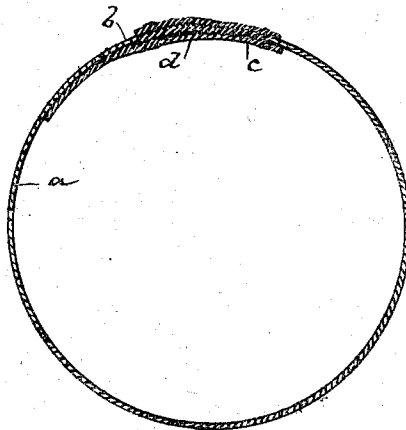


E. A. STREET.

Manufacture of Hydraulic Hose.

No. 142,054.

Patented August 19, 1873.



Witnesses,
M. W. Frothingham,
L. H. Leavitt.

Inventor,
Edwin A. Street,
by his Attys
Crooks & Gould

UNITED STATES PATENT OFFICE.

EDWIN A. STREET, OF SOUTH ORANGE, NEW JERSEY.

IMPROVEMENT IN THE MANUFACTURE OF HYDRAULIC HOSE.

Specification forming part of Letters Patent No. **142,054**, dated August 19, 1873; application filed June 18, 1873.

To all whom it may concern:

Be it known that I, EDWIN A. STREET, of South Orange, in the county of Essex and State of New Jersey, have invented an Improvement in the Manufacture of Hydraulic Hose; and I do hereby declare that the following, taken in connection with the drawings which accompany and form 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. 138,867, dated May 13, 1873, have been granted to L. H. Downing on an improved hydraulic hose, in which hose the tube being formed of a strip of woven material having its edges lapped and united, the seam on the inner side of the tube is protected by a welt-strip cemented to the inner surface so as to cover said seam. In the manufacture of said hose, rubber-coated cloth is mostly used, the rubber forming an impervious lining to the tube, and my improvement applies particularly to such construction.

In my invention I form the tube substantially like the Downing tube, uniting the lapping edges by stitches, by cement, or by other means, and cementing the welt-strip over the seam. The tube being thus made, and the surfaces of the welt and tube in contact, being both rubber, or a rubber (caoutchouc) compound, I vulcanize the inner surfaces, by which means I form a perfect union between the rubber surfaces in contact, such surfaces becoming one, instead of being surfaces united only by the aid of foreign cementitious matter.

In practice, after the welted tube is formed,

I fill it with French chalk, or similar material, to prevent adhesion of the inner surfaces of the tube, and if necessary to create pressure, and then subject the hose to the action of steam or other heat; or, the tube may be filled with steam under pressure; or, any other suitable method of vulcanization may be employed.

The drawing represents a piece of hose.

a denotes the main strip, which, by lapping and uniting the edges *b c*, (by cement, or by stitches, or other fastenings,) is formed into a tube. *d* denotes the welt-piece, which is preferably cemented to the inner surface of the tube during the progress of formation of the tube. The inner surface of the tube being rubber-coated, (by reason of the tube being made from a rubber-faced strip of canvas, duck, or other suitable cloth,) and the adjacent face of the welt-strip being rubber, or rubber-coated, or formed of similar material to the piece *a*, the rubber compounds, under the vulcanizing action of heat, will homogeneously unite, so that the strip *a* and welt-piece *d* become in effect and in fact one piece, without an intervening seam, by which construction all tendency to leakage at the union of the lapped edges is obviated.

I claim—

A hose having the inner surface of the seam covered by a strip vulcanized thereto, substantially as described.

EDWIN A. STREET.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.