(No Model.)

J. CALLAN.

METAL TUBING.

No. 498,458. Patented May 30, 1893.

Fig. 1.

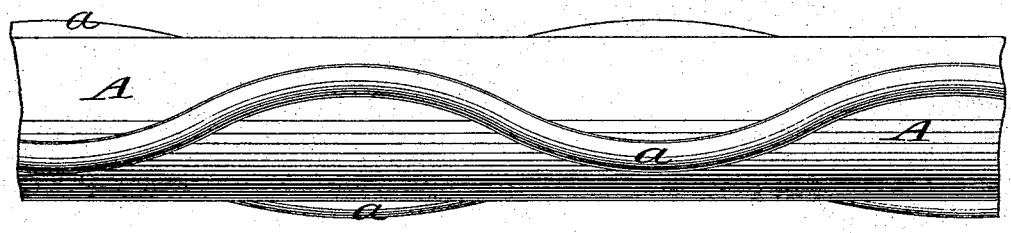
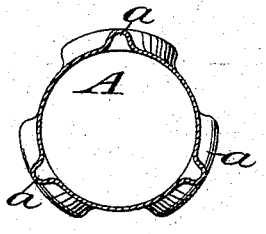


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES CALLAN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO RANDOLPH & CLOWES, OF SAME PLACE.

METAL TUBING.

SPECIFICATION forming part of Letters Patent No. 498,458, dated May 30, 1893.

Application filed February 9, 1893. Serial No. 461,582. (No model.)

To all whom it may concern:

Be it known that I, JAMES CALLAN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Metal Tubing, of which the following is a specification.

This invention consists in a metal tube having integral with it or forming parts of it externally projecting ribs which run sinuously in the direction of its length, such tubes being not only ornamental but having greater stiffness for certain uses than plain tubes of the same caliber and weight.

Figure 1 represents an external longitudinal view of a piece of tubing constructed according to my invention. Fig. 2 represents a transverse section of the same.

In the example represented the tube A has three sinuous ribs *a a a* running lengthwise of it, but the number is immaterial so far as my invention is considered. The ribs are represented as hollow and their interiors form portions of the interior of the tube. Such tubing may be of any metal but generally I prefer to make it of ductile metal and to produce its sinuous ribs by drawing it through a suitable die to which during the drawing of the tube directly through it, an oscillating movement about its axis is given by any suitable means.

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

A metal tube having integral with it external ribs running sinuously in the direction of its length, substantially as herein described.

JAMES CALLAN.

Witnesses:
FREDK. HAYNES,
CHAS. A. COTTER.