

No. 631,852.

Patented Aug. 29, 1899.

W. M. KINNARD.  
PAPER VESSEL.

(Application filed Dec. 10, 1898.)

(No Model.)

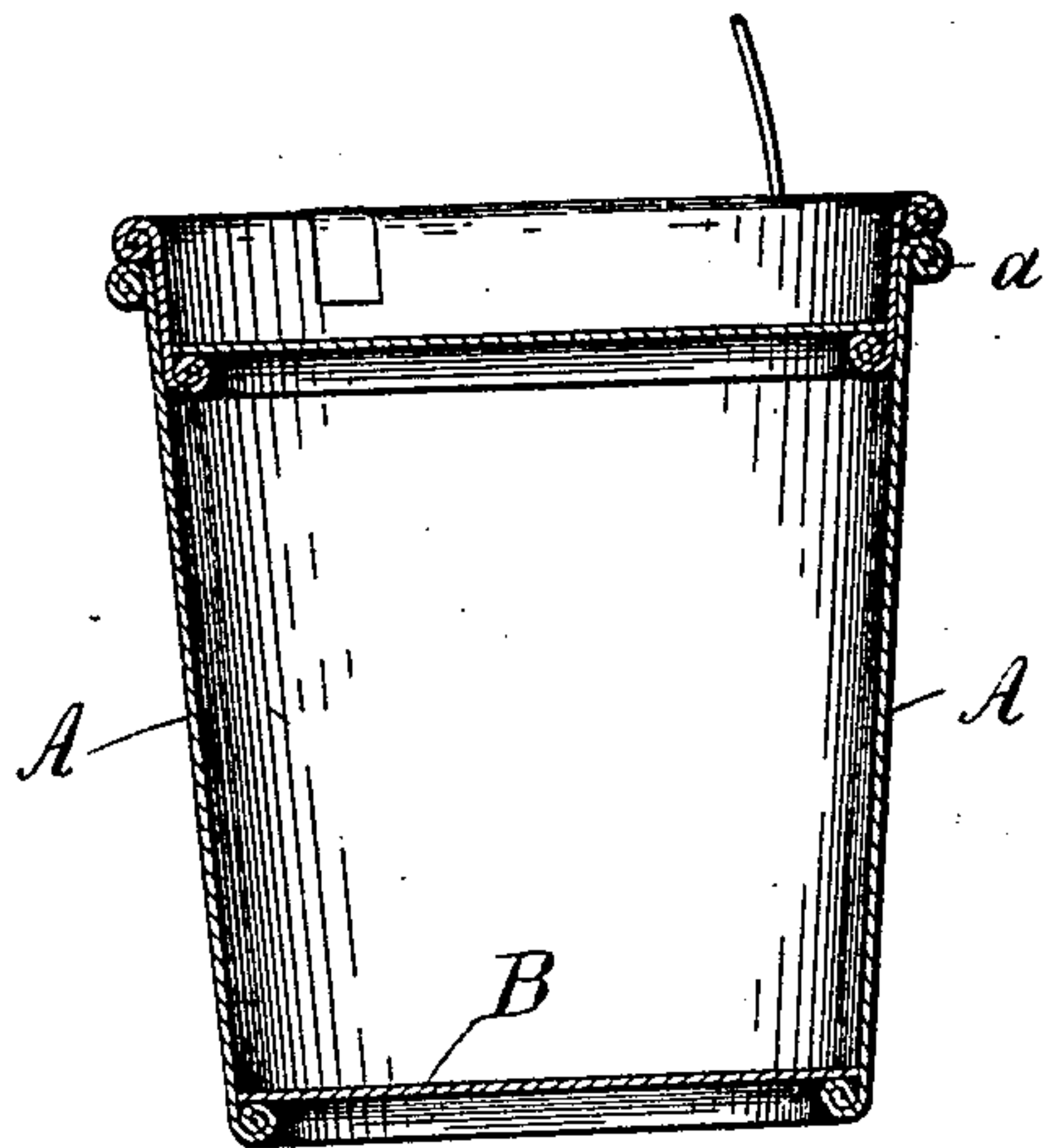


Fig. 1.

