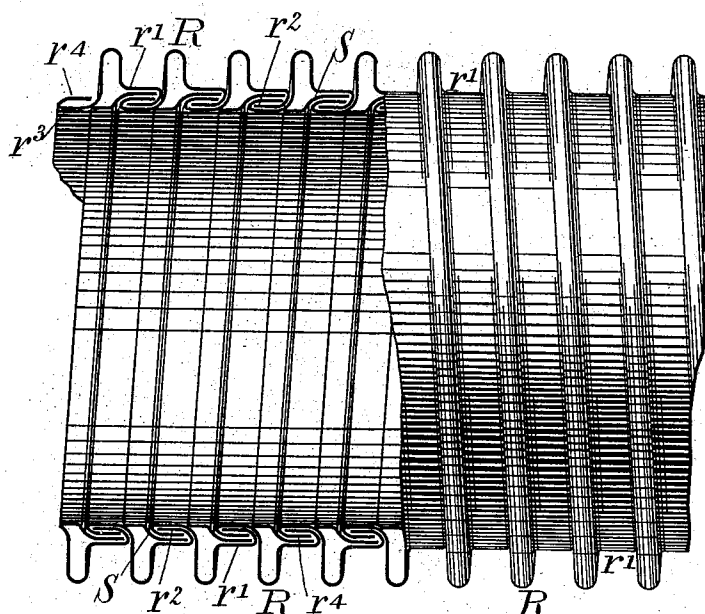


(No Model.)

W. H. K. BOWLEY.
FLEXIBLE METALLIC TUBING.

No. 507,877.

Patented Oct. 31, 1893.



Witnesses,
J. W. Rea.
J. A. Paul

Inventor,
William H. K. Bowley
By James L. Norris.
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM HENRY KANZON BOWLEY, OF LONDON, ENGLAND.

FLEXIBLE METALLIC TUBING.

SPECIFICATION forming part of Letters Patent No. 507,877, dated October 31, 1893.

Application filed July 6, 1893. Serial No. 479,719. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY KANZON BOWLEY, a citizen of England, residing at 114 Holborn, in the city of London, England, have invented an Improvement in Flexible Metallic Tubing, of which the following is a specification.

In the specification of my patent application, Serial No. 468,002, filed March 28, 1893, I have described a flexible metallic tube consisting of a strip of metal wound on a mandrel, and having a high U shaped ridge in the middle of each convolution with a border and a hooked lip on each side of the ridge, engaged with corresponding borders and hooked lips of the adjacent convolutions, the object being to obtain increased flexibility of the tube by reason of the depth of the U allowing its sides to move a little to or from each other. For some purposes the helical groove which the U ridge presents inside the tube is objectionable as increasing resistance to the flow of fluid along the tube; my invention relates to means of overcoming this objection, which I effect by coiling along with the main strip which constitutes the tube, a subsidiary strip of metal having part of its width engaged and compressed with the hooked lips of the main strip on one side of the groove, and the edge of its other part merely bearing against the metal on the other side of the groove, the subsidiary strip thus covering the mouth of the groove and rendering the interior of the tube almost smooth.

The accompanying drawing shows to an enlarged scale partly in elevation and partly in longitudinal section a tube according to my present improvement.

The main strip forming the U shaped ridge R, has on the one side, a border r' turned under at r^2 to form a hook, and at its other side it has a border r^3 which is turned over at r^4 to form another hook, r^4 being thus engaged between r' and r^2 , and r^2 being engaged between r^3 and r^4 . The tube thus so far formed according to my former specification was rendered

tight against leakage by compressing together the parts r' , r^2 , r^3 and r^4 , but is presented internally the deep helical groove within the ridge R, which in some cases was objectionable. Now according to my present invention I coil along with the main strip, constituting the ridge R and its borders and hooks, a subsidiary strip S one part of which is engaged and clamped between r' and r^4 and the other part of it extends across the mouth of the U groove and bears against the metal at its opposite side. The strip S is slightly corrugated so that when it is clamped between r' and r^4 the part S is flush or nearly so with r^3 , the interior of the tube being thus rendered smooth.

Having thus described the nature of my invention and the best means I know for carrying the same into practical effect, I claim—

A flexible metallic tube consisting of a main strip of metal helically wound on a mandrel, and having a high ridge in the middle of each convolution with a border and hooked lip on each side of the ridge engaged and pressed together with corresponding borders and hooked lips of the adjacent convolutions, in combination with a subsidiary strip of metal wound along with the main strip and having part of its width clamped between the hooked lips on one side of the ridge and the rest of its width covering the mouth of the helical groove within the ridge, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 19th day of June, A. D. 1893.

WILLIAM HENRY KANZON BOWLEY.

Witnesses:

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