

(No Model.)

T. M. PIERCE.
CARTRIDGE IMPLEMENT.

No. 504,789.

Patented Sept. 12, 1893.

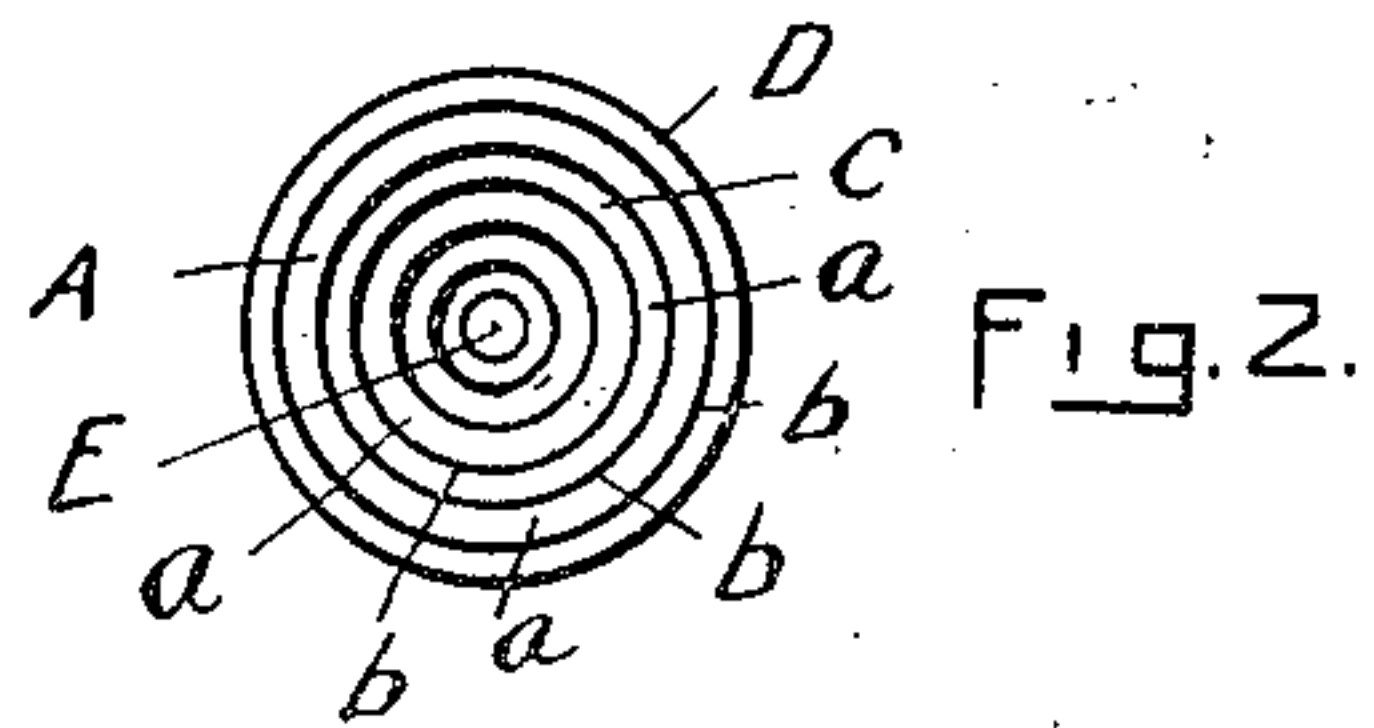
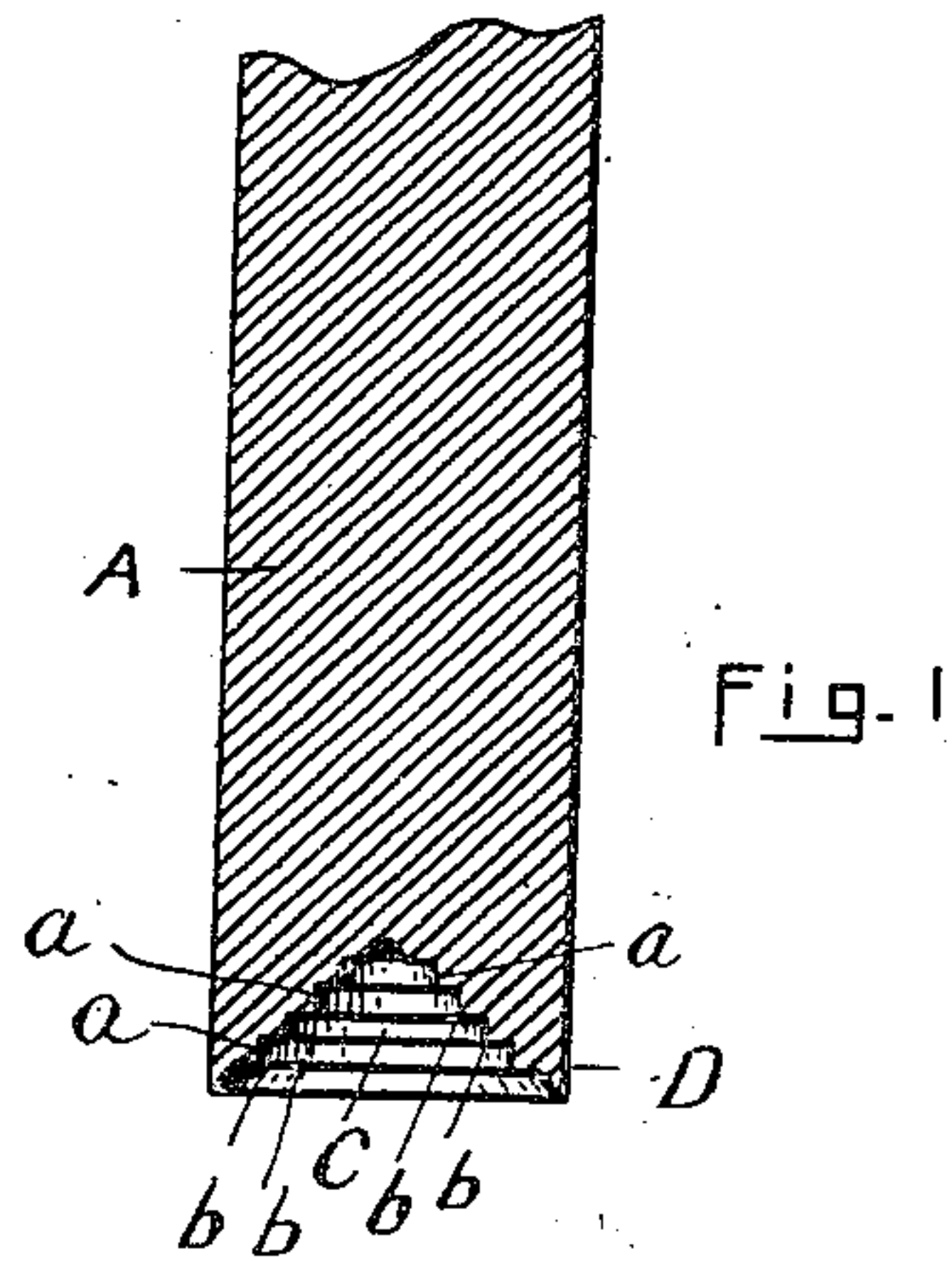