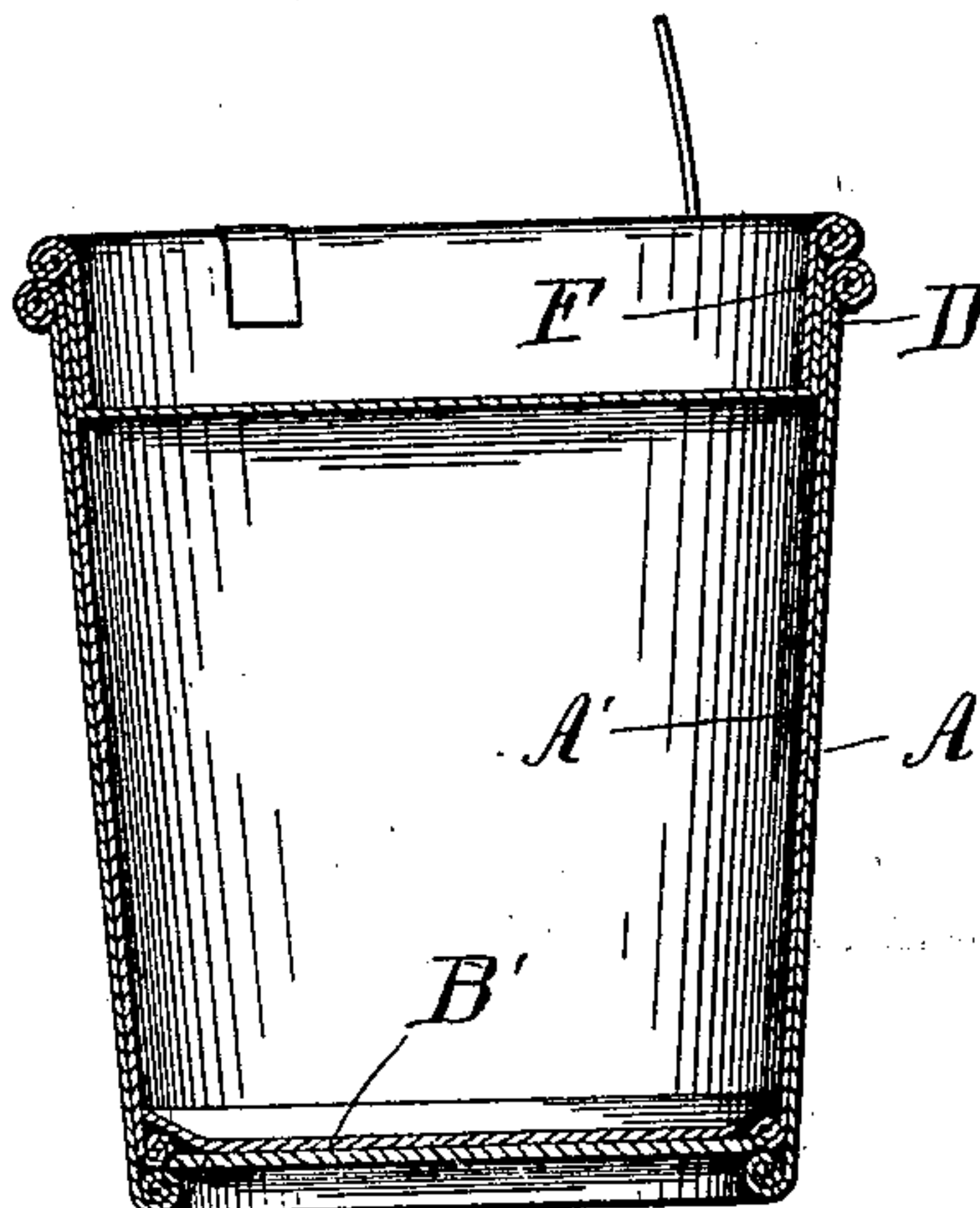


Fig. 3.

Fig. 2.

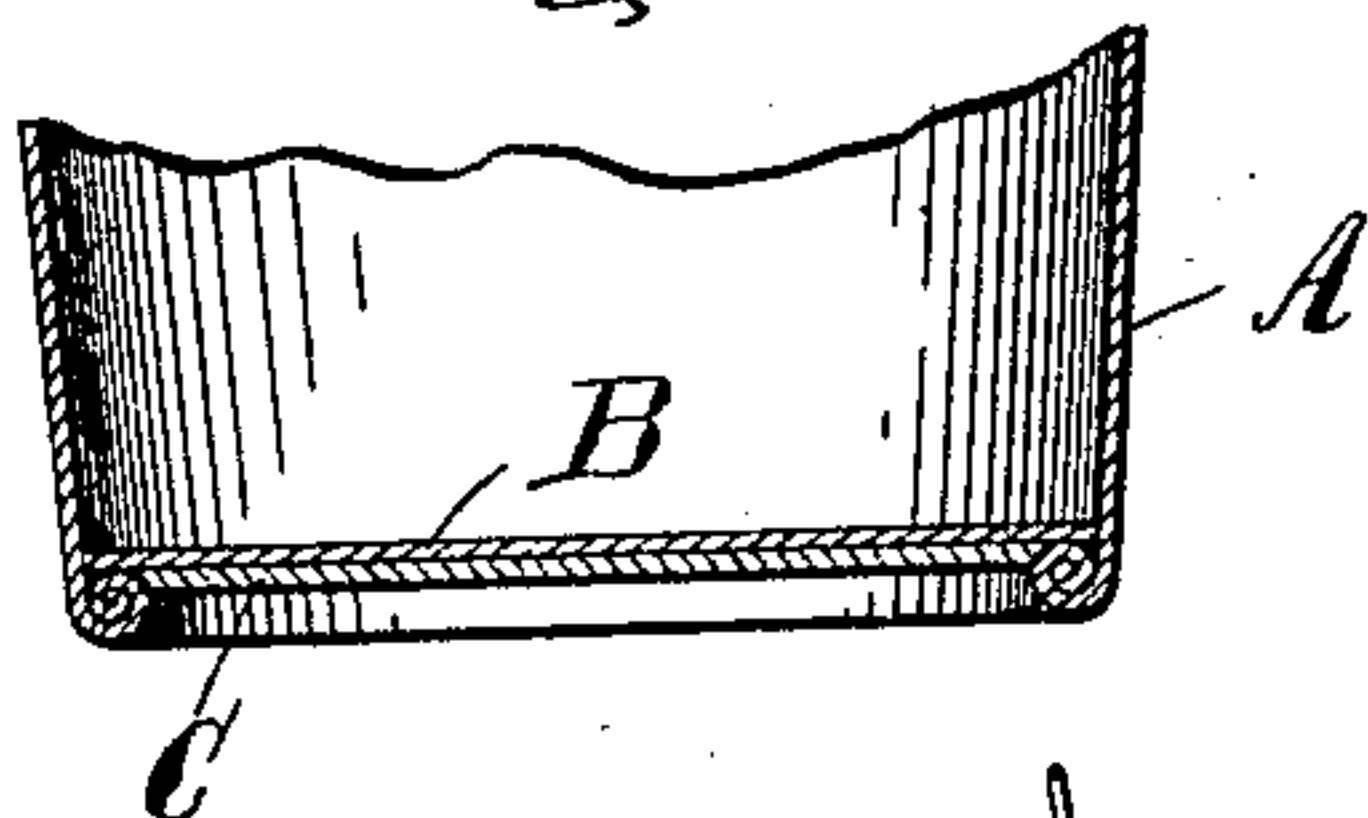


Fig. 6.

