

C. F. JENKINS.
PAPER PACKAGE.
APPLICATION FILED DEC. 9, 1908.

925,913.

Patented June 22, 1909.

Fig. 1.

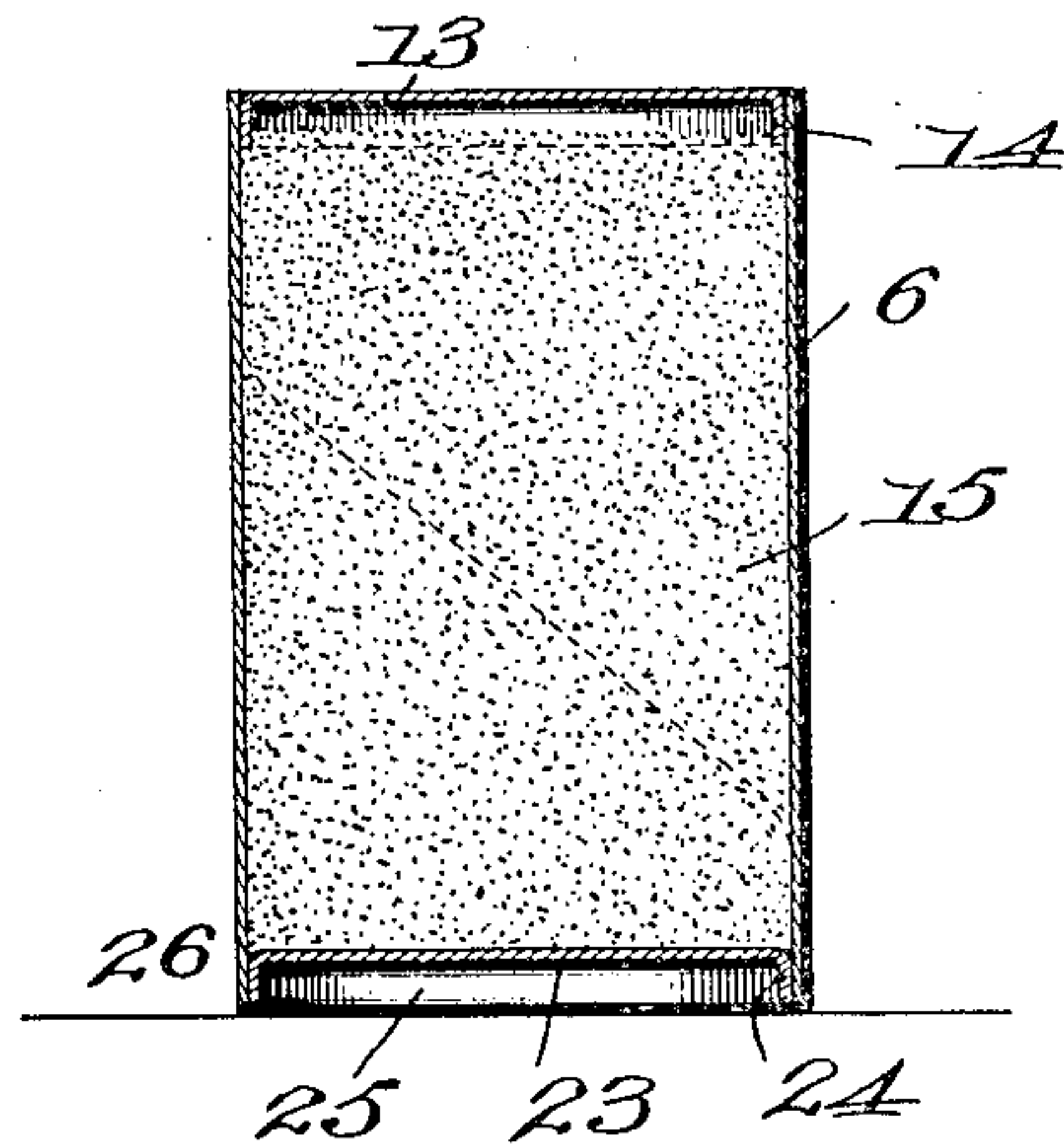


Fig. 2.

