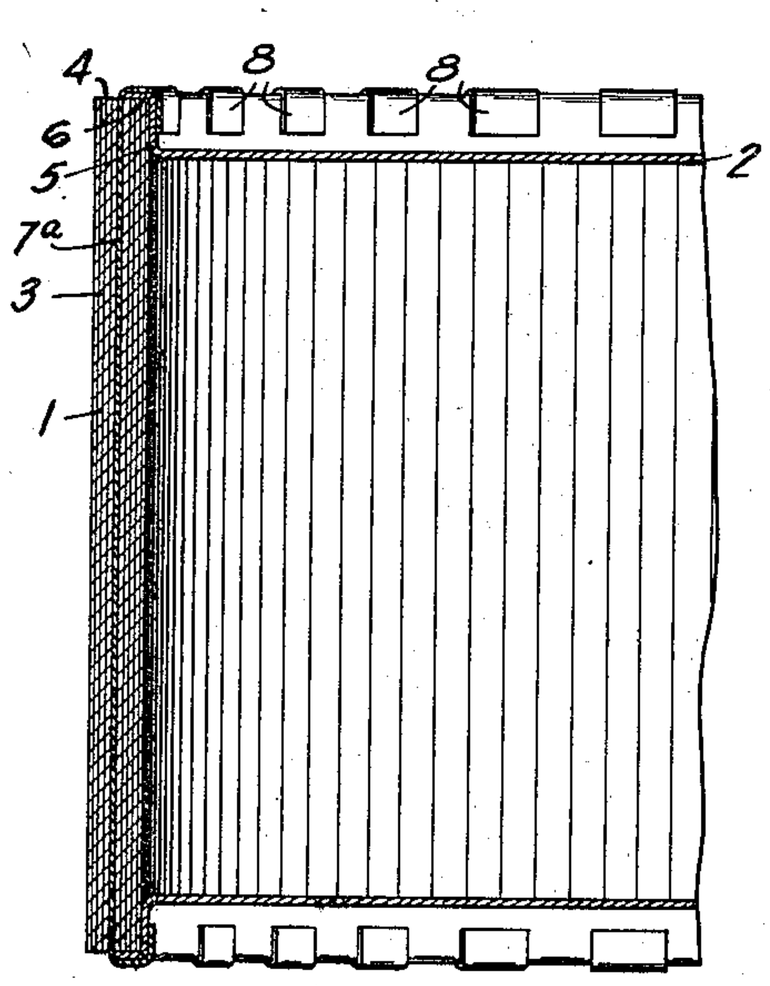


FIG. 2

FIG. 3

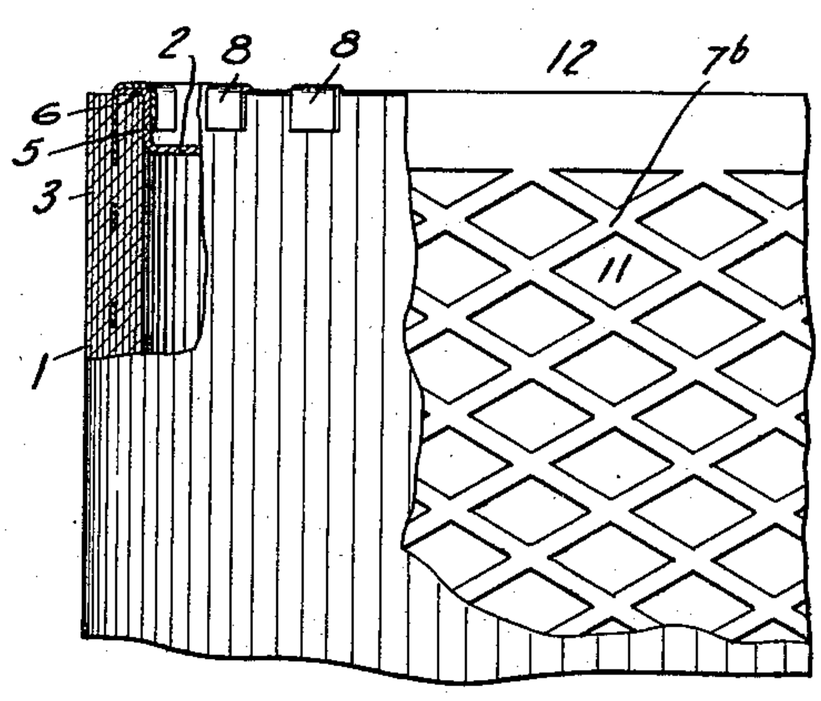


FIG. 5

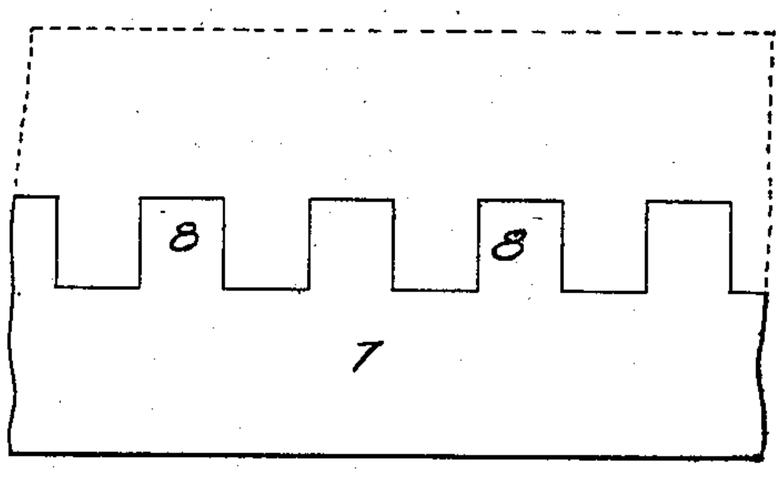


FIG. 6

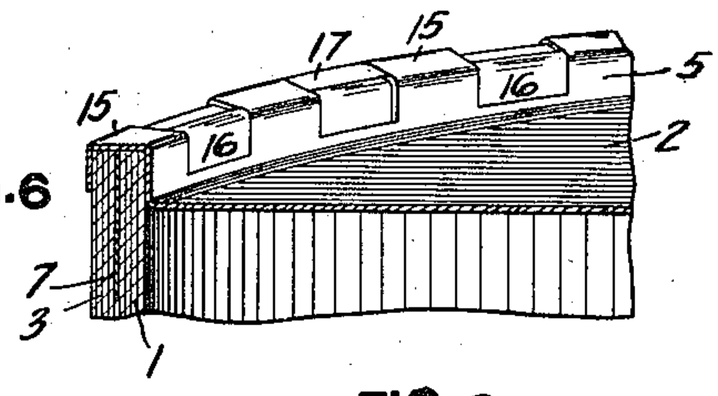