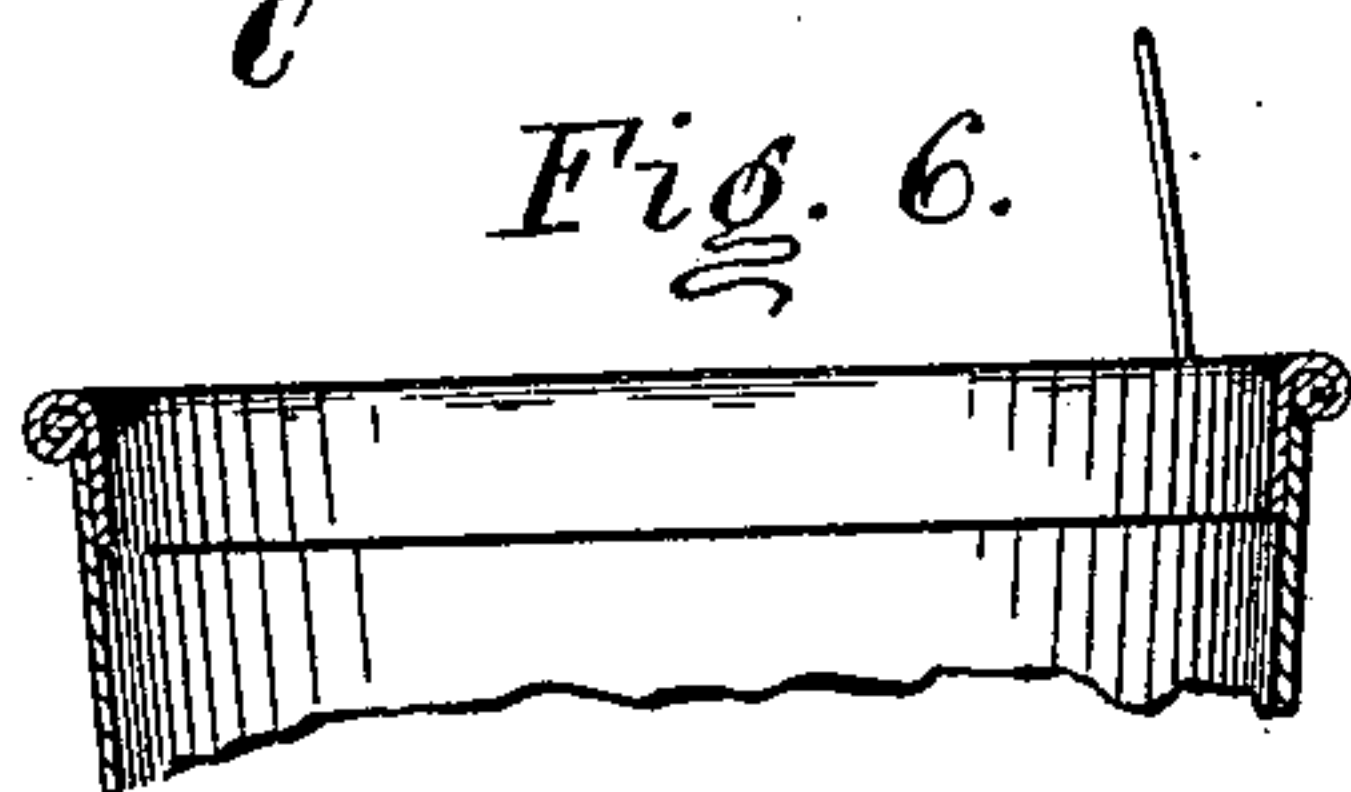


Fig. 4.

