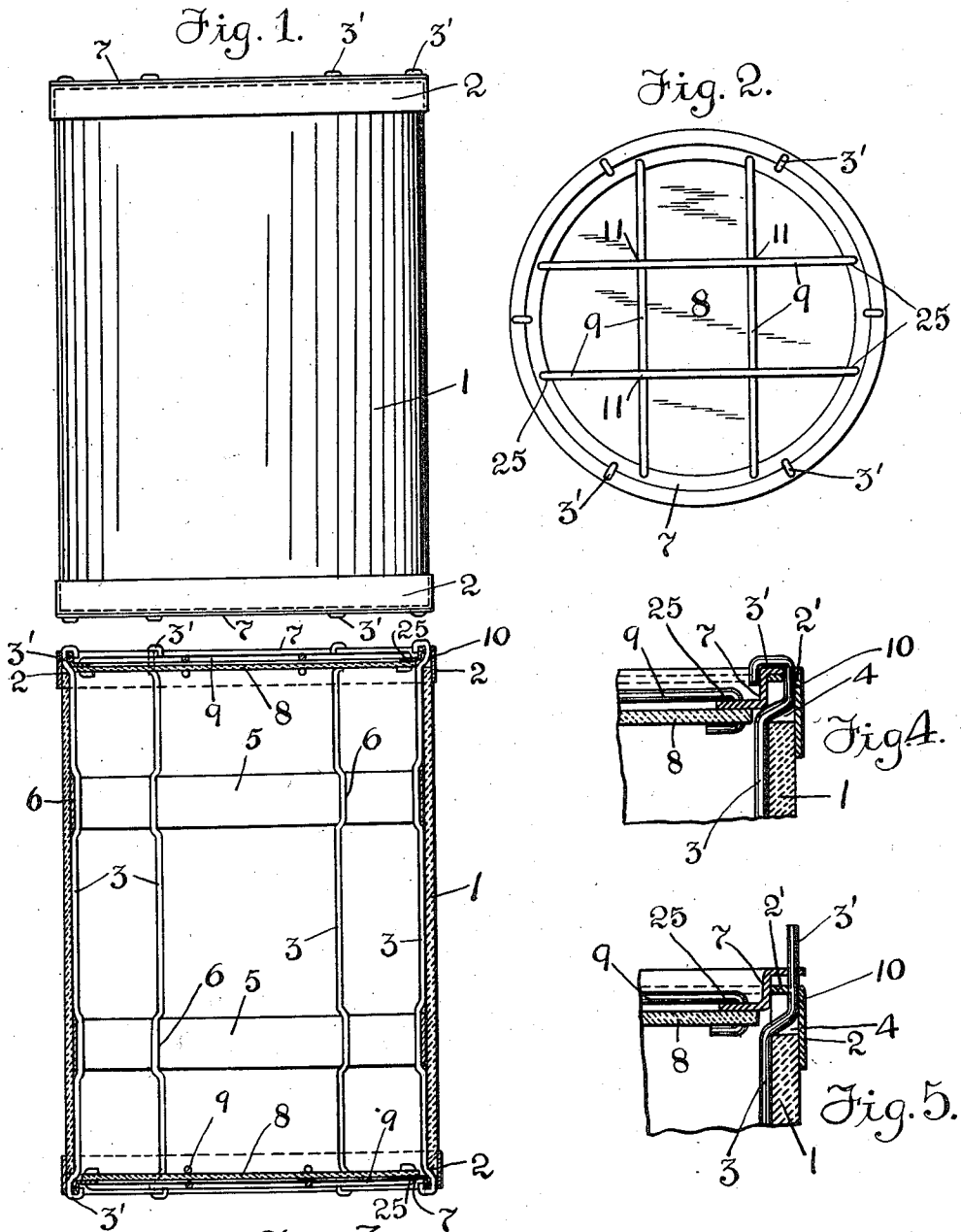


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PAPER KEG, BARREL, BOX, &c.
APPLICATION FILED APR. 21, 1910.

Patented Dec. 26, 1911.
2 SHEETS—SHEET 1.

1,012,867.



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Fig. 6.

