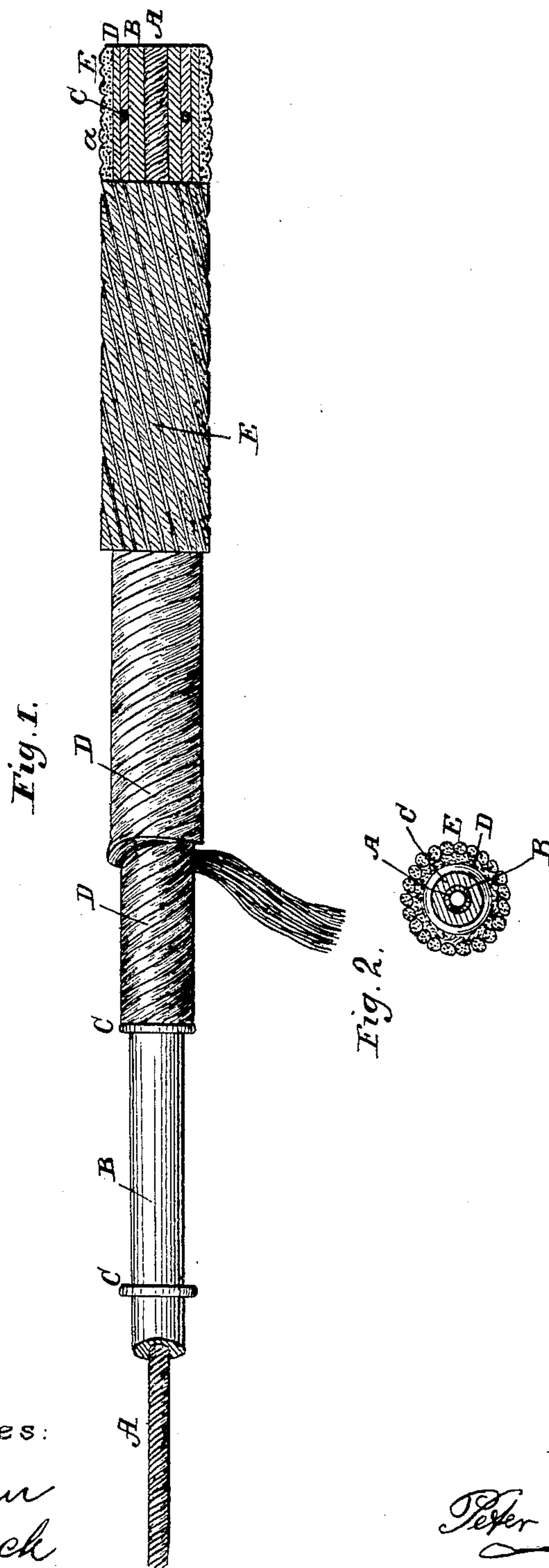


P. A. SALVOTTI.  
Telegraph Cable.

No. 53,047.

Patented March 6, 1866.



Witnesses:  
Wm. Greener  
Thos. Tusck

Inventor:  
Peter A. Salvotti

# UNITED STATES PATENT OFFICE.

PETER A. SALVOTTI, OF NEW YORK, N. Y.

## IMPROVEMENT IN TELEGRAPH-CABLES.

Specification forming part of Letters Patent No. 53,047, dated March 6, 1866.

*To all whom it may concern:*

Be it known that I, PETER A. SALVOTTI, of the city, county, and State of New York, have invented a new and useful Improvement in Telegraph-Cables; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a portion of my improved cable with the various coverings successively removed, showing the construction of each part. Fig. 2 is a cross-sectional elevation of the cable.

Similar letters of reference indicate corresponding parts.

In this improvement the interior conducting-wires are laid in the form of a spiral spring, and therefore have much longitudinal elasticity. These conducting-wires are covered and inclosed in gutta-percha, india-rubber, or other non-conductor. Upon the outside of this non-conductor a series of metallic rings are arranged at short distances apart, and the space between the rings is filled with tarred hemp or other suitable pliable filling. Upon the rings and filling thus arranged the exterior protecting or armor wires are laid, which complete the cable. The rings serve as arches to receive and resist the inward pressure of the armor-wires when the cable is subjected to the pressure of water or to longitudinal strain.

The separation of the rings and the hempen filling renders the cable pliable, so that it may be readily coiled or bent around wheels.

Referring to the drawings, A are the conducting-wires, laid or wound in the form of a spiral spring, so as to present great longitudinal elasticity; B, the insulating substance, of rubber, gutta-percha, or other material; C, the metallic rings, arranged at short distances apart upon the insulating material; D, the hempen, tarred, or other filling between the rings; E, the armor or protecting exterior wires, composed of large wires or of twisted

strands of small wires laid spirally upon the rings. The several parts composing the cable are also shown at *a*, Fig. 1.

The spiral form of the conducting-wires allows them to stretch readily whenever the cable is subjected to longitudinal strain. The metallic rings act as arches to sustain any exterior pressure to which the cable may be subjected, whether from water or strain upon the cable or other causes, thus saving the conducting-wires from the effects of such pressure.

The separation of the rings and the filling between them, composed of pliable material, affords the necessary pliability in the cable, so that it may be coiled or bent in any direction, and the longitudinal elasticity of the conducting-wires permits the stretching of the cable without liability to injury to the conducting-wires. My improved cable is made with special reference to the security of the conducting-wires under all the conditions in which a telegraph-cable for submarine or other purposes is likely to be exposed.

I do not claim simply a conducting-core for a cable consisting of a helix of wire without a central core, nor do I claim a conductor consisting of a plurality of wires in the form of a helix; but

I do claim—

1. The conducting-core of a cable for telegraphic purposes consisting of a helix formed of a plurality of wires without a central core, substantially as set forth.

2. The use of protecting-rings C, in combination with the conducting-wires and the armor-wires, substantially as described.

3. The combination of the pliable filling with the rings, substantially as and for the purpose described.

4. As an improved article of manufacture, a telegraph-cable made substantially as herein shown and described.

PETER A. SALVOTTI.

Witnesses:

M. M. LIVINGSTON,  
C. L. TOPLIFF.