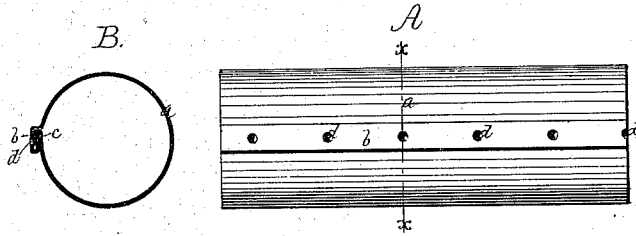


C. G. SMITH.
METALLIC TUBING.

No. 107,731

Patented Sept. 27, 1870.



Witnesses
L. B. Kidder
M. W. Frothingham.

Chas. G. Smith
By his Atty's
Crosby, Alster & Gould

United States Patent Office.

CHARLES G. SMITH, OF CHELSEA, ASSIGNOR TO AMERICAN METALLIC TUBING COMPANY, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 107,731, dated September 27, 1870.

IMPROVEMENT IN METALLIC TUBING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, CHARLES G. SMITH, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Metallic Tubing; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

United States Letters Patent No. 57,783, dated September 4, 1866, were granted to me for an improvement in the manufacture of lap-seamed metal tubing, the invention consisting in an organization of mechanism by which a long plate, of proper width to form the tube, is gradually and progressively bent by a series of rolls around the surface of a cylindrical mandrel, the opposite edges being brought together and folded and pressed down upon the tube, so as to form a tight or compact lap-joint.

In the tubes made by the specific organization described in such patent, no provision existed for locking the lapped edges together, other than their simple tight contact, and in twisting the tubes with a sort of wringing motion, the lapped edges will slip.

The object of my present invention is to so construct the tube that relative slipping of the parts is impossible, and this I accomplish by making, in the outer face of the seam, a series of indentations, the spurs formed on the opposite sides of which are forced into the metal of the adjacent plate, thus locking the two joint-forming edges together, and preventing relative displacement.

My invention consists in a tube thus made.

The drawing represents a piece of tubing embodying the improvement.

A shows a plan, and

B, a cross-section of the tube.

a denotes the body of the tube.

b c, the lapped and folded edges.

In the outermost edge or surface of the joint I strike, with a punch-point or other suitable device, the indentations *d*, in such manner as to displace and interlock the metal of the adjacent joint-forming layers, as seen at B.

It will be obvious that, when thus treated, the joint is strengthened, and the edges so held that they cannot slip endwise, the spurs having substantially the same effect as rivets.

In the manufacture of the improved tubing, I prefer to use the process covered by my patent above referred to, placing on the perimeter of the finishing roll that flattens down the seam the spurs or points that form the indentations, so that the tube comes from the machine in finished condition, as shown in the drawing.

I claim—

As a new article of manufacture, lap-jointed metal tubing, having the joint-forming edges locked together by spurs or projections, substantially as shown and described.

Signed August 18, 1870.

CHARLES G. SMITH.

Witnesses:

FRANCIS GOULD,
S. G. REED.