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PAPER TAPE PRODUCT AND METHOD OF MAKING THE SAME

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Fig. 1.

Fig. 2.

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To all whom it may concern:

Be it known that I, Howard A. Twiss, a citizen of the United States, and resident of Nashua, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Paper Tape Products and Methods of Making the Same, of which the following is a specification.

This invention relates to the production of hollow articles such as bowls, jardinières, flower pots, waste paper receptacles, head coverings, and in fact almost anything which is of suitable form for such purposes and is not to be subjected to any high degree of heat.

The object of the invention is to provide such articles which, although made of paper and therefore of low cost, are strong and practically incapable of fracture.

This object is conveniently obtained by employing a strip of tape, such as a paper strip which is known as gummed tape and which is now largely produced in the form of flat coils for various uses. The central portion of such a flat coil is deflected out of the plane of the rim of the coil to an extent according to the depth desired for the final hollow article. Then the distorted coil is subjected to sufficient moisture, as by steaming, to soften the adhesive carried by the tape, and it is then dried so as to retain its more or less cone-shape. Afterward it can be water-proofed, painted, or otherwise ornamented.

It the article produced in the manner described is for a use which requires that there shall be no central bottom opening, a plug of wood, or paper, or other suitable material is fitted into the hole which originally existed at the center of the flat coil and which later exists at the bottom of the shaped article.

The invention consists in the article and the method of making it substantially as herein described and pointed out in the appended claims.

Of the accompanying drawings which serve to illustrate one of many different forms of articles capable of being made according to my invention:

Figure 1 represents a transverse section of a flat coil prior to any attempt to re-shape it, and

Figure 2 represents a transverse section of a bowl-shaped article made from such a coil as shown in Figure 1.

The material a, when of gummed tape, is first in the form of a flat coil. In Figure 1 one end of the strip is shown extended to indicate the gummed surface a'. While the coil is dry, so that the presence of the gum will not prevent the convolutions from slipping relatively to each other, the said convolutions are worked to the positions indicated in Figure 2, or to such other positions necessary to produce the shape which it is desired that the finished article shall have. By steaming or other suitable moistening treatment, the gum is somewhat softened, and by then drying the article the gum sets again and causes the convolutions to retain their re-arranged relative positions.

As it is practically impossible by any convenient method to produce the flat coils without a hole at the center, there will be a hole at the center of the complete re-shaped coil or bowl-shaped article. Such hole may be filled by a plug of suitable material such as wood, indicated at b in Figure 2.

After the re-shaping as described, the edges of the strip show both externally and internally in the form of fine ridges. For some articles it is desirable to leave such ridges in existence as a kind of ornamentation. If smoothness is desired, such ridges may be removed by sandpapering or otherwise after the article has dried.

The dried article may be coated internally or externally or both, with any desired waterproofing material, by dipping or otherwise. Or it may be painted or varnished, to give it a finished or artistic appearance. If it is to be a hat, it may have flowers painted thereon.

The article is not only of low cost, owing to the cheapness of paper, but it is practically unbreakable because of the close overlapping of the convolutions of the strip and the fact that said convolutions are secured together.

It do not limit myself to any specific shape for the articles; they may be deeper or shallower than illustrated by Figure 2, and the sides may converge on lines other than those of said figure. The width of the strip employed will vary according to what is best suited for the shape desired for the finished
article, and according to what width will provide the required thickness and consequent strength of the walls and bottom.

Nor do I limit myself to the employment of gummed paper tape; the tape may be gummed cloth for some purposes, or it may be ungummed paper. In the latter case, if the paper itself does not contain anything which will cause the convolutions to stick firmly together when dry, the shaped article may be coated with, or dipped in, any suitable material which will serve to retain the convolutions in the desired relative positions.

Having now described my invention, I claim:

1. The method of making a hollow article, consisting in exerting lateral pressure against a portion of one side of a flat coil of tape, while dry, to convert it to the form desired for such article, and then treating the re-shaped coil to ensure its permanence.

2. The method of making a hollow article, consisting in deflecting the central portion of a flat coil or gummed tape out of the plane of the rim of the coil, then subjecting the material to the action of moisture to soften the gum, and then drying the re-shaped article.

In testimony whereof I have affixed my signature.

HOWARD A. TWISS.

Witnesses:

W. L. CARTER,
L. R. HILL.