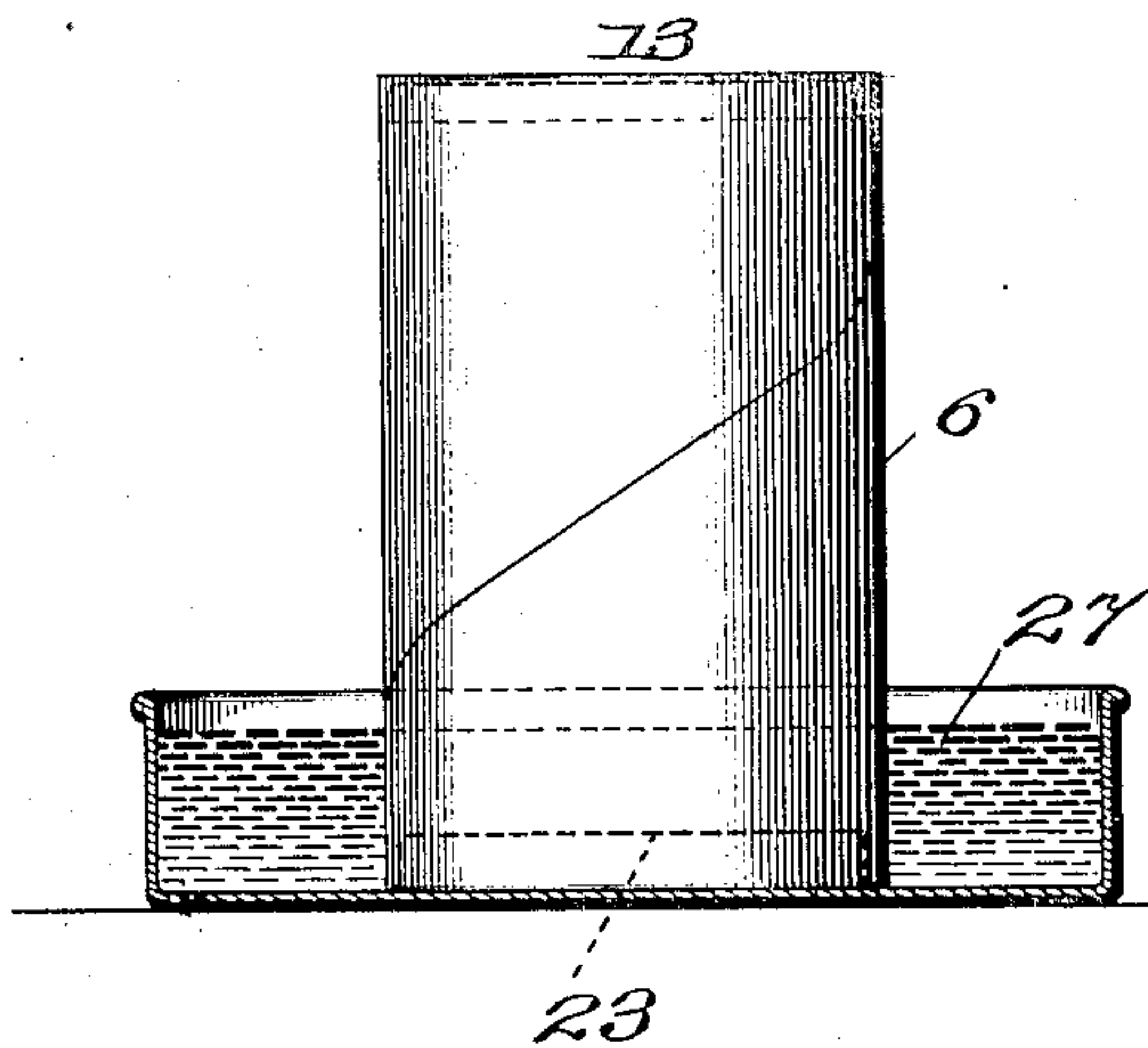
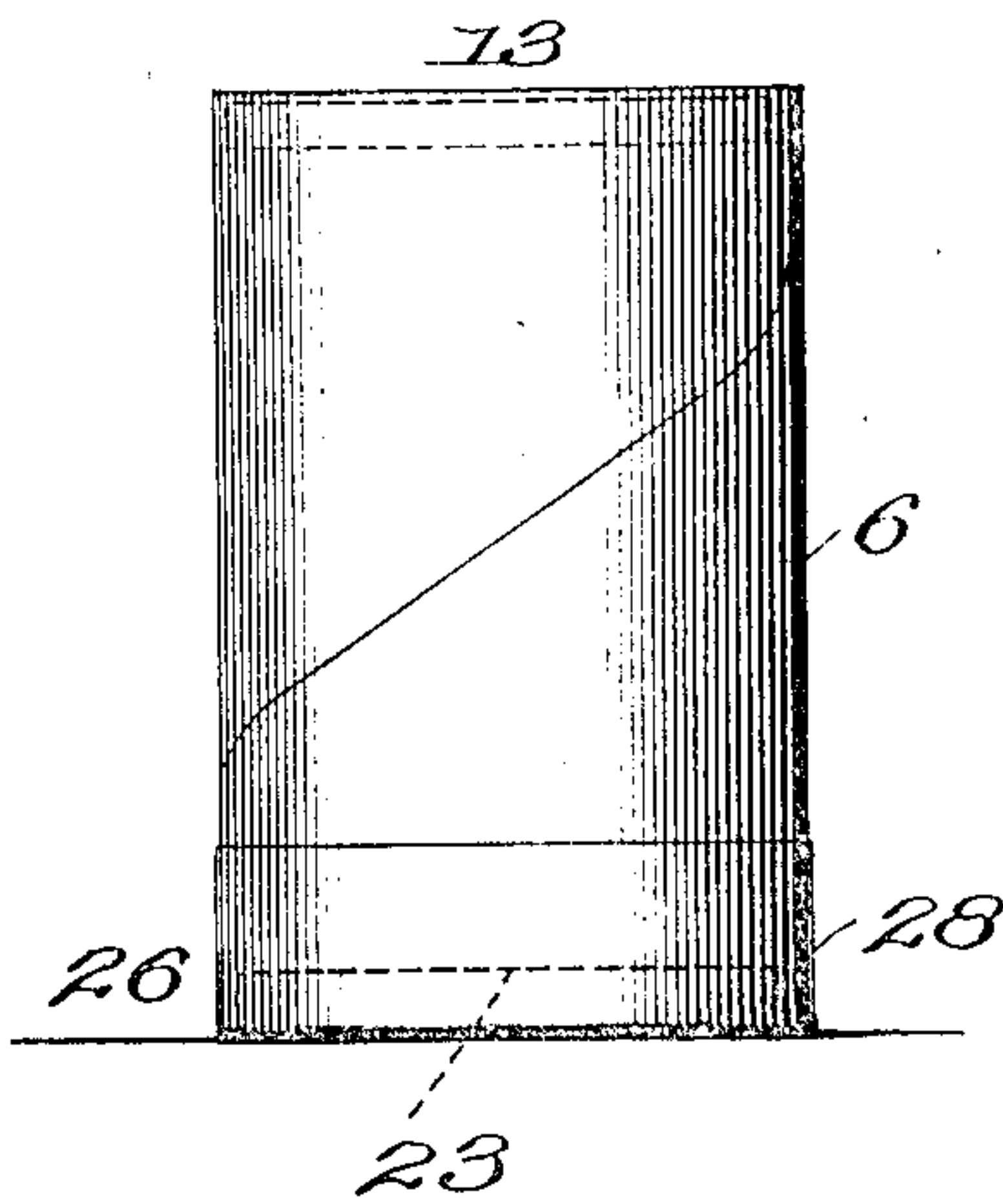


