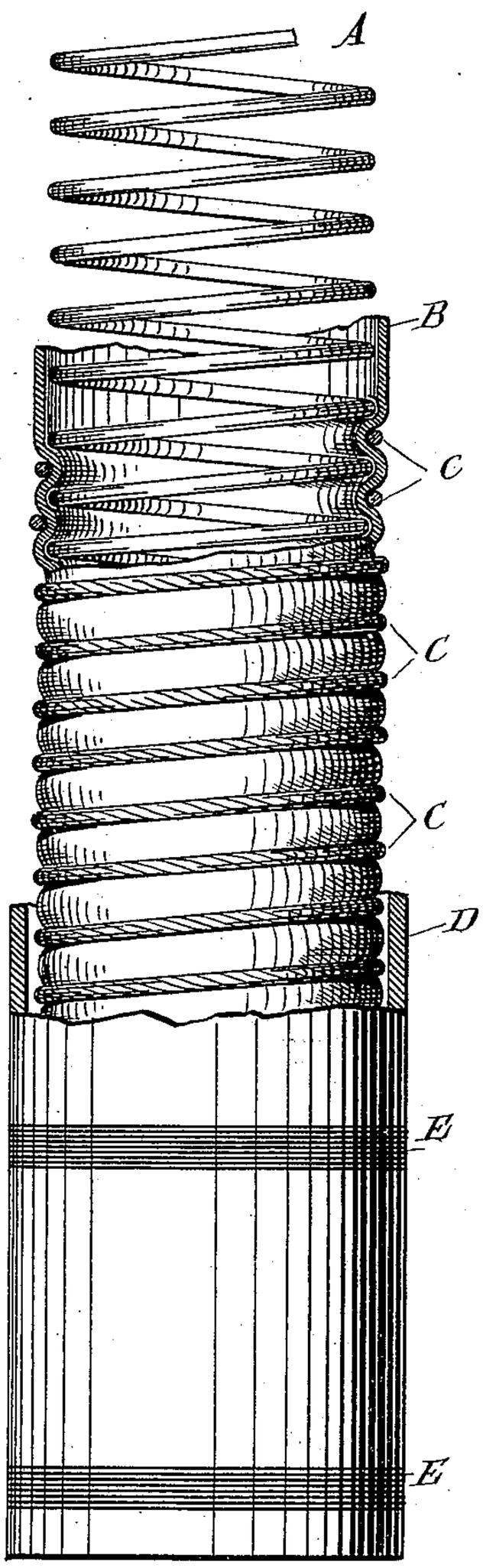
(No Model.)

J. JONES.

HOSE.

No. 334,233. Patented Jan. 12, 1886.



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UNITED STATES PATENT OFFICE.

JAMES JONES, OF DUBLIN, COUNTY OF DUBLIN, IRELAND.

HOSE.

SPECIFICATION forming part of Letters Patent No. 334,233, dated January 12, 1886.

Application filed August 13, 1885. Serial No. 174,279. (No model.) Patented in England June 19, 1884, No. 9,169; in France October 31, 1884, No. 165,130, and in Belgium November 15, 1884, No. 66,771.

To all whom it may concern:

Be it known that I, JAMES JONES, of Dublin, in the county of Dublin, Ireland, have invented a new and Improved Hose, of which the following is a full, clear, and exact description.

The object of my invention is to provide new and improved hose or suction tubing which is simple in construction, strong, durable, and cheap; and the said hose or tubing is especially adapted for use in connection with the air-brakes of railways.

The invention consists of hose or tubing formed of fabric treated with oil, to render it air and liquid proof. The fabric is wound on a spiral-wire core, and is held in place by a spiral wire wound around it.

Reference is to be had to the accompanying drawing, forming part of this specification, in which a side view of my improved hose or tubing is shown, parts being broken out and others being in section.

The tube or hose is constructed with a core, A, formed of a copper, iron, steel, or other metal wire or cable wound spirally upon a wooden or other mandrel, or wound spirally in any other suitable manner. Around the said frame or core I wind or place a covering, B, of cloth, silk, cotton, linen, calico, or other textile or analogous fabric, which is treated or saturated with raw or boiled linseed or other oil or mixtures of oil or other suitable substance, to render the said fabric covering absolutely air and liquid tight. I can thus dispense with the use of india-rubber or gutta-percha, which have been used very extensively in the manufacture of such hose and tubing heretofore, and which made the tubing or hose very expensive.

The fabric B above mentioned is laid, wound, or placed on the frame or core wire A in one or more continuous pieces, according to the strength and flexibility of the tubing to be produced. The fabric covering B is then bound on the core or frame by means of a wire, cord, or cable, C, wound spirally on the covering, the coils of the exterior wire or cable, C, being wound between the coils of the core A. While winding on the outer wire or cable, C, the fabric covering B is smoothed uniformly between the outer and inner spirals from one end of the tube to the other. A layer, D, of fabric may be wound around the tube thus formed, and is held and bound by wires E wound circularly around the said exterior layer, D, of fabric.

It will be noticed that the coils of the outer binder are formed of an internal diameter less than the external diameter of the core, and that by arranging its coils to lie between those of the core it will compress the tube proper down into the space between the coils of the core.

In the use of hose or tubing having only a coiled-wire core, such have been found to contract longitudinally under suction. By fitting the coils of the binder between those of the core I form, practically, a metallic support for the tube proper, by which to prevent any considerable contraction under suction, as will be seen. It will also be seen that the described construction greatly reduces the strain upon the convex side of the hose when the latter is bent, by reason of the bellows form which the combined inner and outer coils give the tube proper.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with the spiral-wire core A, of the fabric covering B, treated with oils to render it air and liquid proof and wound on the core, the wire C, wound on the fabric B, the fabric D, wound around the fabric B and wire C, and the binding-wires E, wound around the fabric D, substantially as herein shown and described.

JAMES JONES.

Witnesses:
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