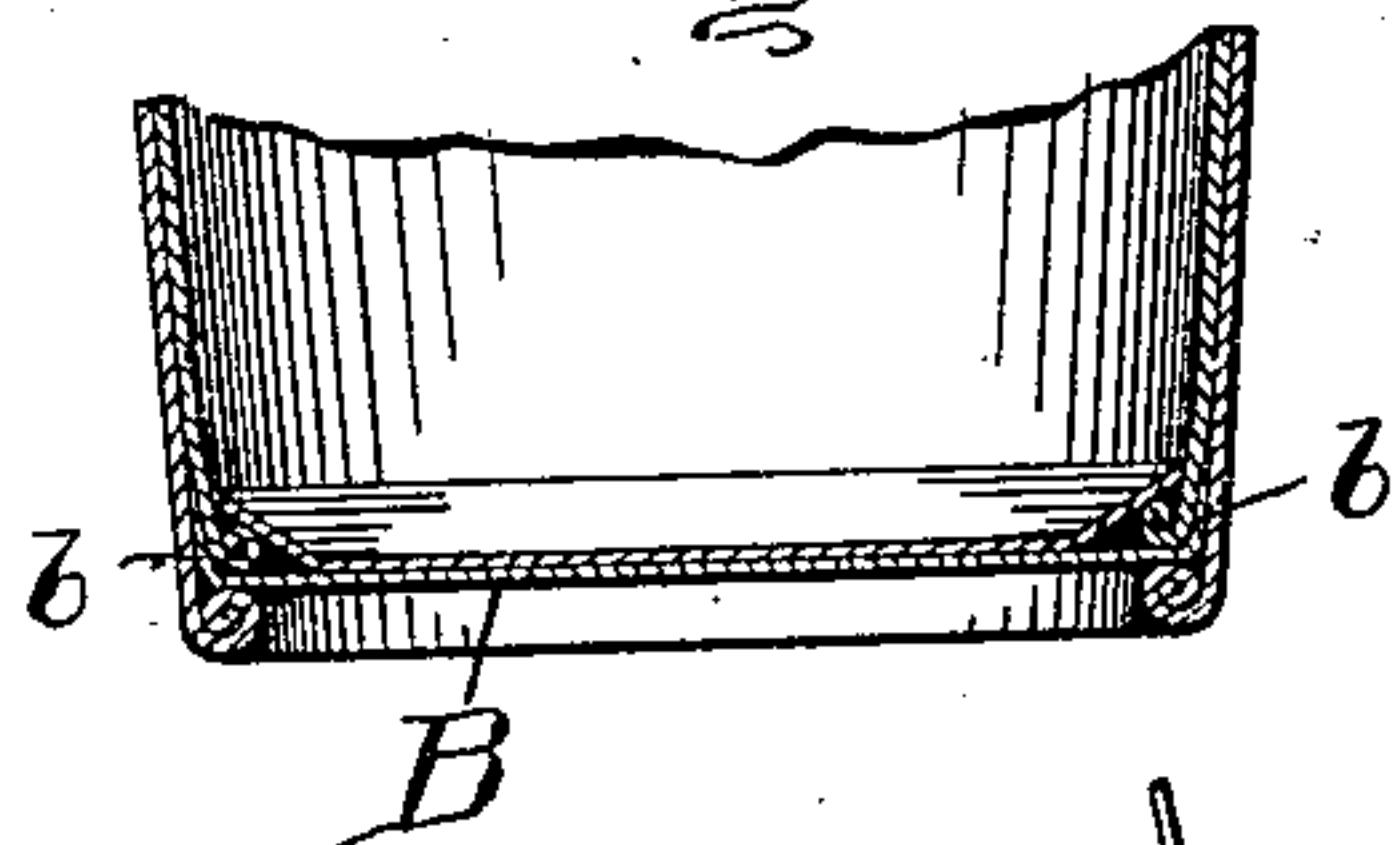


Fig. 5.

