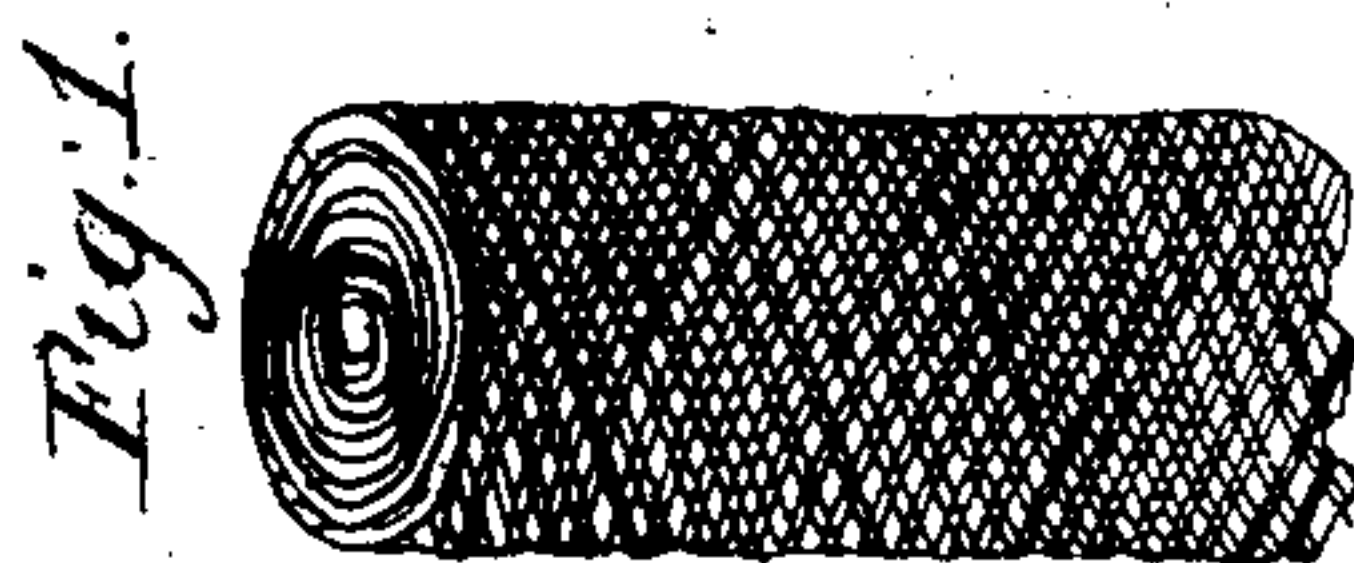
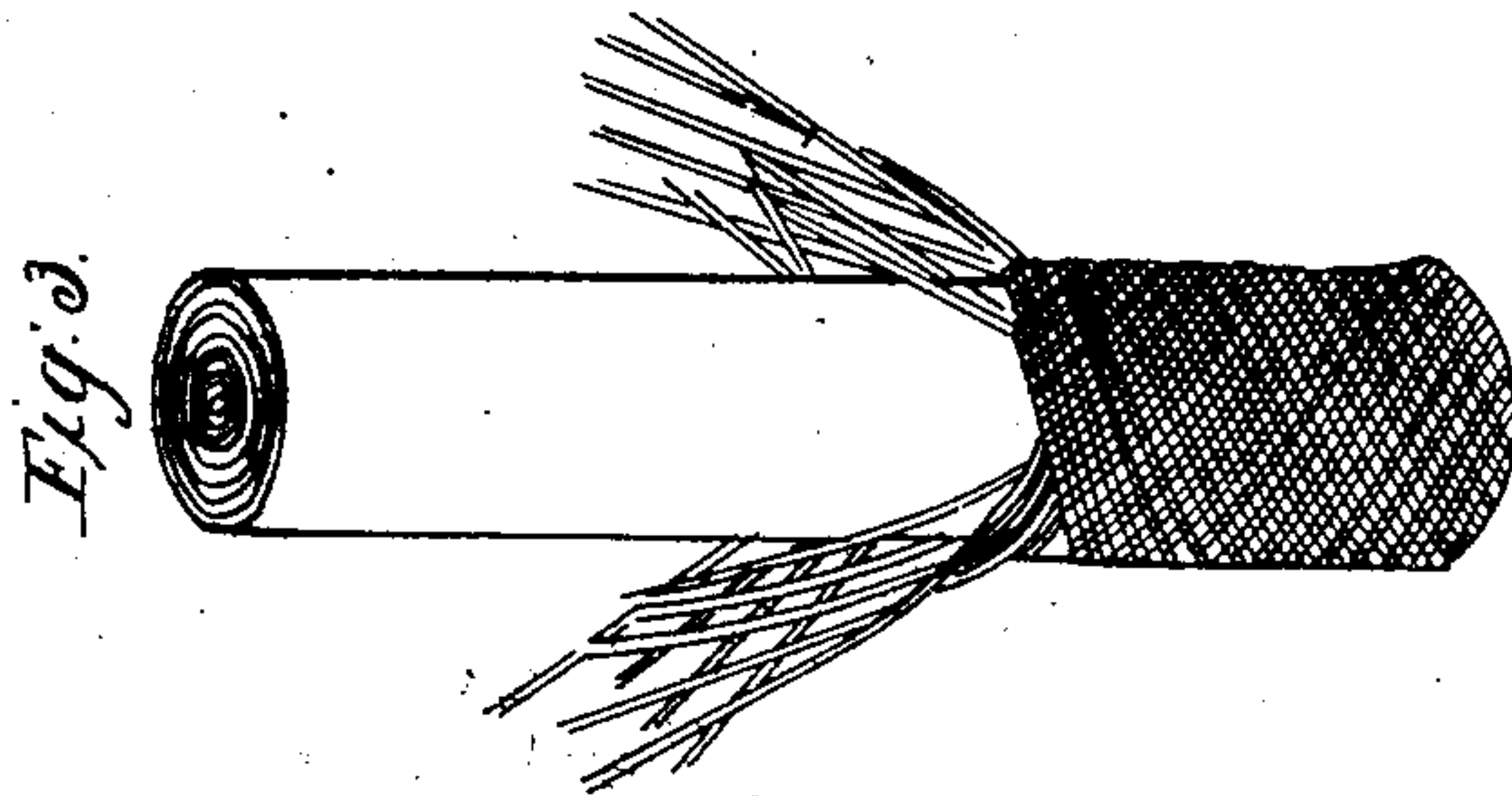


