

W. L. WRIGHT,
PAPER CAN AND OTHER CONTAINER,
APPLICATION FILED JAN. 22, 1917.

1,308,317.

Patented July 1, 1919.
2 SHEETS—SHEET 1.

Fig. 1.

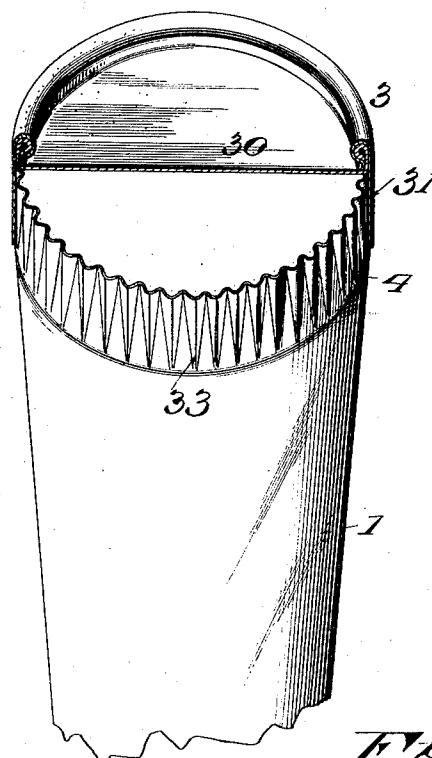


Fig. 2.

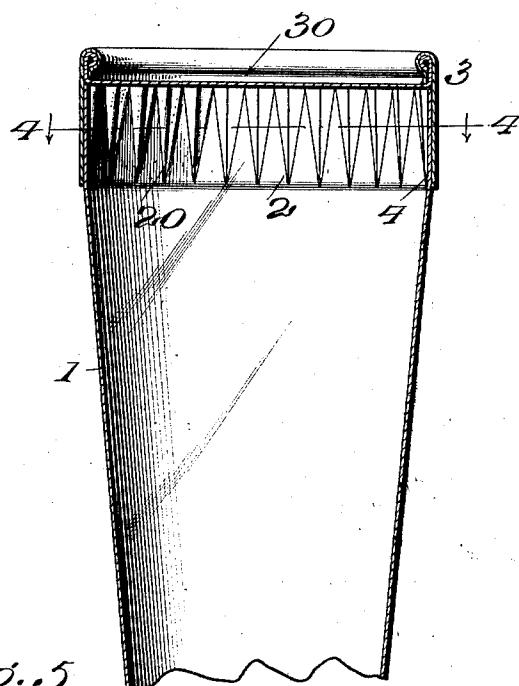


Fig. 5.

Fig. 3.

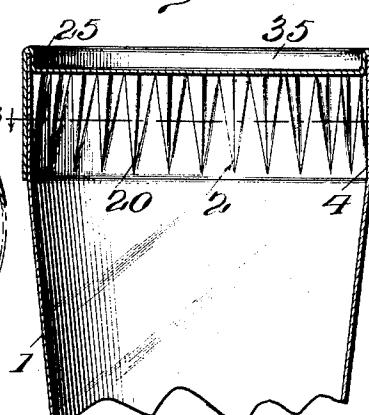
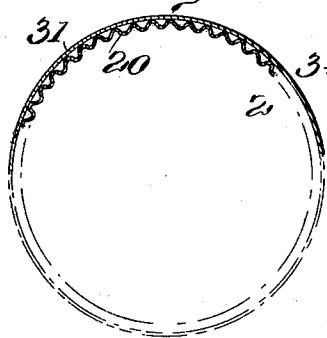


Fig. 4.

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2 SHEETS—SHEET 2.

Fig. 6.