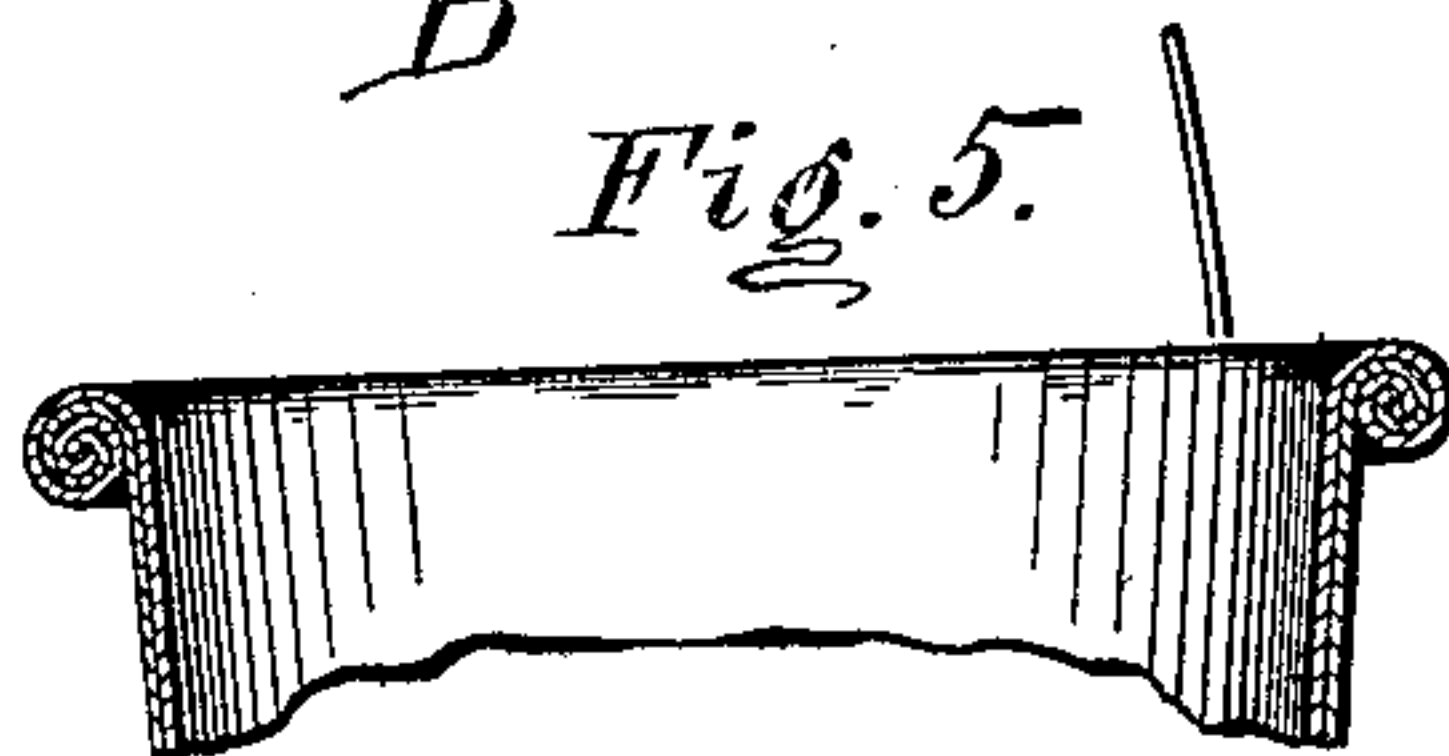


Fig. 8.

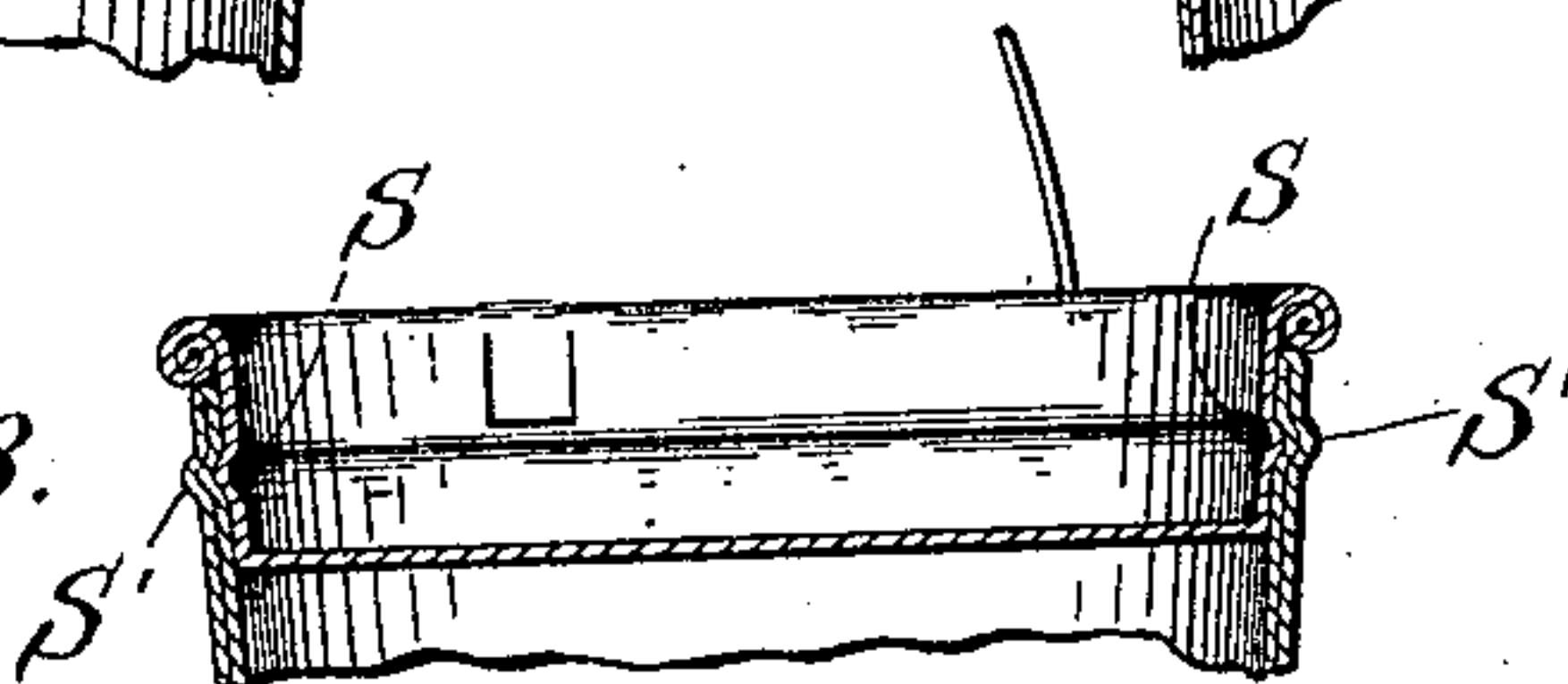


Fig. 7.

