

E. Z. TAYLOR.  
METHOD OF CUTTING BLANKS.  
APPLICATION FILED DEC. 23, 1907.

935,826.

Patented Oct. 5, 1909.

Fig. 1.

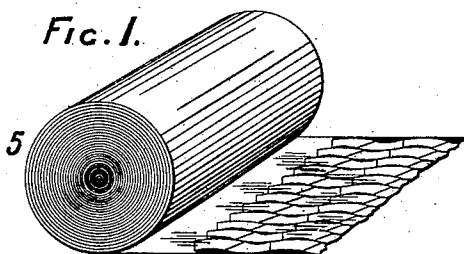


Fig. 2.

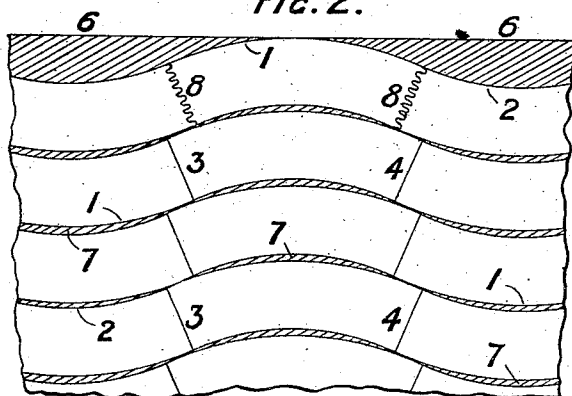
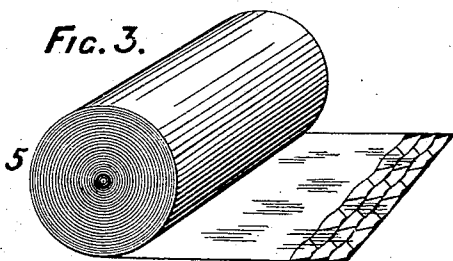


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## METHOD OF CUTTING BLANKS.

935,826.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed December 23, 1907. Serial No. 407,809.

*To all whom it may concern:*

Be it known that I, ELMER ZEBLEY TAYLOR, a citizen of the United States, residing at 40, 41, and 42 Percival street, Goswell road, London, England, have invented an Improvement Connected with the Methods of Cutting Blanks, of which the following is a specification.

This invention relates to an improvement connected with the manufacture of paper vessels applicable for use in the delivery of milk or cream to customers, and its object is to effect an economy in such manufacture by reducing the amount of waste material produced in cutting the blanks to form the sides of the vessels. Heretofore vessels of this character have been produced by first cutting a web of paper into sheets; the said sheets are then piled one upon another to any suitable height and a steel cutting die of the desired form is then forced through the entire pile at a single pressure or blow. To accomplish this in the usual and well known way the sheets are necessarily of a limited size, and further the cutting is inaccurate because of the natural springing of the cutting die consequent upon being forced through a pile of paper.

My invention seeks to give an accurate and definite size to each body cut and avoids the waste necessarily produced when cutting from a sheet of limited size.

In my invention I propose to employ the method of cutting such blanks illustrated in the accompanying drawings, in which:—

Figure 1 is a diagrammatic view showing the application of the method when the blanks are cut longitudinally of the web of paper, Fig. 2 an enlarged view of a portion thereof, and Fig. 3 a diagrammatic view illustrating the method applied to transverse instead of longitudinal cutting of the blanks.

Paper vessels of the class to which my invention relates are of conical form, tapering inwardly from the top downward, and are usually made with sides of double the thickness of the paper employed. It is therefore necessary that the blanks for such sides should be of a length sufficient to form a vessel of the desired size when wrapped twice or more around the mandrel or former employed, and of a shape such as shown in Fig. 2, the top 1 and bottom 2 being re-

spectively formed with convex and concave curves, and the ends 3 and 4 with edges preferably converging toward the center of the radii employed. Such end edges are usually straight, but if desired may be formed with notches or serrations as shown at 8 in Fig. 2, in which case the notches or serrations at the opposite ends of the blank will preferably be so disposed that when the latter is rolled up into shape the recesses at one end will coincide with the projections at the other, thus reducing the thickness of the sides of the vessel at the joint.

In carrying out my present invention I cut the blanks from a roll of paper, and with the object above set forth make the necessary cuts in such a manner that the convex part 1 of one blank approximately fits into the concave part 2 of the one above or below, while the inclined edges 3 and 4 of one blank abut directly against the oppositely inclined edges of the blanks on each side thereof. It will thus be seen that to obtain the curved edges of the blanks a series of wave-like cuts are made in the web proceeding from roll 5, such cuts being made longitudinally of the web as shown in Fig. 1 or transversely thereof as shown in Fig. 3. These wave-like cuts may be first produced by any suitable apparatus, and the cross cuts to divide the strips thus formed into completed blanks subsequently made, also by any preferred mechanism. The result of this arrangement is that the blanks will be cut in rows or series, those in one row having their top edges on the opposite sides to those in the adjoining row, as clearly shown in Fig. 2. By these means I am able not only to improve the quality of the cutting but also to greatly reduce the amount of waste material produced, as practically the whole width of the web of paper is utilized and the only waste portions are those marked 6 (at the edge of the web) and 7 (caused by the slightly different curvatures of the top edge 1 of one blank and the lower edge 2 of the one above), as shown by the section lines in Fig. 2.

What I claim as my invention, and desire to secure by Letters Patent, is:—

A method of cutting paper blanks to form conical bodies which consists, in subdividing a web or piece of paper into a series of parallel rows of strips of uniform width on

continuously and reversely curved lines and  
in a manner to cause said strip to abut at  
laterally opposite points, and in transversely  
subdividing said strip into uniform length  
5 on radial lines disposed at the intersection of  
the reverse portion of the longitudinal  
curved line, said radial lines all converging  
to alined radii and the ends of said blanks

lying in abutting relation, substantially as  
described.

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

ELMER ZEBLEY TAYLOR.

Witnesses:

H. D. JAMESON,

F. L. RAND.