No. 39,896.

PATENTED SEPT. 15, 1863.

P. S. DEVLAN.
SUBMARINE CABLE.



Witnesses.
L. M. Cutler
E. Devlan

Inventor.
P. S. Devlan

UNITED STATES PATENT OFFICE.

PATRICK S. DEVLAN, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN SUBMARINE CABLES.

Specification forming part of Letters Patent No. **39,896**, dated September 15, 1863; antedated October 16, 1862.

To all whom it may concern:

Be it known that I, PATRICK S. DEVLAN, of Jersey City, in the State of New Jersey, have invented a new and useful Improvement in Telegraphic Cables; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this application.

My invention relates to a novel method of forming or constructing insulated wire cables for submarine telegraphs. The many practical difficulties to be encountered in putting down long submarine cables and liability of their becoming injured in various ways after they have been laid have led to many suggestions by scientific men and mechanics and ingenious inventions in the construction of submarine telegraphic cables. One of the leading objections to that kind of cable (which is conceded to be the best yet suggested) is its weight in proportion to the amount of strain it can bear. Another is its stiffness or want of flexibility. Another is its perishableness in salt-water.

The object of my invention is to overcome, in a great degree, these objections in all kinds of cable heretofore made; and to this end my invention consists in the novel mode of construction hereinafter described.

In the accompanying drawings, Figure 1 represents, in perspective view, a piece of cable constructed according to my invention. Fig. 2 illustrates the same in a cross-section of the cable. Fig. 3 illustrates the mode of applying the cords, as will be presently explained. Fig. 4 is a section showing a modification of my improved cable, in which several insulated wires are used instead of a single one.

In the several figures the telegraphic wires are represented in yellow, the insulating and coating composition in blue, and the plaited cord-covering in red.

The insulating coating composition is composed of paper or other fibrous pulp, caoutchouc, or gutta-percha, and dissolved rosin, in about the following proportions, viz: eight pounds of fibrous pulp, one-half of a pound of caoutchouc, one pound of rosin. These proportions need not be strictly followed in making the compound; but they are what I propose as suitable. This composition is applied as a coating, as will be presently explained, and is im-

permeable to water, a non-conductor of electricity, and almost imperishable in salt-water.

The covering shown in red is made of any suitable strong cord by plaiting it around the cable somewhat after the fashion of the covering worked over the metallic hoops of hoop-skirts. I may mention that the same kind of machinery might be capable of putting on the cord-coverings of my improved cable that is employed in covering the hoopskirt hoop-wire; but my present invention does not relate to the machinery for manufacturing the cable, but only to the combination and arrangement and character of the elements forming the cable. I take one or more of the ordinary conducting-wires, over which I put a complete coating of the composition before described in thickness about in proportion to the drawings. This coating of the composition is put on while the latter is in a soft condition, and may be applied by suitable die or "drawing" machine for the purpose. When the coating has become sufficiently dry I braid or plait over it a covering of fine strong cord, (shown in red.) Over this covering of cord I apply another coating of the composition, and over it another cord covering, and so on till the cable is completed.

The composition I propose to use for insulating and protecting the wire is insensible to any effect from the action of salt-water, and is exceeding strong.

It will be observed that a cable constructed as herein described will possess exceeding great strength, while at the same time it will be much lighter than wire cables and will be much more flexible, though not elastic enough to endanger the conducting-wire by stretching.

Having fully described my improvement in submarine cables, what I claim as new, and desire to secure by Letters Patent, is—

A cable formed in the manner substantially as described, when the composition hereinbefore described is employed, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and affixed my seal this 4th day of March, 1862.

P. S. DEVLAN. [L. S.]

In presence of—

J. N. MCINTIRE,
EDWIN BAKER.