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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PAPER PACKAGE.

No. 925,913.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed December 9, 1908. Serial No. 466,671.

To all whom it may concern:

Be it known that I, CHARLES FRANCIS JENKINS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Paper Packages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to sealed paper packages and has for its object the production of packages cheaply and expeditiously that will be especially adapted to holding washing and other powders.

To these ends the invention consists in the details of construction, and in the novel combination of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification, in which like numerals refer to like parts in all the views:—Figure 1 is a sectional view of a sealed package after it leaves the machine on which it is made. Fig 2, a view illustrating the step of dipping a portion only of the sealed package in a liquid proofing material, and Fig 3, an elevational view of the completed package.

In putting up washing and other powders in paper packages, it is very desirable to provide a flush top for the same, in order that they may pack easily, and also in order that they may not collect dirt and dust to the degree that they do when sunken tops are provided. Since these tops should be in the form of inverted flanged cups 13, Fig. 1, with their flanges 14 inserted into the tube, in order to brace the same, it becomes a problem to get said flanges 14 inside the tubes 6 quickly and cheaply. It is evident that it could be done by hand, but it would be costly. It is, also, evident that it would require a most complicated and expensive mechanism to insert such flanges in said tubes above the powder 15 therein, as shown in Fig. 1, even if it could be so done at all. These difficulties, however, are completely overcome by my method as follows:—The flanged cup 13 is formed from a suitable die as in my application No. 461,964, filed November 10, 1908, machine for making paper

bottles, and with the flange 14 uppermost; the said cup is then forced by a plunger down through said tube all the way to its bottom, when it is stopped by a suitable support, and occupies a position seen in Fig. 1 which is flush with the then outer bottom edge. Later when the tube is turned upside down, this bottom edge becomes the top edge, as shown in said figure, and the said flanged cup 13 constitutes the flush top closure shown, all as will appear below. The body 6 with the cup 13 in place is next carried under suitable filling devices provided with suitable measuring cut offs, and by any well known manipulation of these cut-offs the tube is filled with a definite quantity of washing or other powder. Or, of course, the material may, if desired, be filled into the tubes by hand. Many of these washing powders are highly hygroscopic, containing as they do sodium hydrate, NaOH, or other strong alkali; and a great objection to the present containers is the fact that their bottom closures are flush with their bottom ends, so that when the package is placed upon a freshly washed shelf in the kitchen, or upon any other damp place, moisture readily permeates the paper walls, and renders the contents more or less liquid. This liquid in turn is soaked up by the paper of the walls, and soon causes the same to collapse; although such paper would be abundantly able to stand up against a similar wet surface, if the contents were not hygroscopic or consisted merely of such substances as tea or coffee. My invention overcomes this difficulty in the following manner:—After receiving the powder, the tubes may be either closed by hand, by another machine, or they may be simply passed on with the carrier under a suitable die, plunger and centering piece, all as illustrated in my application above, whereupon the filled tube is again rendered truly cylindrical and accurately centered; and whereupon another flanged cup 23, Fig. 1, is forced into the tube over the contents 15, with the flange 24 of the cup again pointing upwardly out of the tube, as was the case in the operation of inserting the first cup 13. Both cups are permanently sealed in place by any suitable material. I have found when the paper is well paraffined that the cups are necessarily put in under such pressure in the machines employed that they cannot be withdrawn with-

