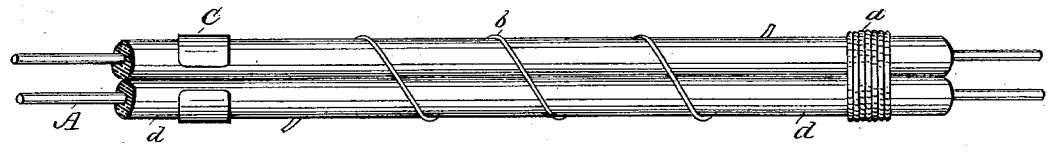
(No Model.)

W. E. TOWNSEND, Jr.

PROTECTOR ATTACHMENT FOR ELECTRICAL CONDUCTORS.

No. 278,635. Patented May 29, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM E. TOWNSEND, JR., OF BROOKLYN, NEW YORK.

PROTECTOR ATTACHMENT FOR ELECTRICAL CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 278,635, dated May 29, 1883.

Application filed May 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. TOWNSEND, Jr., of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Protector Attachment for Electrical Conductors, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which a side elevation of an electrical conductor with my improvement applied is shown.

My invention relates to underground and other inclosed electrical conductors; and it consists in attaching to the conductor by a wrapping of wire a spirally-wound wire and clips, a straight wire having a coating of gutta-percha or other suitable material, and of sufficient strength to be used in introducing the conductor into or removing it from its tube or casing, all as hereinafter fully described.

Referring to the drawing, B is a conductor, having the usual insulating-covering.

A is strong straight wire, having a coating, *d*, of gutta-percha or other suitable material, to prevent it from corrosion, laid parallel with the conductor B, and in contact with its insulating-coating, and secured to it at intervals by the wrapping *a* of wire, the clips *c*, of sheet metal, bent over the insulated conductor B, and the protecting-wire A and the wire *b* wrapped spirally around the conductor and protecting-wire, whereby the two wires will be securely bound together and the conductor enabled to be introduced into or withdrawn from its casing or tube, even though it be broken in one or more places. The wire A, in addition to the use already mentioned, prevents the conductor from being overstrained, and to a large extent protects it from injury.

I am aware that a wire rope has been bound by clips to several conductors; and I am also aware that bare wires have been bound to a cable by cords wrapped spirally, and I therefore do not claim such inventions.

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

The combination, with the insulated conductor B, of the straight wire A, having a coating of gutta-percha, *d*, and secured to the said conductor by the wrapping *a*, the spirally-wound wire *b*, and the clips *c*, substantially as herein shown and described.

WM. E. TOWNSEND, JR.

Witnesses:
EDWARD M. CLARK,
C. SEDGWICK.