Fig. 3.

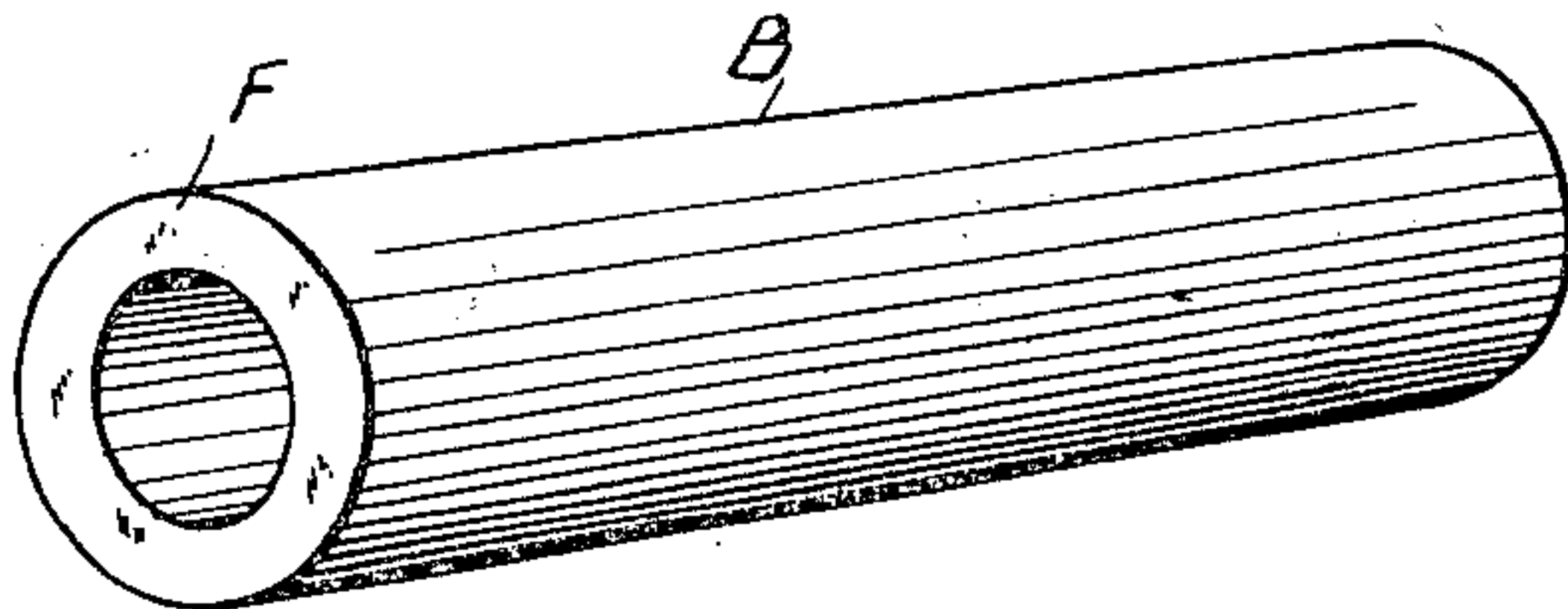
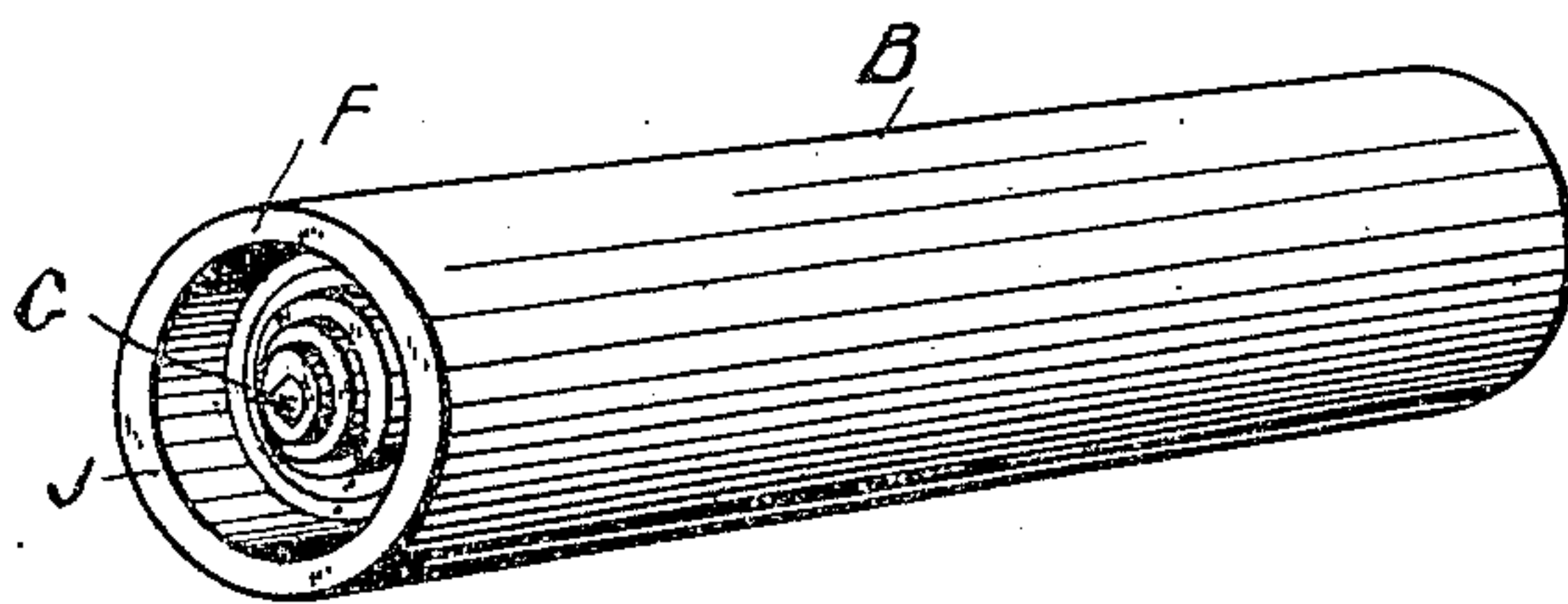


