UNITED STATES PATENT OFFICE.

MARVIN C. STONE, OF WASHINGTON, DISTRICT OF COLUMBIA.

ARTIFICIAL STRAW.

SPECIFICATION forming part of Letters Patent No. 375,962, dated January 3, 1888.

Application filed May 11, 1887. Serial No. 237,864. (No model.) Patented in England July 8, 1887, No. 9,633.

To all whom it may concern:

Be it known that I, MARVIN C. STONE, of Washington, in the District of Columbia, have invented certain Improvements in Artificial Straws, (patented in England July 8, 1887, No. 9,633,) of which the following is a specification.

The aim of my invention is to provide a cheap, durable, and unobjectionable substitute for the natural straws commonly used for the administration of medicines, beverages, &c.; and to this end it consists, essentially, in a straw formed by winding a paper strip into tubular form and securing the final or outer edge by an adhesive material, the whole being coated with paraffine or other water-proof material, and, preferably, colored in imitation of the natural straw.

In the accompanying drawings, Figure 1 represents a perspective view of my new product in its preferred form. Fig. 2 is a face view of the blank from which it is produced. Fig. 3 is a spindle adapted for its formation. Fig. 4 is a view showing the manner of winding the blank upon the spindle.

The blank A is cut from Manila or other suitable paper, preferably fashioned in the form shown in Fig. 2, with parallel sides and beveled ends *a* and *b*. The two ends are beveled at different angles, as shown, in order that the tube may be produced with square ends; and in order to facilitate the application of the blank to the spindle it is recessed or indented in one edge, as shown at *c*. The blank may be rolled into form by hand or by mechanism of any appropriate character; but I prefer to employ a cylindrical or slightly-tapered spindle, B, connected with suitable mechanism for imparting a rapid rotation thereto, and provided at one end with slits or notches *d* to receive the end of the blank.

In operating the device I introduce the corner of the blank into one of the slits and impart to the spindle a rapid rotation, at the same time guiding the blank obliquely through the spindle, as represented in Fig. 4, whereby it is caused to wind spirally or helically thereon into the form of a cylindrical tube. One corner of the blank is provided with paste or other adhesive material, as shown at *e*, whereby this, the outer corner, is fastened securely in place and the unwinding of the tube prevented. After the formation of the tube I dip the same into a vat of molten paraffine or other equivalent material, and after shaking or otherwise draining the surplus permit it to dry and harden. The material thus applied serves not only to render the paper non-absorbent, but also to fill completely the joints between the coils and convolutions of the paper, sealing the tube hermetically from one end to the other, and at the same time giving thereto a superficial finish closely resembling that of the natural straw.

I propose to produce the blank from paper which has been suitably colored in imitation of the natural straw, or to color the tube after its formation and before the application of the water-proof material.

The product resulting from my operation is an imitation straw requiring close examination in order to distinguish it from the natural straw, having the advantages of greater strength and freedom from liability to crack or split.

The blank may be made in forms other than those herein shown, and rolled in any manner which will give it a tubular form. I recommend the peculiar formation herein shown for the reason of its simplicity, its great strength, and the fact that it requires the application of the adhesive material to but a small portion of the surface.

Having thus described my invention, what I claim is—

1. The artificial straw consisting of the narrow paper strip helically wound into a cylindrical tube secured at one end by adhesive material and treated with water-proof material, substantially as described.

2. As a new article of manufacture, a paper tube formed in imitation of a straw and treated with paraffine, whereby it is rendered water-proof and adapted for use in the human mouth without injury.

In testimony whereof I hereunto set my hand, this 7th day of May, 1887, in the presence of two attesting witnesses.

MARVIN C. STONE.

Witnesses:
W. R. KENNEDY,
S. P. HOLLINGSWORTH.