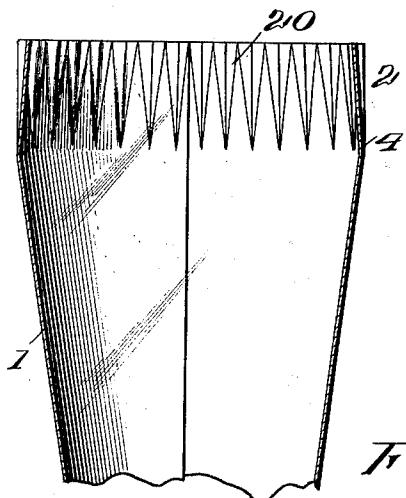


Fig. 7.

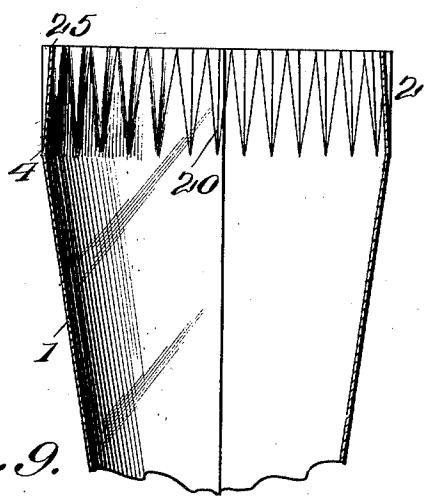
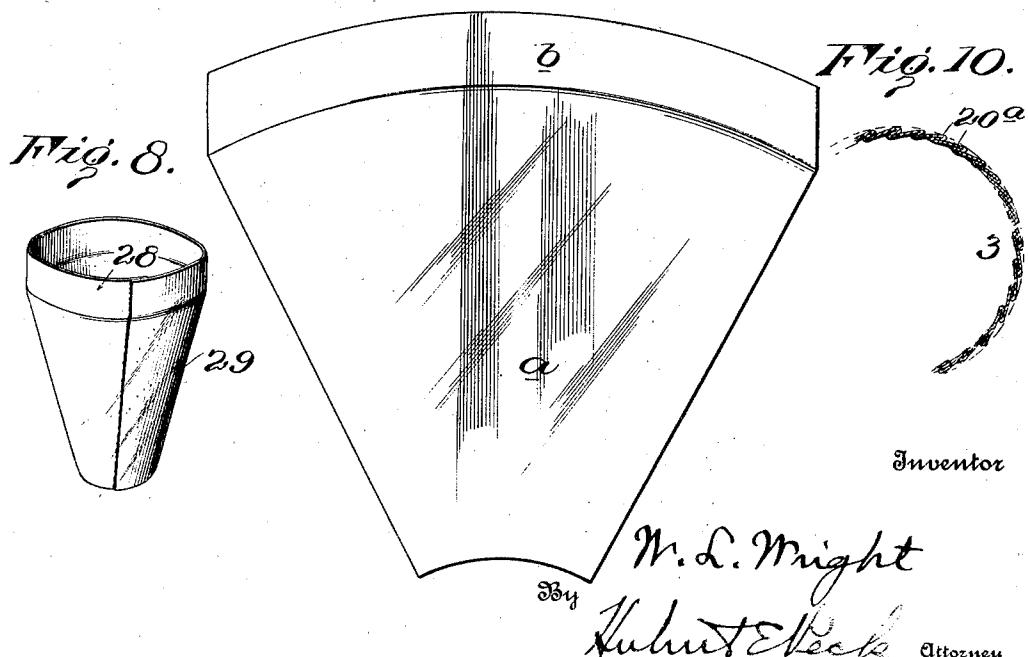


Fig. 9.



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UNITED STATES PATENT OFFICE.

WILBUR L. WRIGHT, OF BALTIMORE, MARYLAND, ASSIGNOR TO SEALRIGHT CO., INC., OF FULTON, NEW YORK, A CORPORATION OF NEW YORK.

PAPER CAN AND OTHER CONTAINER.

1,308,317.

Specification of Letters Patent.

Patented July 1, 1919.