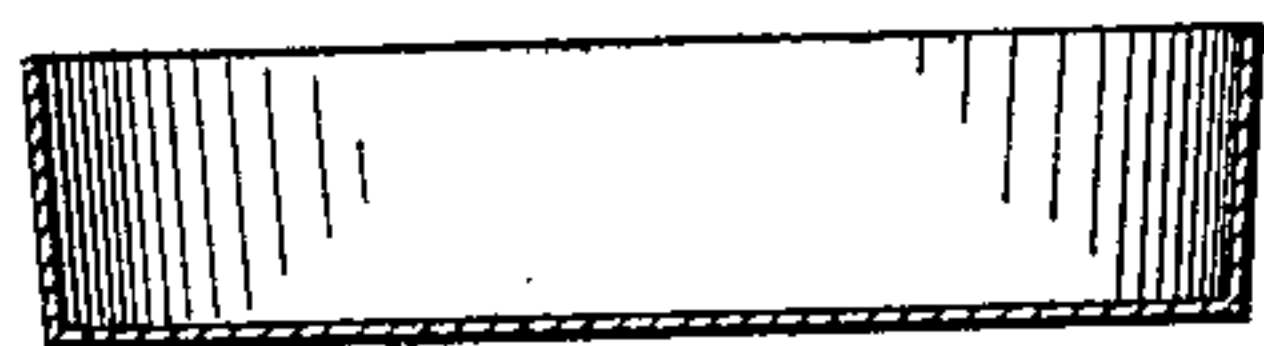
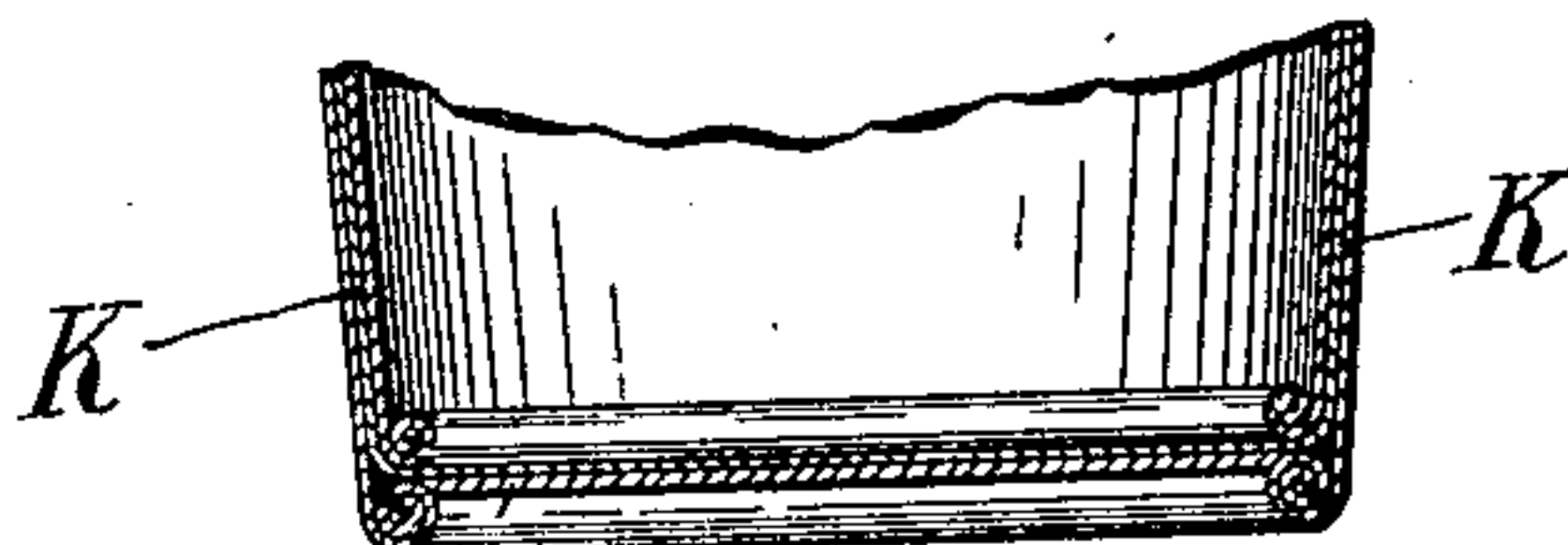


Fig. 9.



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# UNITED STATES PATENT OFFICE.

WILL M. KINNARD, OF DAYTON, OHIO.

## PAPER VESSEL.

SPECIFICATION forming part of Letters Patent No. 631,852, dated August 29, 1899.

Application filed December 10, 1898. Serial No. 698,830. (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 certain new and useful Improvements in Paper Vessels of the Character Known to the Trade as "Oyster-Pails," of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

It relates to an improvement in slop-proof pails used generally for delivery at retail and in small quantities oysters and similar articles.

It is important that the vessel be as fully waterproof as possible and slop-proof, so as to prevent the contents slopping out or leaking. It must be light and so inexpensive as to enable the retail dealer, if necessary, to give it away with the article sold.

My present improvement consists, first, in a new method of constructing the bottom or base of the pail, and, secondly, in a new construction of the lid.

In the drawings, Figure 1 is a vertical cross-section of my improved pail with the lid in place. Fig. 2 is a vertical cross-section showing one form of bottom. Fig. 3 is a similar cross-section showing a modified form of the construction of the bottom. Fig. 4 is a similar cross-section of one corner of the bottom, showing a slight modification. Fig. 5 is a cross-section of the top, showing a slightly different form of constructing the bead on the lid. Fig. 6 is a cross-section showing the modification of the top. Fig. 7 is a cross-section of the saucer-shaped lid before the bead is attached to it. Fig. 8 is a cross-section showing the lid in place with a lock. Fig. 9 is a vertical cross-section showing the pail with double walls provided with an intermediate third wall which extends also unbrokenly across the bottom, being made of a single piece of light paper.

In the drawings I have shown some of the figures illustrating the pail with single walls and some illustrating the pail with double walls, and I do not limit myself to either single or double walls and any number of walls may be used, as in practice I usually have an

intermediate wall between two thin walls, which also extends unbrokenly across the bottom.