Fig. 4.



WITNESSES
Leona C. Smith
Robert M. Smith

INVENTOR
Thomas M. Pierce
Per *Edwin H. Brown*
ATTY.

UNITED STATES PATENT OFFICE

THOMAS M. PIERCE, OF CONCORD, MASSACHUSETTS.

CARTRIDGE IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 504,789, dated September 12, 1893.

Application filed December 17, 1892. Serial No. 455,444. (No model.)

To all whom it may concern:

Be it known that I, THOMAS M. PIERCE, of Concord, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Tools for Crimping and Closing the Ends of Paper Tubes, of which the following is a full, clear, and exact description.

This invention consists of a tool for crimping or closing the ends of paper tubes more especially intended for use for fireworks cases all substantially as hereinafter fully described reference being had to the accompanying sheet of drawings in which—

Figure 1, is a central longitudinal section of the working end of the tool. Fig. 2, is an end view. Fig. 3, is a perspective view of a fire cracker case for operation upon by the tool and Fig. 4, is a perspective view of the fire cracker case after its end has been operated upon by the tool.

In the drawings A represents the tool and B a fire cracker case or tube. The fire cracker case B is made of paper of several thicknesses rolled up in the usual manner of making such cases and needing no particular description herein. The tool A is cylindrical in shape and has one end depressed centrally as at C from the circumference D to the center E by a series of steps *a* extending in circular lines one within the other, and having their corners *b*, more or less sharp.

In the use of the tool the tube or case is held in any suitable support, its end F preferably upward, and the tool by its working face end C is forced, in any suitable manner

centrally against the end of the case; as the tool is thus forced against the end of the case, the inner layers or thicknesses of the material of which the case is formed are bent over and inwardly radially toward the center and there firmly pressed together as at G. After removing the tool the point G where the material meets in the center is preferably secured by paste or cement or any suitably adhesive material. The opposite end of the case is stopped or plugged in a similar manner or in any suitable manner, and the fuse inserted as desired at either end, and with the case filled with the fire works composition in the cracker is ready for use. The diameter of the tool at its working end is less than the external diameter of the case to leave a suitable thickness after the operation thereon by the edge J of the tool somewhat sharp to facilitate its operation on the case.

Having thus described my invention, what I claim is—

A tool for crimping and closing the end of a paper tube consisting of a cylindrical body a working face at one end depressed centrally and radially from the circumference toward the center, and consisting of a series of steps or angular portions in circular lines one within the other.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS M. PIERCE.

Witnesses:

EDWIN W. BROWN,
LEONA C. ARNO.