FIG. 8

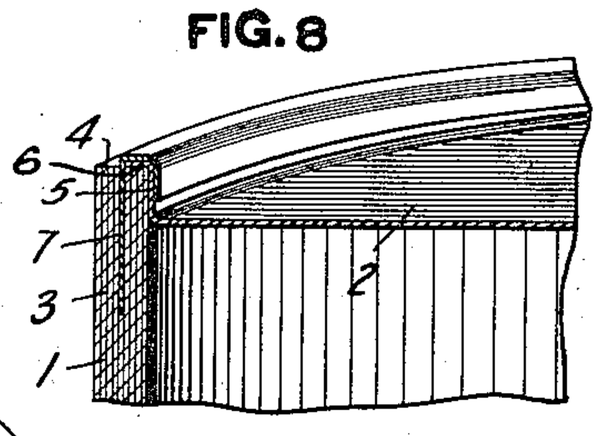
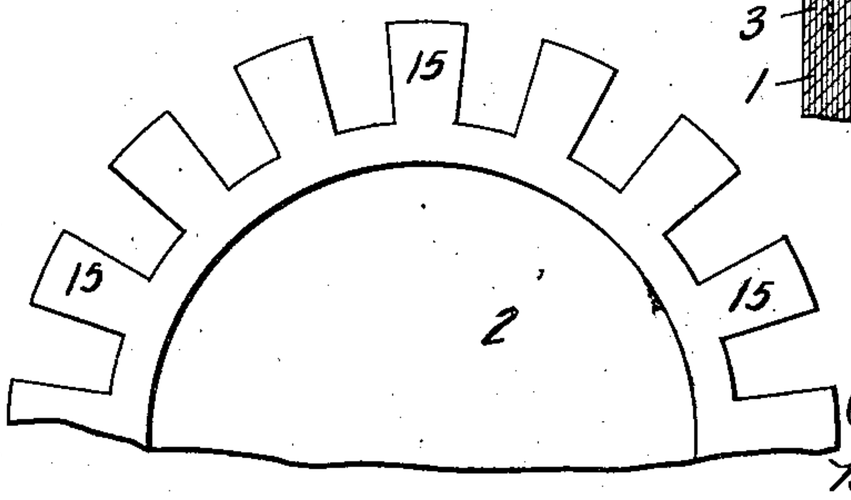


FIG. 7



WITNESSES

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FIBER KEG OR BARREL.

