

No. 634,644.

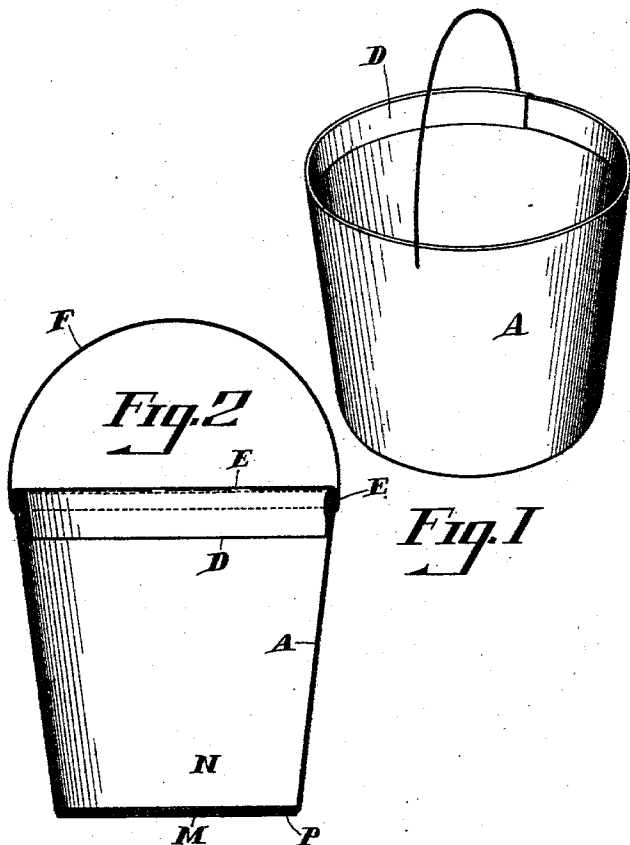
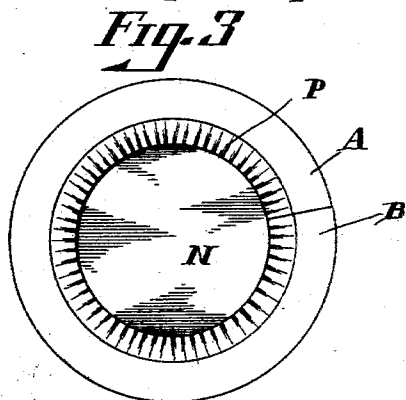
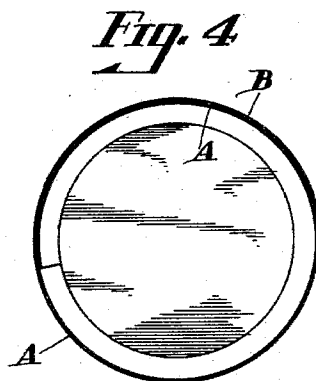
Patented Oct. 10, 1899.

W. M. KINNARD.

PAPER VESSEL.

(Application filed Jan. 3, 1898.)

(No Model.)



WITNESSES

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WILL M. KINNARD, OF DAYTON, OHIO, ASSIGNOR TO THE KINNARD MANUFACTURING COMPANY, OF SAME PLACE.

PAPER VESSEL.

SPECIFICATION forming part of Letters Patent No. 634,644, dated October 10, 1899.

Application filed January 3, 1898. Serial No. 665,290. (No model.)

To all whom it may concern:

Be it known that I, WILL M. KINNARD, a citizen of the United States, and a resident of Dayton, in the county of Montgomery and State of Ohio, have invented a certain new and useful Improvement in Paper Vessels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improvement in paper vessels, and has for its object the production of a water-tight vessel made of paper of a desirable form, that is circular in horizontal cross-section, and of the form of an ordinary pail, which shall be cheap to manufacture, strong to endure wear, and tight to prevent leakage.

The special improvements I desire to patent relate, first, to the structure of the walls of the pail from a single piece of paper; second, the bracing or strengthening of the upper edge, and, third, the construction of the bottom.

In the accompanying drawings, Figure 1 is a perspective view of the pail complete without the lid. Fig. 2 is a vertical cross-section. Fig. 3 is a top plan view looking down into the pail before the bottoms have been applied. Fig. 4 is a top plan view of the pail after the bottom has been inserted.

Like letters of reference indicate identical parts in all the figures.