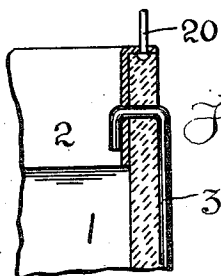
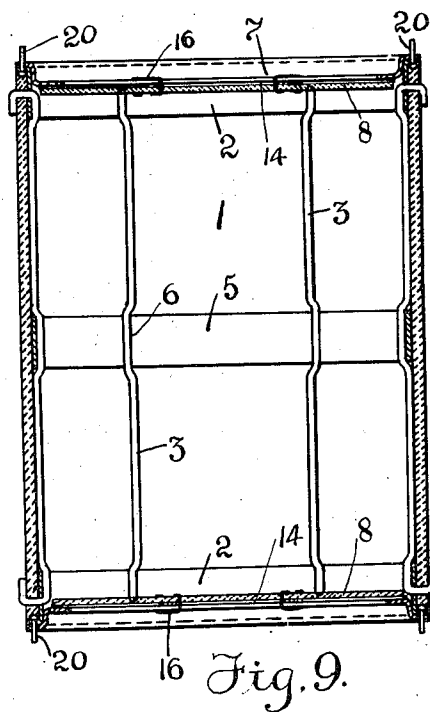
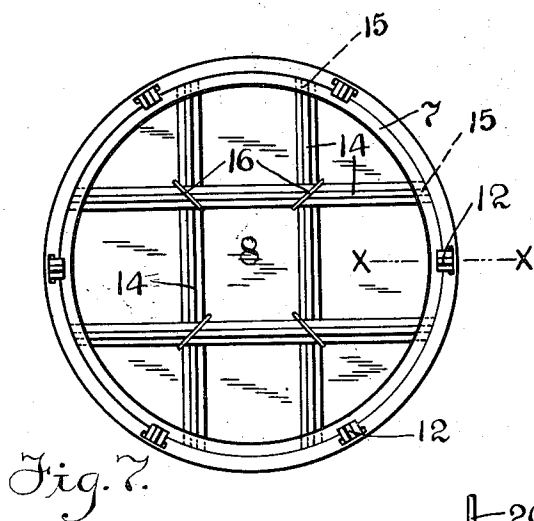
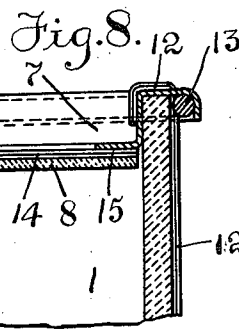
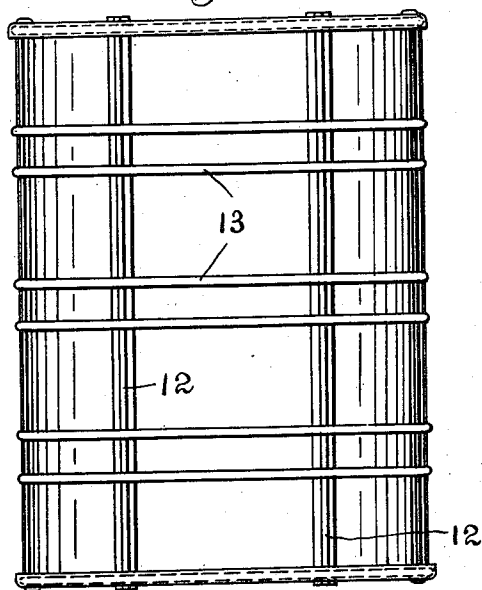


Fig. 10.

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UNITED STATES PATENT OFFICE.

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PAPER KEG, BARREL, BOX, &c.

1,012,867.

Specification of Letters Patent.

Patented Dec. 26, 1911.

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To all whom it may concern:

Be it known that I, MAURICE LACHMAN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Paper Kegs, Barrels, Boxes, &c., of which the following is a specification.

My present invention relates to kegs, barrels, boxes or similar containers such as used for shipping nails, fruit or other material or goods.

My invention more particularly relates to containers in which the body is made of paper or similar material and provided with means for reinforcing the same.

One of the objects of my invention is to provide a container which will be very light and strong whereby shipping charges will be low and the container will be capable of withstanding the very rough handling to which such packages are subjected in shipping.

Another object of the invention is to provide a container which will be much cheaper than the wooden ones now commonly employed for the above purposes and at the same time of such construction that it will be capable of withstanding as much and more rough handling than the wooden ones.

Further objects are to provide a container, the body of which is formed of paper or other similar material and provided with reinforcing means securely held in place about the body without in any way weakening it or being liable to become loose or detached.

Heretofore in making paper kegs and barrels the main difficulty has been to secure the reinforcing hoops in place. This has ordinarily been done by fastening the hoops to the paper body by perforating the paper and tying or fastening the hoops by wires or rivets. In usage the paper consequently tears out at the fastenings and the keg or barrel becomes destroyed or mutilated. Also great difficulty has been met with in providing suitable ways of securely fastening and holding the heads. In the preferred manner of carrying my invention into effect the hoops are held in place about the keg or barrel without actually fastening them to the paper or at least without depending upon securing them to the paper

body to hold them in place. I also provide novel means for securing the heads to the body.