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To all whom it may concern:

Be it known that I, WILBUR L. WRIGHT, a citizen of the United States, and resident of Baltimore, State of Maryland, have invented certain new and useful Improvements in and Relating to Paper Cans and other Containers, of which the following is a specification.

This invention relates to certain improvements in paper cans and other containers; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings illustrating what I now believe to be the preferred mechanical expression or embodiment from among other forms, constructions and arrangements within the spirit and scope of my invention.

20 The paper can of my invention is characterized by a body longitudinally tapered at least to the extent necessary to permit nesting of can bodies for packing and shipment, and having a cylindrical or approximately cylindrical upper end combined with an exterior slip cover of such relative formation with respect to the cylindrical end of the can body as to be capable of forming an approximately tight closure therefor.

30 An object of the invention is to provide paper cans or containers that can be conveniently nested for packing and shipment, that can be economically manufactured, that are provided with and are capable of being tightly sealed by slip covers, and that will be durable in use for the purposes intended.

With these and other ends in view the invention consists in certain novel features in construction and in formations, arrangements and combinations as more fully and particularly set forth and specified hereinafter.

Referring to the accompanying drawings: Figure 1, is a perspective of a paper can constructed in accordance with my invention, the can being closed by its slip cover shown in section, the closed lower end of the can being broken away.

Fig. 2, is a vertical section.

50 Fig. 3, is a cross section on the line 3—3, Fig. 5.

Fig. 4, is a cross section on the line 4—4, Fig. 2.

55 Fig. 5, is a vertical section of a modified construction.

Fig. 6, is a vertical section of the can body of Fig. 1.

Fig. 7, is a vertical section of the can body of Fig. 5.

Fig. 8, is a perspective view of a modified 60 construction.

Fig. 9, shows a blank for forming the can of Fig. 8.

Fig. 10, is a cross section through the approximately cylindrical mouth portion of a 65 paper can tapered for nesting, showing the surplus material formed into approximately overlapping folds or tucks in reducing the large tapered end of the body to approximately cylindrical form.

The particular object is to produce paper cans capable of being nested for shipment and also capable of being tightly closed and braced and stiffened by exterior cylindrical 70 slip covers.

To attain this object, I can form a tapered or truncated-cone body by folding a flat paper blank having converging longitudinal edges, around a tapered mandrel, and tightly cementing together the overlapping longitudinal edges of the blank to form the tapered body with a permanent longitudinal seam. I can then, by suitable means, contract the upper (the large) end of this tapered paper body, into permanent approximately cylindrical form of the necessary length to exteriorly and longitudinally receive a cylindrical slip cover, by compressing, drawing, or gathering the surplus paper of said end of the body into a multiplicity 85 of longitudinal folds, tucks, flutes or corrugations, which will stiffen the upper end of the can body as well as maintain the same contracted into approximately cylindrical form.

In contracting the large flared 95 end of the body to approximately cylindrical form, the resulting surplus material can be compressed or displaced radially into longitudinal depressions and elevations of such size and form as to be clearly visible and 100 imparting a corrugated or fluted appearance to the mouth portion of the paper body particularly in end elevation. On the other hand, the mouth portion of the paper body can be subjected to such pressure and action 105 during the contracting process, that flutes or corrugations will not be visible to the casual observer, that the surplus material will be approximately mashed or compressed into the contracted mouth portion so that 110

said portion will have an approximately plane or smooth surface. The form and appearance of the contracted mouth portion depends on the formation of the surfaces of 5 the means employed to contract the large ends of the paper bodies and whether or not said surfaces are designed and operated to have an ironing or smoothing action on the paper. The surplus material can be formed 10 into approximately overlapping tucks or folds or into a great multiplicity of very narrow hardly visible flutes or corrugations or into comparatively large in and out radial bulges.

15 In the drawings, I show paper can bodies 1, tapered or of conical formation to the extent necessary to permit nesting of the bodies for packing and shipment. These bodies are formed with any suitable or usual bottom 20 closures, which I do not illustrate in the drawings as my invention does not involve the bottom formation of the can.