A pail made of a single strip or blank of paper curved to form a tapering cylinder with the edges glued together would be frail and easily pressed out of shape. The edges where they are brought together and fastened would make an insecure joint, liable to leak or come apart. In order to prevent this, therefore, I make the blank which is to be rolled into a tapering cylinder to form the walls of the pail a little more than once and a half the length required for the sized pail I propose to make. This blank is then rolled upon itself in the manner shown in Fig. 4, so that the extra or additional portion B extends more than half-way around the main portion A. In this way the upright walls of the pail are double in thickness for more than half the circumference. This extra wall, extending more than

half-way around, not only serves to brace and strengthen the pail very materially, but it enables me to apply both ends of the bail within the doubled portions of the walls, as seen in Fig. 1. The outer portion of the wall B being securely glued to the inner part A, or even if not glued with very great accuracy, extends so far around that it would be impossible for any leakage to occur by passing between these two walls so great a distance. In order to strengthen and stiffen the vessel still more, the upper edges are bent down, preferably after being corrugated, to facilitate their bending downward, as seen in Fig. 2. D is the fold or flap of the upper edges bent downward and preferably inward and glued securely against the wall A of the vessel. Before bending down this flap or fold D, however, I insert a ring or circular band E, of stiff material, preferably sheet-tin. This is inclosed by and beneath the flap D, where of course it is held securely in place and where it serves to very materially strengthen, brace, and stiffen the vessel. It also affords a bearing for the bail, as seen at Fig. 2. The bail F being bent around this tin stiffening-band provides a much more secure fastening for the bail. The bent or hooked end of the bail being beneath the flap D does not penetrate the interior space of the vessel at all. It is hidden and out of the way and cannot interfere with the lid or leave an opening for a possible leakage.

To form a water-tight bottom, I take the lower edges of the tube that is to form the walls of the pail and corrugate them and then bend them in a horizontal position at an angle to the walls, as seen at P, Fig. 3. These corrugations permit the lower edges of the tube or walls to be bent in without breaking. They also serve to somewhat soften the material or break the fibers of the same, and they form a flange to receive the bottom.

The bottom consists of two disks M N. M is the outer disk, and N the inner disk, one on top of and one beneath the corrugated flange P. This corrugated flange P having been supplied with glue on both sides or else one side of the edge of each disk, pressure is applied. The action of the glue, especially if it is heated, is that it penetrates the fibers

of the flange P, as would not be the case if it were not corrugated and the fiber somewhat softened or broken, and the three layers of paper are to a certain extent amalgamated and forced into one body of material, producing a very strong perfect joint, so that, as I have found, this vessel will hold water indefinitely, indeed until it has all evaporated.

These pails are designed to be used as grocers' packages, in which may be delivered almost any substance—such as oysters, milk, vinegar, or any liquid substance.

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

1. A paper vessel circular in horizontal cross-section, whose walls consist of a single blank of paper folded at its upper edge to form a flap and rolled upon itself the outer end passing more than half-way around the vessel and producing to that extent a double wall, the lower edge of the wall being bent inwardly, to which is attached the bottom, consisting of one or more disks, substantially as and for the purpose described.

2. A paper vessel circular in horizontal cross-section whose walls consist of a single blank of paper rolled upon itself the outer one passing more than half-way around the vessel and having the upper edges of the walls bent or folded over and embracing a circle of stiff material, a bottom consisting of one or more disks secured to the lower edge of the wall, which is bent inwardly, substantially as and for the purpose described.

3. A paper vessel circular in horizontal cross-section whose walls consist of a single blank of paper rolled upon itself the outer one passing more than half-way around the

vessel, the upper edges of which are braced by a band of stiff material inclosed within the folded edge of the walls, the lower edge of the wall being bent inwardly, to which is secured the bottom consisting of one or more disks, substantially as and for the purpose described.

4. A paper vessel circular in horizontal cross-section, the lower edges of whose upright walls are corrugated and bent inwardly to form a horizontal flange to which is attached the bottom, which bottom consists of two disks whose edges embrace said horizontal flange in combination with a bail whose ends are housed within the folded upper edge of the walls, substantially as and for the purpose described.

5. A paper vessel circular in horizontal cross-section, the lower edges of whose upright walls are corrugated and bent inwardly to form a horizontal flange, said flange being inclosed between two disks which are glued and pressed firmly into place and condition, in combination with a bail whose ends penetrate the outer wall and are housed within the folded upper edge thereof, substantially as and for the purpose described.

6. A paper vessel circular in horizontal cross-section whose upper edges are folded over inwardly to embrace a band of stiff material, in combination with a bail whose ends penetrate the outer wall and pass through or around the stiffening-band, but inclosed within the fold, substantially as and for the purpose described.

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Witnesses:

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