B. B. GOLDSMITH.

METHOD OF MAKING WOODEN TUBES.

APPLICATION FILED MAR. 27, 1915.

1,191,689. Patented July 18, 1916.

Fig. 1.

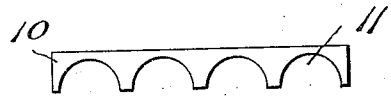



Fig. 2.

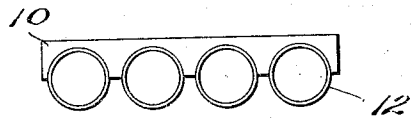



Fig. 3.

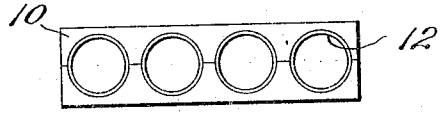



Fig. 4.

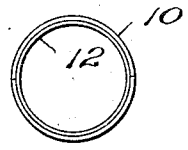
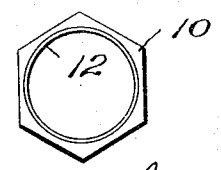



Fig. 5.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

BYRON B. GOLDSMITH, OF NEW YORK, N. Y.

## METHOD OF MAKING WOODEN TUBES.

1,191,689. Specification of Letters Patent. Patented July 18, 1916.

Application filed March 27, 1915. Serial No. 17,553.

*To all whom it may concern:*

Be it known that I, BYRON B. GOLDSMITH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Methods of Making Wooden Tubes; 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.

Pencils and pens have been commonly made with bodies of metal tubing, this material offering ample strength for the purpose. It has been proposed to make these tubes of wood, so as to make available the attractive finish of polished wood, but the walls of such tubes must necessarily be made so thin that this material will not bear the treatment to which these pencils are subjected.

My present invention relates to an improvement in the process of manufacture of thin wood-finished tubes adapted to the purpose above named, among others.

The tube is composed of two semi-cylindrical outer wooden shells cemented or glued together at their meeting edges and forming a cylinder closely surrounding an interior paper tube cemented or glued to said shells. The preferred process of manufacture is described hereinafter. This preferred process is illustrated in the accompanying drawings, wherein—

Figure 1 is an end view of one of the blocks or blanks of wood from which the outer tubes are formed, Figs. 2 and 3 show the same after successive steps in the process, Fig. 4 is an end view of a finished round tube, and Fig. 5 is a similar view of a finished hexagonal tube.

In carrying out my preferred process, I take a block of wood 10 of suitable size, the cross section of which is exemplified in Fig. 1, and form therein a series of semi-cylindrical parallel channels 11, having the diameter intended for the interior of the completed wooden covering or finishing tube, and separated from each other by a little more than twice the thickness of said covering tube. A layer of glue is applied to the concave surfaces of these channels 11 and the spaces between them, and thin strong paper or fiber tubes 12 are laid in said channels, as shown in Fig. 2. Another channeled block covered with a layer of glue is then applied over said tubes as shown in Fig. 3, and the whole is dried under pressure. When the glue or other cement is dry, the blank thus formed is run through a suitable cutting machine so as to divide it into individual tubes of suitable shape. Where the process is applied to formation of single tubes it will, of course, be understood that the imparting of the final shape to the exterior of the united blanks may be carried out in any desired manner. Fig. 4 shows the circular tube resulting from this process and Fig. 5 shows the hexagonal tube so made. The office of the interior paper tube 14 is to supply such a reinforcement as will support the extremely thin outer wooden wall, and prevent their yielding during use.

What I claim is—

1. The process of making tubing which consists in channeling wooden blanks, cementing two of such blanks together on opposite sides of a suitable resisting tube fitting said channels, and imparting the desired final shape to the exterior of said united blanks.

2. The process of making tubing which consists in channeling wooden blanks of suitable size and shape, cementing two of such blanks to opposite sides of suitable resisting tubes fitting said channels and dividing said blank between said holes.

3. The process of making tubing which consists in channel blanks of suitable size and shape, applying two of such blanks to opposite sides of thin paper resisting tubes with cement between meeting surfaces whereby to unite the whole, and dividing said blank between said tubes.

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

BYRON B. GOLDSMITH.

Witnesses:

FRANK DREWS,

FRANK J. MRAZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."