The upper end *i. e.* the large end 2, of the can body is of approximately cylindrical 25 formation and this longitudinal or vertical cylindrical end 2 is of a length approximately equal to the length of the cylindrical exterior slip cover 3, and in effect forms the mouth portion of the can.

30 The can bodies of Figs. 1 to 7, each has its cylindrical upper end formed with a multiplicity of closely arranged longitudinal in and out folds, flutes, tucks or bulges 20, whereby said end is gathered or corrugated 35 to cylindrical form and thereby stiffened and strengthened. Each longitudinal fold, tuck or corrugation 20 usually longitudinally tapers or reduces in depth or width toward its lower end and there gradually merges or 40 disappears into the paper wall of the can about at the shoulder or annular line 4 where the cylindrical portion merges into the tapered portion of the body. The surplus material can be taken care of by longitudinal 45 depressions and elevations, such as 20 or by approximately overlapping folds or tucks 20^a Fig. 10, or in any other suitable manner, and in the claims I employ the term "corrugated" as descriptive of such depressions, 50 elevations, tucks and folds, in a broad sense.

In the construction of Figs. 1 and 2 the slip cover is composed of a flanged paper disk 30 and a cylindrical paper band 31 at its upper end turned in and down over the 55 flange of the disk to form a locking crimp pressed to the top of the disk. The band 31 forms the cylindrical depending portion of the slip cover. This flange or cylindrical portion 31 of the slip cover is of a length to 60 surround the vertical cylindrical end of the can body with its lower edge slipping into more or less tight sealing engagement with the annular plane portion 4 of the body where the vertical and tapered portions of 65 the body join.

If so desired, the slip cap 35 can be pressed up from a single piece of paper, as shown in Fig. 5, and the depending cylindrical portion of this cap can be either plane or corrugated. The cap 35 is shown with its top depressed to form the cap with an annular groove or socket 36 to snugly receive the top edge 25 of the body and aid in forming a tight seal between the cap and body. 70

The exterior slip covers snugly fit and surround the upper ends of the paper cans and materially stiffen and brace the cans and maintain the upper ends thereof in their desired contracted approximately cylindrical form. These exterior slip covers are particularly effective in tightly sealing and strengthening the mouth portions of the bodies when the containers are approximately filled with liquid, for any tendency of the contracted mouth portions to expand 80 or assume their original flared form, when moistened, is resisted by the exterior slip covers, and expansion of said mouth portions within the covers but tends to tighten 85 the seal between the bodies and covers. 90

In the drawings for purposes of illustration, the flutes or depressions and elevations forming the corrugations and the taper of the bodies are shown somewhat exaggerated. The paper can body tapered for nesting and 95 having the cylindrical large upper end to receive the cylindrical exterior slip cover, can be produced without the longitudinal corrugations, by folding the same from a flat blank *a* having longitudinal edges that are 100 parallel at the large end *b* of the blank and that converge therefrom toward the small end of the blank (see Fig. 9). The parallel portions *b* of the blank edges are of a length to produce the large cylindrical end of the 105 can body of the required length to snugly receive the standard cylindrical slip caps. This blank can be folded and pressed to the desired form on a mandrel and its overlapping edges secured together to form a longitudinal permanent joint or seam throughout the length of the tapered and cylindrical portions of the completed body. 110

In Fig. 8, I show a paper can body (on a reduced scale) formed from a blank approximately of the shape shown by Fig. 9. This can of Fig. 8 has its body portion 29 tapered for nesting purposes while its upper end portion 28 is approximately cylindrical to snugly receive an exterior slip cap, such as 115 hereinbefore described preferably formed with a smooth-surface cylindrical flange as the cylindrical portion 28 of the body is in this instance plane or non-corrugated. 120

The depending flanges or cylindrical portions of the slip covers can be either plane or corrugated, see for instance Figs. 3 and 4. If so desired, the cylindrical portions 31 can be formed with corrugations corresponding 125 to the corrugations of the mouth portions of 130

the body to intermesh therewith, and thereby coöperate therewith in tightly sealing the paper can.