The invention consists in the novel construction of keg, barrel or other form of container and the parts thereof hereinafter more particularly described and then specified in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a keg or barrel constructed in accordance with the preferred manner of carrying my invention into practice. Fig. 2 is a plan view of the same. Fig. 3 is a vertical central section through the container shown in Fig. 1. Fig. 4 is an enlarged section and partial elevation through the fastening for the head. Fig. 5 is a similar view showing the position of the parts before clamping the cover. Fig. 6 is a side elevation of a modification in the construction. Fig. 7 is a plan view of the modification illustrated in Fig. 6. Fig. 8 is an enlarged cross-section through the fastening for the head and taken on line X X Fig. 7. Fig. 9 is a vertical central section through a further modification. Fig. 10 is a partial section illustrating a still further modification.

The invention is herein shown and will be described as applied to a keg or barrel but it will be understood that it may equally well be employed with other forms or contours of containers as for instance rectangular or square boxes or the like, and is not limited to the particular forms shown.

When the invention is applied to kegs or barrels, the body of the keg or barrel consists preferably of a cylinder of paper or other similar non-metallic material formed in any desired manner. The cylinder is preferably formed of a number of layers of paper superimposed on each other, preferably by spinning, and compressed into a very solid mass, the various layers being preferably united by suitable cement, glue or paste, whereby a very rigid wall is attained. The specific manner of forming the cylinder or body forms no part of my invention and further description will be dispensed with.

2 indicates bands or hoops of metal passing closely around the cylinder 1 at its ends. These may be either on the outside or the inside of the body or cylinder. In the form

of my invention shown in Figs. 1 to 4 inclusive, the hoops 2 are each provided with an integral lateral flange 2'. These flanges constitute end plates resting upon and protecting the edge of the body 1 at its opposite ends and act to prevent fraying of the paper or other damage to the ends. The end plates whether upon the end hoops or rings or forming the edge or rim of the detachable heads, together with the members 3 tying the end plates together and anchored to the same, as will be presently described, constitute a retaining frame for the cylinder.

3 indicates longitudinal metallic stays of any desired number disposed about the body 1 at convenient intervals and by which the protecting end plates are tied together. In the form of my invention shown in Fig. 1, these stays are placed on the inside of the cylinder 1 but at the ends thereof they are bent outwardly through slots 4 and provided with flexible extensions 3', adapted to be bent over to anchor the ends of said stays on the end plates engaging the edges of the rim, and to tie said end plates together. They also serve as a means for fastening the metal rims of the detachable reinforced paper heads down upon the edges of the body, as will be later described. The metal plates 2' may be provided with holes through which the ends of the stays may pass. By the anchoring of the longitudinal stay members on annular metal plates engaging the edge, they are enabled to act as tension members for a reinforcement resisting external or internal forces tending to deform the paper body. The stay members 3 may be attached or connected to the hoops 2 at both ends of the cylinder 1 in any desired way as for instance by fastening them directly to said hoops in any suitable manner, preferably by electrically welding them, as at the point 10. If desired, any number of hoops 5 might be provided intermediate of the hoops 2, the hoops 5 being fastened to the stays 3 in any suitable manner as for instance by welding the two together as indicated at 6.

The heads of the container are detachable paper heads having a metallic reinforcement terminating in an annular metal rim preferably provided with a flange or other part against which the paper disk or head seats, the rim being adapted to seat upon the edges of the body.

8 is a disk or plate of paper or other suitable material, and 9 is a reinforcing and protecting lattice-work of wires or rods of metal, preferably located on the outer surface of the disk 8.

7 is the metal rim of the paper head, preferably formed as an annular ring or rim, the inner and outer edges of which are located in different horizontal planes. The

outer edge seats upon the edge of the body as shown. The annular rim of the paper head is connected to the disk 8 and to the reinforcing lattice-work in any suitable way, as for instance, by passing the ends of the wires 9 through openings in the inner portion of the metal rim, and through holes near the edge of the disk 8, and bending the ends down upon the inner surface of the disk. A paper head with a skeleton metal reinforcement and detached metal rim is provided for each end of the body. The rods or wires 9 are preferably welded, or otherwise secured to each other on their intersections 11, and may also be welded to the rim as at 25. The metal reinforcement 9 is preferably removable bodily with the rim when the head is detached and in that sense the reinforcement is permanently attached to the rim to be carried by it when removing the head.

