(No Model.)

W. H. K. BOWLEY.

FLEXIBLE METALLIC TUBING.

No. 500,847. Patented July 4, 1893.

Fig. 1.

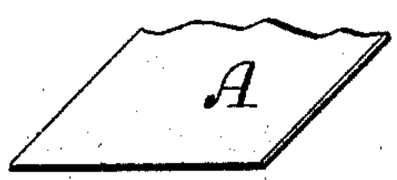


Fig. 3.

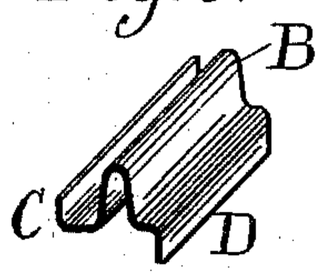


Fig. 2.

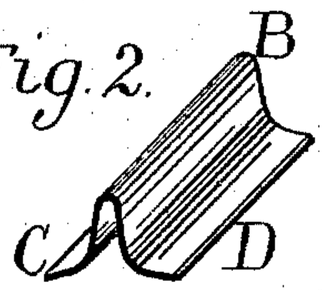


Fig. 4.

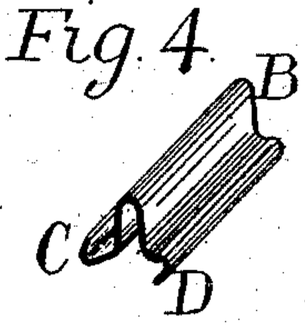
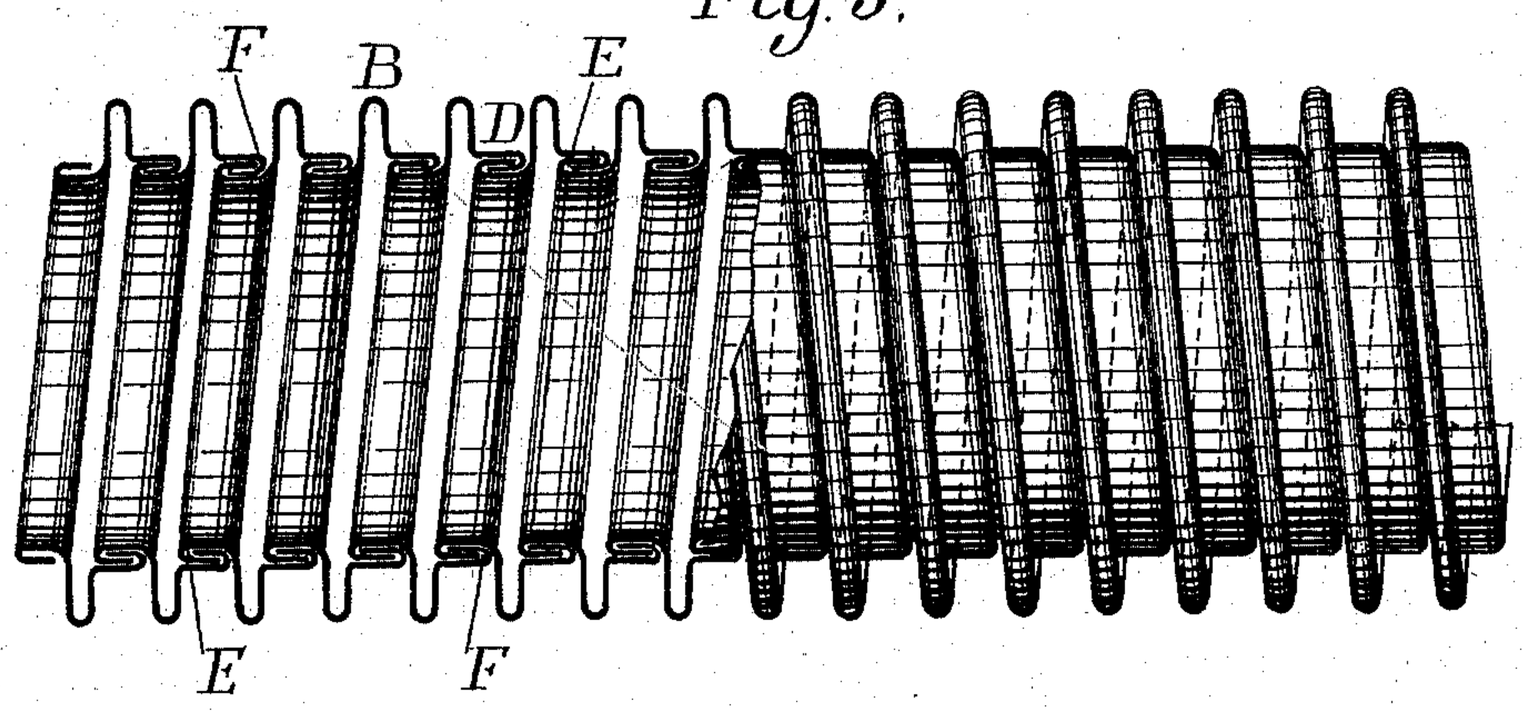


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. K. BOWLEY, OF LONDON, ENGLAND.

FLEXIBLE METALLIC TUBING.

SPECIFICATION forming part of Letters Patent No. 500,847, dated July 4, 1893.

Application filed March 28, 1893. Serial No. 468,002. (No model.)

To all whom it may concern:

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

This invention relates to a construction of flexible metallic tubing in such a manner as to insure tightness against escape of fluid without interfering with flexibility. A tube of the kind to which this invention relates is made in the following manner: A strip of metal is corrugated by passing it lengthwise between suitably grooved rollers and is wound helically on a revolving mandrel against which it is pressed by three grooved rollers between which the mandrel revolves. This mode of making a flexible metallic tube and the apparatus by which it is effected are well known and forms no part of this invention; which consists essentially in the particular configuration which is given to the corrugated strip before it is wound on the mandrel and to the form of the convolutions produced whereby the objects in view are attained.

Figure 1 of the accompanying drawings shows in perspective a portion of the metal strip before corrugation. Figs. 2, 3 and 4 show the corrugation effected by the successive rollers between which the strip is passed, and Fig. 5 shows the tube produced partly in section, partly in elevation.

The strip A is first so corrugated as shown in Fig. 2 as to produce a high ridge B about midway between the two borders C and D. By the next rolling operation, as shown in Fig. 3 a lip at the margin of C is turned upward to give a hook form and the margin of D is turned downward also to give a hook form. These lips are by the next rolling, as shown in Fig. 4, bent somewhat inward, so that when they are rolled on to the mandrel the lip of D in each convolution engages under the lip of C in the next convolution, and both these lips are flattened down together between the borders D and C of which they are the respective lips.

Although in Fig. 5, for the sake of clear illustration, the lips and borders forming four thicknesses of metal between the ridges B are shown as if there were thin spaces between them, they are in fact, in the formed tube, pressed quite close together so that no fluid can leak out between them.

In winding the strip on the mandrel a cord or a couple of cords of asbestus or other suitable material served with white lead or the like may be coiled along with it so as to fill the spaces E F. Owing however to the height of each rib B, the sides of which can be moved a little to or from each other, the tube can be bent more or less without in any way disturbing the jointing of the convolutions to each other.

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

A flexible metallic tube consisting of a strip of metal helically wound on a mandrel, the said strip having a high ridge in the middle of each convolution with a border and hooked lip on each side engaged and pressed together with a corresponding border and hooked lip of the next convolution, 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 14th day of March, A. D. 1893.

WILLIAM H. K. BOWLEY.

Witnesses:

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