It is evident that changes and variations 5 might be resorted to without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact disclosures hereof but consider myself entitled to all such departures as fall 10 within the spirit and scope of the invention.

What I claim is:—

1. A paper can having its body tapered for nesting and formed with a longitudinal approximately cylindrical upper end, said 15 body formed by a stiff paper blank having its longitudinal edges overlapping and permanently secured together and forming a seam throughout the length of the body, and an exterior slip cover formed to snugly fit 20 on and surround said cylindrical end and stiffen the same.

2. A paper can having its body approximately cylindrical at its mouth portion to receive an exterior slip cover and to be sealed 25 thereby, said body tapering directly from and merging into said cylindrical end toward its opposite end for nesting, said body composed of a sheet having its longitudinal edges secured together to form a permanent 30 lap joint throughout the length of the body, in combination with an exterior slip cover fitting and stiffening said cylindrical mouth portion, substantially as described.

3. A paper can having its body tapered 35 for nesting, the large end portion of said body being contracted to permanent longitudinal cylindrical form with the surplus material forming corrugations, said cylindrical end portion being formed to snugly 40 and longitudinally receive an exterior slip cover for sealing the body, said body composed of a paper sheet having its ends secured to form a lap joint extending throughout the length of the body, the tapered portion 45 of the body formed by a non-contracted portion of the sheet.

4. A paper can having its body composed of a blank having its longitudinal edges overlapping and secured together to form 50 the body with a permanent liquid tight longitudinal seam, said body being longitudinally tapered for nesting, the large longitudinal end portion of said body being approximately cylindrical, and an exterior slip 55 cover for closing said large end of the body.

5. A paper can having its body tapered for nesting and having its longitudinal mouth portion only contracted to cylindrical form in direct continuation of the large end 60 of the tapered portion and longitudinally corrugated, substantially as described.

6. A paper can having its body tapered for nesting, the mouth portion of the body being approximately cylindrical and corrugated, and an exterior slip cover for said 65 mouth portion, said cover having its cylindrical portion corrugated to mesh with the corrugations of said mouth portion.

7. In a paper can, in combination, a paper body tapered for nesting and having its 70 mouth portion of approximately cylindrical longitudinal formation, in direct upward continuation of the large end of the tapered portion, and a slip cover fitting longitudinally and exteriorly on said cylindrical portion 75 and having an annular top groove receiving the top edge of said portion.

8. In a paper can, a slip cover having a depending cylindrical flange, in combination with a tapered can body having a stiff longitudinal paper wall of cylindrical formation around the open top end of the body exteriorly formed to longitudinally and snugly receive the flange of said cover, said body directly tapering without contraction 80 of the paper wall from said cylindrical end toward the opposite end for nesting, the taper of the body extending to and gradually merging into said cylindrical end, said cylindrical end being entirely inclosed and 85 stiffened by said cover, substantially as described.

9. A stiff paper wall can body contracted at its upper portion only to permanent cylindrical formation around its open upper 95 end to form a slip-cover seat, the remaining length of the body continuing downwardly directly from said cylindrical cover with a taper for nesting, in combination with a removable exterior slip cover having its 100 depending cylindrical flange conforming to the surface of and snugly fitting said cylindrical end throughout the length thereof and onto the junction between the tapered and cylindrical portions of the body to form an 105 approximately tight seal.

10. A stiff paper wall can body having a short cylindrical exterior slip-cover-seat forming mouth portion, said body being longitudinally tapered downwardly throughout its length, for nesting, except for the cylindrical upper end, the said short upper end of said wall being radially contracted to permanent cylindrical formation with the surplus paper material forming longitudinal tucks, creases or corrugations gradually merging at their lower ends into the wall at the juncture between the tapered and cylindrical portions of the wall, substantially as described.

Signed

WILBUR L. WRIGHT.