1,154,699. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed September 19, 1914. Serial No. 862,519.

To all whom it may concern:

Be it known that we, JAMES C. HERON and WILLIAM J. CLARK, residents of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fiber Kegs or Barrels, of which the following is a specification.

This invention relates to fiber receptacles, such as boxes, barrels or kegs, and particularly to a fiber receptacle provided with metal end caps or heads.

The object of the invention is to provide an improved receptacle in which the end caps or heads accurately fit the body so they can be firmly secured thereto, and are not influenced by moisture, which in the case of wooden heads usually causes them to expand or contract and produces a poor fit.

A further object of the invention is to provide an improved package of the character described which can be readily assembled without special tools or appliances and in which the end caps or heads are securely held to the body, so that the package is not liable to be accidentally opened by rough handling.

Further objects of the invention are in part obvious and in part will appear more in detail hereinafter.

The invention comprises the package or receptacle hereinafter described and claimed.

In the drawings, Figure 1 represents a perspective view in longitudinal section of a receptacle embodying the invention; Fig. 2 is a longitudinal section of another form of receptacle; Fig. 3 is a side elevation partly in section, showing still another modification; Figs. 4 and 5 are detail views of different forms of securing member; Fig. 6 is a sectional perspective view of a modified form of receptacle; Fig. 7 is a plan view of the end cap or head shown in Fig. 6 before assembling the same in the receptacle; Fig. 8 is a sectional perspective view of another form of receptacle.

The invention may be applied to any form of receptacle or package, such as rectangular or other shaped cartons or boxes for holding small articles, or to larger packages, such as barrels or kegs for holding sugar, salt, nails or other heavy substances or articles.

In the drawings, the invention has been shown as applied to a barrel or keg, which comprises a body 1 and end caps or heads 2 secured thereto. The body 1 is formed of paper, paper board, pasteboard or any other fibrous material, and preferably of a plurality of plies 3 which are wound upon each other over a suitable mandrel or drum, being secured to each other by any suitable adhesive, such as glue, sodium silicate, or the like, to form a tube or cylinder with straight end edges 4.

The end caps or heads 2 are preferably formed of thin sheet metal, being cut out and pressed to shape in a suitable machine, and preferably by a single operation. As shown, the end caps or heads are cup-shaped, being provided with a peripheral wall or rim 5, which is a snug fit within the end of the cylindrical body 1, said wall or rim at its edge being bent outwardly to form a flange 6. This flange is made of such width that when the end cap or head is pushed into place in the end of the body it abuts against and covers substantially the inner half of the end surface of the body, as shown in Fig. 1. The end cap or head is secured to the body by a thin sheet metal member 7, which may be made of pliable material not liable to break when bent, such as soft open hearth steel of about 28 gage. Said member is wound between the plies 3 of the body 1, being cut to the proper length and inserted between said plies during the winding of the body upon the forming drum and forms a hoop for reinforcing the barrel chimes. It is secured permanently in place by suitable adhesive, such as sodium silicate or the like, applied between the faces thereof and the paper plies. The securing member 7 is so placed within the body that a portion thereof projects from the end of the body, this projecting portion being notched or slitted at intervals to form a plurality of tongues or leaves 8, said tongues being separated from each other either by mere slits through the metal, as in Fig. 4, or by wider gaps which may, if desired, be of the same width as the tongues, in order to enable two of the securing members to be cut simultaneously from a single sheet or strip, as shown in Fig. 5.

In assembling the barrel the end cap or

head 2 is pushed into the end of the body until its flange 6 abuts against the end edge thereof. Every alternate tongue 8 is then bent inwardly and downwardly over the flange 6 and rim 5 of the end cap or head, so as to firmly and securely fasten the same therein. This can be done either by hand or in a suitable machine, as will be readily understood. To protect the barrel chimes, that is, the projecting end edge of the paper body 1, the other alternate tongues or leaves 8 are bent outwardly and downwardly over the edge of the paper body, as shown at 10, which prevents the plies becoming separated or mutilated in handling the barrel.

