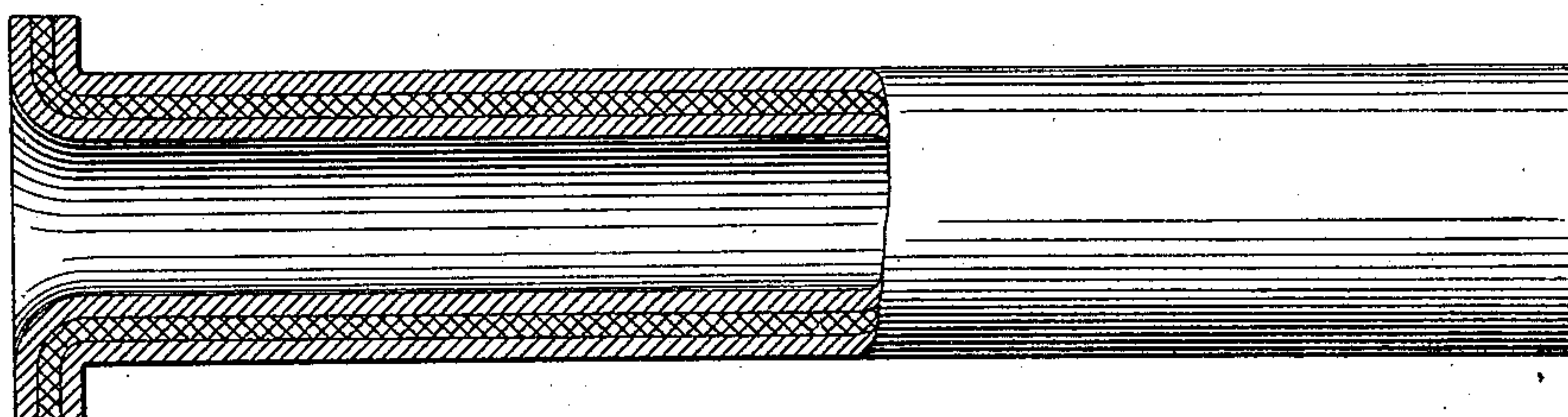


(No Model.)

J. TATHAM.  
CONDUIT FOR ELECTRIC CONDUCTORS.

No. 529,216.

Patented Nov. 13, 1894.



WITNESSES

*Chas. Amon*

*Frank Bechtold*

INVENTOR

*James Tatham*

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# UNITED STATES PATENT OFFICE.

JAMES TATHAM, OF PHILADELPHIA, PENNSYLVANIA.

## CONDUIT FOR ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 529,216, dated November 13, 1894.

Application filed March 17, 1894. Serial No. 504,002. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES TATHAM, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
5 Improvements in the Manufacture of Conduits for Electric Conductors, of which the following is a specification.

My invention consists of an improvement in the manufacture of conduits for electric  
10 conductors such as set forth in my Patent No. 417,688, dated December 17, 1889, the object of my present invention being to facilitate the manufacture of such a conduit especially when the same is of comparatively  
15 small diameter and of considerable length.

The conduit forming the subject of my aforesaid Letters Patent consisted of inner and outer metallic tubes and an interposed layer of insulating material rigidly confined between the two tubes, the method of manufacturing the conduit being to first introduce the tube of insulating material within the outer tube and then to insert the inner tube and expand the same by hydraulic pressure.  
20 This method of manufacture was comparatively slow and was limited to conduits of short length and of considerable diameter whereas my present process has been devised especially for the manufacture of conduits of  
25 small diameter and of indefinite length such as are used for carrying electric lighting and other wires in buildings.

In the accompanying drawing the figure represents my improved conduit, partly in  
35 section.

In carrying out my invention I first make the inner tube of the conduit of lead or other ductile metal in an ordinary lead pipe press and I then proceed to apply the insulating  
40 covering to said tube, preferably by winding or braiding it upon the same, the covering being also, if desired, saturated with insulating material. The tube with its insulating covering is wound upon a reel or otherwise  
45 so disposed that it can be readily fed through the hollow core of a second lead pipe press whereby the outer tube is applied to the insulated covering of the inner tube. I prefer to use for this purpose a machine of the character set forth in my Patent No. 363,182, dated  
50 May 17, 1887, such a machine providing for

the enveloping of the insulating cover of the inner tube in liquid insulating material almost up to the point of its issue from the nose of the core preparatory to passing through  
55 the die of the press, and in some cases this saturation of the braided textile covering of the inner tube with said insulating material may render unnecessary any previous treatment of the covering with the insulating material, or, on the other hand, if the textile  
60 covering of the inner tube is previously saturated with insulating material, the hollow core of the second lead pipe press may not be provided with the liquid insulating material, although the saturating of the covering with  
65 insulating material in the second press is preferable, even in addition to any previous saturation of the covering.

As the inner and outer tubes of lead are  
70 flexible to a certain degree, the conduit can be readily bent so as to turn corners or otherwise conform to the crooked course which electrical conductors frequently have to take in internal installations, the present conduit,  
75 therefore, differing from that of the former patent in which both the inner and outer tubes were rigid.

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

1. The mode herein described of making a flexible conduit for electric conductors, said mode consisting in first making a tube of lead or other ductile metal, then applying an insulating covering thereto, and then forming  
85 an outer tube of lead or other ductile metal around said insulating covering, substantially as specified.

2. The within described conduit for electric  
90 conductors, the same consisting of inner and outer tubes of lead or other ductile metal, and an interposed tube of insulating material rigidly confined between said inner and outer tubes, substantially as specified.  
95

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES TATHAM.

Witnesses:

FRANK BECHTOLD,  
JOSEPH H. KLEIN.