D. W. HAZELTON.

TUBES FOR RAILINGS, POSTS, &c.

No. 169,699. Patented Nov. 9, 1875.

FIG. I.

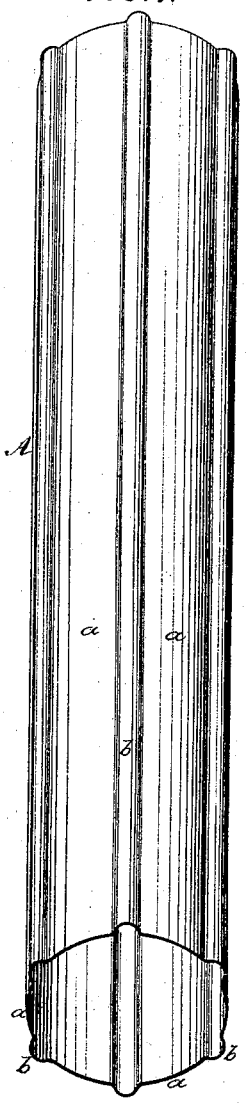


FIG. II.

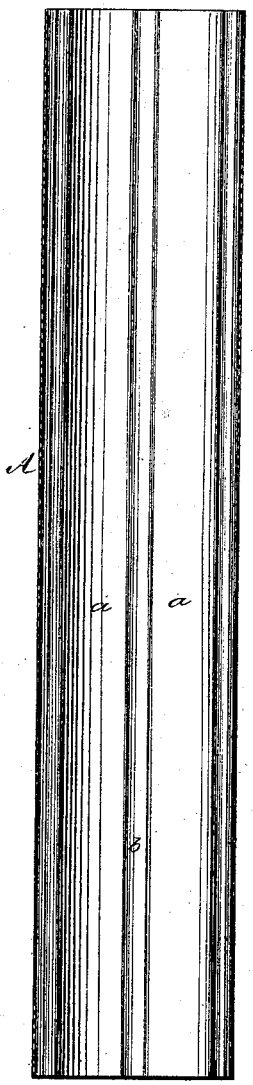


FIG. III.

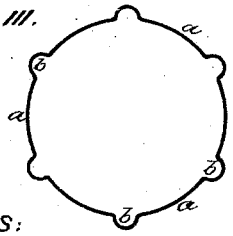
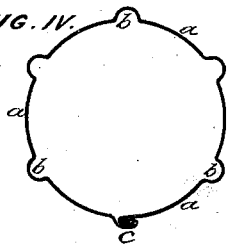


FIG. IV.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN TUBES FOR RAILINGS, POSTS, &c.

Specification forming part of Letters Patent No. **169,699**, dated November 9, 1875; application filed March 1, 1875.

To all whom it may concern:

Be it known that I, DWIGHT W. HAZELTON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Tubes for Railings, Posts, Hand-Rails, and other purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 shows a perspective view of a piece of tubing made according to my invention; Fig. 2, a longitudinal section and interior view of the same; and Figs. 3 and 4, cross-sections.

The object of this invention is to produce a material, in the form of a tube of uniform cross-section, suitable for forming railings for stairways, cemetery lots, area-spaces, ornamental fences, hand-rails on vessels, cars, locomotives, and the like; awning-posts and rails; balusters for stairs, balconies, roofs, and similar architectural purposes where metal rails or tubes are employed.

The invention consists of a ribbed or beaded tube of galvanized sheet metal, the body of the tube being a cylinder, or a prism, of uniform cross-section throughout, and provided with projecting ribs or beads at regular intervals, running longitudinally or spirally to the axis of the cylinder or prism.

The tube itself is formed of wrought-iron, and is especially applicable, when galvanized, for outdoor work, where cheapness and durability are required.

The following description will enable others to make and use my invention.

I first form a plain tube, either by drawing, or by taking a sheet of metal and forming a tube by seaming. The forming of such tubes, being well known, and not of my invention, need not be described. A mandrel is placed within such tube, and the mandrel and tube then passed either through dies or rolls, the faces of which conform to the shape of the mandrel, so as to form the ribs or beads. The outside diameter of the mandrel should be much smaller than the inside diameter of the plain tube, so as to allow for the setting out of the rib or bead without straining the metal.

When the tube is formed of a sheet or plate of metal the ribs or beads may be formed by dies or rolls before the sheet is formed into a tube.

In the drawing, *a* shows the portions of the tube between the ribs or beads; *b*, the ribs or beads, and *c* the point at which is formed the seam, when the tube is made of a sheet or plate of metal. The seam *c* should be so placed as to form one of the ribs or beads. In forming this kind of tube of sheet-iron it should be galvanized after the seam is formed, so as to unite the parts more firmly. The method of galvanizing iron or coating it with zinc, being well known, need not be described. The ribs *b* add greatly to the strength of the tube, and also give it a more ornamental appearance. The ribs form stays or braces to the lands or spaces *a*, so as to give more rigidity to the tube than would be possessed by either a plain tube or one simply corrugated.

I am aware that columns and pilasters have been formed by fluting and corrugating metal sheets and plates, and such I do not claim; but,

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

A new article of manufacture suitable for architectural purposes, consisting of a galvanized or coated iron tube provided with ribs or beads and intermediate lands, substantially as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

DWIGHT W. HAZELTON.

Witnesses:
J. TYLER POWELL,
WM. A. BOSS.