In Fig. 1, A represents the side walls and B the bottom. The lower edge of the side wall is rolled inwardly and spun under pressure in the form of a solid or substantially solid bead, which performs the double function of a base upon which the vessel may rest and a support for the bottom B. It will be understood that in use these vessels are placed by the grocers, who usually handle them, or are likely to be placed on a wet counter. If the bottom rests flat on this moist surface, the moisture is apt to open the joints and cause the vessel to leak; but by spinning these lower edges upon themselves into a solid bead a base is provided for the vessel to rest upon, and this process of spinning under pressure sets the fibers of the paper and compresses and solidifies them, so that they will retain their position and resist the effect of moisture and form a solid bead which serves for a base. I have found that where this thin material or paper is used, as must be used for this inexpensive article, even where there are no seams at the bottom, but the vessel is made by folding a single blank into the form of a pail, where it is filled with water and hung up with its sides and bottom exposed to the air it will not leak, but the contents will evaporate in time, whereas if this same vessel is set upon a table, even though the table be dry, the bottom is then not exposed to the air and in the course of a short time the water will go through this bottom, which will become saturated, and the contents will leak out through this saturated or softened bottom, so that it is important to provide a base for the vessel. This bead serves also the purpose of supporting the bottom B, which consists of a disk of paper of sufficient thickness fitted down upon the bead where it may be glued, if desired. The upper edge of the walls A, as seen at *a*, is also turned outward and spun upon itself under pressure, providing at the upper edge of the pail a stiff hard substantially solid bead, in which the fibers are readjusted and set so that the bead will form a stiffening-brace as well as give an ornamental edge. In this same figure I have



shown the lid constructed in the same way, the difference being that it is shallow and saucer-shaped.

In Fig. 2 the upright wall is shown with the lower edge curled inwardly and spun upon itself to form the bead, as above described. The bottom B rests upon this bead, and an outer bottom C is added to give additional stiffness, which consists of a disk inserted within the space formed by the bead.

The forms above described are applicable to a vessel with one wall or with several, the material used for the construction of the vessel being light, but when spun upon itself under pressure of course it is made relatively heavier.

In Fig. 3 I have shown a somewhat modified form both of the pail and the lid. There are double walls shown in Fig. 3, with a double bottom. The inner wall A' has the lower edge turned in and spun upon itself in the manner above described, upon which rests the inner bottom B'. The outer wall A has its lower edges spun inwardly upon themselves, as described, and upon this bead thus formed rests the outer bottom B, the edges of which are between the two beads and where, of course, it is securely held. At the upper edge of this form of the pail the outer wall A stops at the bead, and the inner wall has its upper edge turned outward and spun upon itself over the upper edge of the outer wall A. The lid in Fig. 3 is formed in two parts D and F. A saucer-shaped lid, as shown in Fig. 7, is made, and a strip of paper is constructed with one edge spun upon itself under pressure to form a solid bead. The ends of this strip are fastened together to form a ring, and the straight portion of it is glued to the wall of the upturned edge d of the saucer-shaped lid, so that the bead embraces the upper edge. In practice the spinning of this edge is done after the ring of paper F is glued to the flange or upturned side D of the saucer-shaped lid, and the pressure employed in spinning it makes this bead solid and presses it down firmly upon or around the upper edge of the flange.

In Fig. 5 I have shown the double walls at the upper edge spun outwardly together upon themselves, which makes the bead somewhat heavier and stronger.

In Fig. 4 I have shown a somewhat-modified form of construction of bottom. This differs from Fig. 3 only in that the outer bottom B extends up between the two walls, as seen at b. This may be extended up any convenient distance, so as to make an absolutely-secure joint.

In Fig. 6 the upper edge of the walls of the vessel is constructed somewhat like the lid shown in Figs. 3 and 7—that is, the wall A, being a single wall, is strengthened by a strip glued to the upper edge and extending entirely around the vessel—of any convenient width—that is, extending down into the vessel any convenient distance. The upper edge

of this strip extends up beyond the upper edge of the wall A and is rolled outwardly and spun downwardly under pressure upon the upper edge of the wall A, forming a relatively-thickened portion, acting as a brace. Of course it will be understood that both the upper edge of this strip and the upper edge of the wall may be spun together upon themselves under pressure, forming a still more thickened portion and a heavier bead.

In Fig. 8 I have shown a lock for the lid, which consists in a horizontal crimp S in the upright portion of the lid and a corresponding crimp S' in the wall of the vessel, the one fitting within the other and locking the lid in place. Of course this crimp may be made inward or outward.

In Fig. 9 the pail is shown with double walls similar to those shown in Fig. 3; but in place of the inner bottom, as shown there, there is an intermediate wall K, which extends unbrokenly entirely across the bottom of the vessel and is supported by the outer wall B, which in practice I make of even thinner or lighter paper, which is pressed into the necessary shape to go over the inner and within the outer walls of the vessel and cover the entire bottom, so as to leave the bottom seamless. This intermediate wall K may extend part way or all the way to the top of the vessel, as desired.

It will be understood that the material used for these vessels must be thin and light, as the vessel must be made very cheap and very light in weight. The upright walls therefore are thin and light, while the spinning makes the upper and lower edges relatively much thicker and stronger, and this result can only be satisfactorily produced by the process of spinning, which is novel in its application to paper and produces a different result or effect from that produced in spinning metal, the constituency of the two being so different. It will also be understood that my improved pail is made of sheet-paper in its ordinary condition as distinguished from paper stock or pulp, which in a moist state of course can be molded or manipulated into any shape and subsequently dried.

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

1. A paper vessel having its walls made of ordinary sheet-paper, and circular in cross-section, having the lower edge of the wall or walls spun inwardly upon themselves under pressure to form a bead or rim, substantially as and for the purpose described.