If desired, all of the tongues of the securing member may be utilized for holding the end cap or head in place by bending all of said tongues inwardly over the periphery of the cap, or the securing member may be left unslitted, in which case its projecting edge portion is rolled, bent or folded inwardly over the cap or head, as shown in Fig. 8.

When the securing member is of the form shown in Fig. 5, that is, when a gap or space is left between adjacent tongues, the end cap or head may be provided with a series of tongues 15 which extend outwardly between the tongues of the securing member and are bent downwardly over the outer surface of the body of the receptacle and therefore protect the end edges thereof. In this case the tongues of the securing member may all be bent inwardly over the end cap or head or part thereof may be bent inwardly, as at 16, and part outwardly, as at 17, Fig. 6.

The securing member 7 may be a comparatively narrow strip inserted in the end portion of the body 1, one of said members being used at each end of the barrel. However, if desired, a continuous sheet 7^a extending from end to end of the barrel may be interposed between the plies of the body 1, the end edges of said sheet being notched to form tongues which are bent down over the cap and end edge of the body, as before described. Such an arrangement is shown in Fig. 2, and as will be readily understood, materially reinforces the barrel and prevents its collapse either inwardly or outwardly, so that the package is considerably stronger. The securing member may also be formed of a suitable sheet of expanded metal, as shown at 7^b, Fig. 3. This sheet is slitted and expanded intermediate its edges to form the open meshes 11, but the slits stop short of the side edges of the sheet so as to leave two continuous selvage edges 12 which are slitted transversely of the sheet and longitudinally of the barrel to form the tongues 8, said tongues being bent inwardly over the end cap or head and outwardly over the end of the body as before. With this securing member the adhesive applied to the plies of the paper on each side of the securing member causes them to adhere to each other through the openings or meshes of the expanded portion of the sheet, so that the plies of material are not so liable to separate from each other.

All forms of the package are simple and can be readily assembled by any one without special tools or implements. Usually one of the end caps or heads is fully assembled in the barrel at the factory by bending half of the tongues 8 inwardly over the end cap or head and the other half outwardly over the end edges of the body. The other end cap is then pushed into place and one or two of the tongues 8 are bent inwardly over the same to temporarily hold it in place for shipping. Said end cap or head is then removed by the user by merely bending outwardly the temporary securing tongues 8. The package is then filled and the second end cap or head again inserted into place and permanently secured by bending over all of the tongues as described. The package is capable of being used more than once, as to open the same it is only necessary to bend outwardly the securing tongues 8, thereby permitting the end cap or head to be readily removed to empty the package and permitting it to be again inserted and secured by again bending down the securing tongues. The package is simple and entirely does away with the use of nails or other special devices for fastening the end head or cap in place.

What we claim is:—

1. A receptacle, comprising a paper body formed of a plurality of plies wound upon each other, a cup-shaped cap having a rim or wall fitting snugly within the end portion of the paper body and having portions bent over and around the end edge of the body and lying on the outer surface thereof, and a thin sheet metal member extending continuously around the circumference of the body and held between the paper plies and projecting from the end of the body, said member having portions bent inwardly over the rim or wall of the end cap or head.

2. A receptacle, comprising a paper body formed of a plurality of plies wound upon each other, a thin sheet metal end cap or head therefor, and a thin sheet metal member wound between the plies of the body and having portions bent inwardly over the peripheral portions of the end cap or head, the outer edge of said end cap or head having a series of tongues bent outwardly over and embracing the end edge of the body.

3. A receptacle, comprising a paper body formed of a plurality of plies wound upon each other, a thin sheet metal end cap or head therefor, and a thin sheet metal reinforcing member wound between the plies of the body, the periphery of said end cap or head being provided with a series of cir-

cumferentially spaced tongues bent over and around the end edge of the body and intervening portions abutting the end edge of the body, said reinforcing member having a series of circumferentially spaced tongues bent inwardly over said intermediate portions of the end cap or head.

In testimony whereof, we have hereunto set our hands.

JAMES C. HERON.
WILLIAM J. CLARK.

Witnesses:
ELBERT L. HYDE,
EMMA M. HALLER.