The heads are placed upon the body or cylinder 1, the ends 3' of the stays 3 passing preferably through suitable holes near the outer edge of the rim 7 as shown in Fig. 5. After the rims 7 have been seated on the flanges 2', the ends 3' are bent inwardly and clench the heads as shown in Fig. 4, and thereby also tie the heads as well as the hoops and their plates or flanges 2' constituting the annular end plates at the opposite ends of the cylinder securely together. By this tying of the heads together any expansive force tending to bulge and disrupt or detach either head is effectually resisted by the anchoring of the tension or stay members on the end plate or rim of the head at the opposite end of the body.

If desired, the stays and also the intermediate hoops like hoops 5 of Fig. 1 might be located on the outside of the keg or barrel as indicated in Figs. 6 and 8. In this form the stay members are preferably flat strips 12 provided with longitudinal ridges.

In the form shown in Fig. 8, the annular end plates engaging the edge of the body, and tied together by the longitudinal stays, consist alone of the flanged edges of the rim upon which the flexible extensions of the frame are bent inward and turned down as before, said flexible extensions being preferably the ends of the stay members 12, whereby the said end plates are tied together as already described, and the detachable paper heads are likewise secured together through their attached annular rims. The ends of the stay members may pass through openings in the rim as indicated. Hoops 13 in the form of rods or wires may be used, the end ones of which are preferably welded to the ridges of the stay members. The intermediate hoops are also preferably welded at their intersections with the stays 12. The flanges or plates 12 may be extended outward far

enough to pass over the hoops 13 and to be turned down as shown over the side of said hoops to assist in holding them in place. The paper or other disks 8 are also reinforced preferably by ridged metal strips 14 welded to each other at their intersections. Another way of making up the head is shown in this form wherein the ridged strips 14 are welded at their ends, as indicated at 15, to the ring 7 and the paper disk secured thereto by binding wires 16 passing through openings in the disk 8 and over the intersections of the strips 14.

In Figs. 9 and 10 the end plates or protecting flanges are shown tied together by the stays by passing flexible ends of the stay members 3 through openings in the hoops of which the flanges constitute a part and through the body portion, the ends being then clenched on the opposite side of the body to which the stay member is located and the whole constituting a retaining frame for the paper body. The heads are secured in a manner similar to that in the previous forms by providing an upwardly projecting pin 20 on the hoop corresponding to the end 3' shown in Fig. 5 and forming like the latter a flexible extension of the framework, since by the tying of the stays to the hoops the pins on the flanges of the latter constitute in effect ends of the stays and flexible extension of the frame by which the heads may be tied together. Fig. 9 shows the stays and hoops located on the inside of the body whereas Fig. 10 shows the stays located on the outside and the hoops inside although it will be obvious that both might be equally well located on the outside.

The welding of the various parts is preferably effected by using the well-known electric welding process in which the current of electricity is passed from one part to the other and pressure simultaneously applied to force the material together. The parts shown in the form illustrated in Fig. 6 readily adapt themselves to be joined in this manner, as will be readily understood by those skilled in the electric metal working art, whereas the flat bands or hoops shown in the other figures are preferably provided with points or projections to localize the heating and pressure and by means of which projections the bands or hoops are united to

the stay members by the above mentioned process.

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What I claim as my invention is:—

1. A container comprising a body of non-metallic material like paper and a retaining and reinforcing metallic framework therefor comprising annular end plates, one at each end of the body and resting upon the edge thereof, combined with a series of longitudinal metallic stay members by which said annular end plates are tied together.

2. A container comprising a body of paper-like material having heads detachable as a unit and each comprising a paper disk which forms the body of the head an annular metal rim adapted to rest on the edge of the body and to form a seat for said disk, combined with longitudinal metallic stay and tension members disposed around the body, and means for connecting them to said metal rims to tie the heads together.

3. A container head comprising a paper disk forming the body of the head, an annular metal rim adapted to rest on the edge of the container and to form a seat for the paper disk; and a skeleton metal reinforcement for said disk permanently attached to said rim.

4. A container comprising a non-metallic body like paper and a retaining and reinforcing framework therefor comprising flanged metal hoops, one at each end of the body, the flanges of said hoops being adapted to rest upon and form a protection for the edges of the body and uniting longitudinal stay and tension members united to and securing said flanged hoops together to form a unitary metallic framework reinforcing said body and preventing the same from slipping out of the framework endwise in either direction, and detachable heads for said body resting by their rims upon the flanges of the hoops and flexible extensions of said frame detachably fastening the said rims down upon said flanges.

Signed at Long Island City in the county of Queens and State of New York this 20th day of April A. D. 1910.

MAURICE LACHMAN.

Witnesses:

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M. KELLEY.