2. A paper vessel having its walls made of ordinary sheet-paper circular in horizontal cross-section, the lower edges of the upright walls being spun inwardly upon themselves under pressure to form a bead or rim, in combination with a bottom resting upon said bead, substantially as and for the purpose described.

3. A paper vessel having its walls made of ordinary sheet-paper circular in cross-section,



whose walls are relatively thin and the lower edges of which are spun inwardly upon themselves to form a relatively thick and solid bead or rim, substantially as and for the purpose described.

4. A paper vessel having its walls made of ordinary sheet-paper circular in cross-section, whose upright walls are relatively thin, the lower edges of which are spun inwardly upon themselves to form a relatively thick bead, a bottom resting upon said bead, and a supplemental bottom inserted within the space formed by the bead, substantially as and for the purpose described.

5. A paper vessel having its walls made of ordinary sheet-paper circular in cross-section, the upper edges of whose wall or walls are spun outwardly upon themselves under pressure to form a stiffening bead or rim, substantially as and for the purpose described.

6. A paper vessel having its walls made of ordinary sheet-paper, circular in horizontal cross-section, whose upright walls are relatively thin, and the upper edges of which are spun outwardly to form a relatively thick portion in the shape of a stiffening bead or rim, substantially as and for the purpose described.

7. A saucer-shaped lid for a paper vessel made of ordinary sheet-paper, consisting of a circular disk with an upright flange, the upper edge of said flange being spun outwardly upon itself under pressure to form a solid stiffening-bead, substantially as and for the purpose described.

8. A saucer-shaped lid for a paper vessel made of ordinary sheet-paper, consisting of a circular disk with an upright flange, provided at its upper edges with a substantially solid bead formed by spinning the edge of the flange upon itself under pressure, substantially as and for the purpose described.

9. In the manufacture of paper vessels having their walls made of ordinary sheet-paper, the art of producing a stiffening-brace to the same by spinning the edges of the top or bottom or both upon themselves under pressure to form a substantially solid stiffening-bead, substantially as and for the purpose described.

10. In the manufacture of circular vessels of paper having their walls made of ordinary sheet-paper, the art of spinning the edges of the vessel or lid upon themselves under pressure, for the purpose of producing a substantially solid stiffening-brace for the same, substantially as and for the purpose described.

11. A paper vessel or lid made of ordinary sheet-paper whose upper edges are spun outwardly and whose lower edges are spun inwardly to produce a stiffening bead or brace, substantially as and for the purpose described.

12. A paper vessel having its walls made of ordinary sheet-paper circular in horizontal cross-section, having double upright walls, the lower edges of the inner wall being spun

to form a bead supporting an inner bottom, the lower edges of the outer wall being likewise spun inwardly upon themselves to form a bead and supporting an outer bottom, substantially as and for the purpose described.

13. A paper vessel or lid having upright walls made of ordinary sheet-paper, the lower edges of the inner wall being spun upon themselves under pressure to form a bead to receive and support an inner bottom, and the lower edges of the outer wall being likewise spun and an outer bottom provided with an upright flange extending between the two beads and upwardly between the walls, substantially as and for the purpose described.

14. A paper vessel or lid having upright walls made of ordinary sheet-paper, the lower edge of the inner wall being spun upon itself under pressure to form a stiffening-bead to receive and support an inner bottom, and the lower edge of the outer wall being likewise spun inwardly upon itself in combination with an outer bottom consisting of a disk whose edges are inserted within the bead of the outer wall, substantially as and for the purpose described.

15. A paper vessel having two or more walls made of ordinary sheet-paper and provided with an intermediate wall of lighter material extending entirely across the bottom unbroken, the lower edges of the outer wall being spun inwardly within themselves to form a base, substantially as and for the purpose described.

16. A paper vessel having two or more walls made of ordinary sheet-paper with an intermediate wall extending unbroken across the bottom and up between the inner and outer walls, the lower edges of the outer wall being spun inwardly upon themselves to form a base or stiffening-bead in combination with an outer bottom consisting of a disk inserted in the space formed by said bead, substantially as and for the purpose described.

17. A paper vessel circular in cross-section, having two or more walls made of ordinary sheet-paper, the upper edges of the outer and inner walls being spun together outwardly upon themselves under pressure to form a stiffening brace or bead, substantially as and for the purpose described.

18. A paper vessel or lid having two or more walls made of ordinary sheet-paper, the upper edges of the inner wall being spun upon themselves outwardly under pressure over the upper edges of the outer wall or walls, substantially as and for the purpose described.

19. A paper vessel or lid, the upper edges of whose upright walls made of ordinary sheet-paper are strengthened or stiffened by a brace consisting of a circular strip, one of whose edges is spun outwardly upon itself, substantially as and for the purpose described.

20. In a paper vessel having its walls made of ordinary sheet-paper and circular in horizontal cross-section, provided with a lid extending down into the top of the vessel, and



having its upper edge spun over to form a bead, said lid and the walls of the vessel provided with corresponding crimps to fit within one another, substantially as and for the purpose described.

5 21. A paper vessel having its walls made of ordinary sheet-paper and provided with a saucer-shaped lid, provided with a head made by spinning the upper edge upon itself, the

edges of the lid where contiguous with the walls, provided with a horizontal crimp to fit within a corresponding crimp in the walls of the vessel, substantially as and for the purpose described.

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Witnesses:

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