out destroying the package, and I prefer to secure them in this manner; but it is evident that sealing material may be applied by hand. But, since the first cup was forced all the way to the bottom of the tube; it leaves no sunken space between the rim of said tube and the plane of the disk of the cup. In the case of the cup 23, however, it is only forced down until the edge of its flange 24 comes even with the edge of the tube, and a sunken space 25 is provided, as shown. If now the package is turned upside down, so that the cup 13 becomes the top and the cup 23 the bottom, as illustrated in Fig. 1, the sunken space 25 will be well above any damp or other support 26 on which it may rest, so that there will be no tendency of water to soak through the relatively thin disk to the powder within, although water could and would soak through the flange 24 and the lower edge of the tube walls, unless precautions are further taken to prevent this.

In cases where the powder 15 is exceedingly hygroscopic, I preferably form the spirally wound tubes 6 wholly or partially of suitable liquid proof material, preferably paraffined paper, and in the manner now well known. And in addition to this, I may by hand, or otherwise, dip the cup 23 and the whole lower end of the tube into a suitable liquid proofing material 27, such as hot paraffin, and give to the bottom of the package a zone or coating 28 of moisture repellent material, as shown in Fig. 4. This last operation effectually prevents the contents of the package from liquefying, owing to the entrance of moisture therein, and therefore effectually prevents the collapsing of the walls of the package from the causes above outlined; while at the same time it saves very greatly over the cost of paraffining or liquid proofing the whole package. In other words, these packages are made and sold in enormous quantities; the margin of profit is necessarily small; and it is exceedingly desirable to get an efficient package at a very slight cost above the value of the contents. This problem is completely solved by my invention, for that even when the original tubes are partially made from liquid proof material, they can be made on my machines for a small fraction of a cent each, and by filling and closing these tubes in the manner above disclosed, it is evident that the cost is scarcely raised to any extent. The cost of dipping the whole package in a paraffin bath, however, is not only expensive in that the paraffin solidifies all over the same, and is therefore costly when a million packages are considered, but it entails other objections in practically handling the same that very materially raise the limits of cost, and should be avoided at all hazards. These latter ob-

jections are completely overcome, and a very material saving is effected, by the double feature of providing the inverted cup 23 at the bottom end, and the paraffin or other belt 28 surrounding the same.

It is evident that my invention produces a product which is permanently sealed, and can only be opened by destroying the closures, thus insuring the genuineness of the package.

What I claim is:—

1. A permanently sealed paper package comprising a container; closures for each end of the same composed of flanged disks with their flanges pointing in the same direction, one surface of each disk constituting an outer surface of the vessel and the outer surfaces of the flange of each of said disks engaging the inner surface of the container, the disk of the bottom cup lying in a plane above the bottom edge of said container; and a zone of liquid proof material extending from the bottom edge of said container and terminating a short distance above the plane of the bottom disk, substantially as described.

2. A permanently sealed paper package comprising a spirally wound container; flanged cups with their flanges pointing in the same direction, each contacting with the inner surface of the container and closing and bracing the walls of said container, the disk of the top cup being continuous and flush with the top edge of the container; the disk of the bottom cup being also continuous and lying in a plane above the bottom edge of said container, said cups being permanently sealed in their places and one surface of each cup constituting an outer surface of the package; and a zone of paraffin extending from the bottom edge of said container and terminating a short distance above the plane of the bottom disk, substantially as described.

3. A paper container provided with inverted flanged cup shaped closures each having their flanges pointing in the same direction and contacting with the inner surface of the container while the disk of each of said closures constitutes an outside surface of the completed vessel, substantially as described.

4. A paper container provided with a flanged cup shaped closure, the disk of which constitutes an outside surface of the completed vessel and is flush with the end of, and the flange of which contacts with the inside surface of, said container, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

CHARLES FRANCIS JENKINS.

Witnesses:

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FRANK M. WRIGHT.