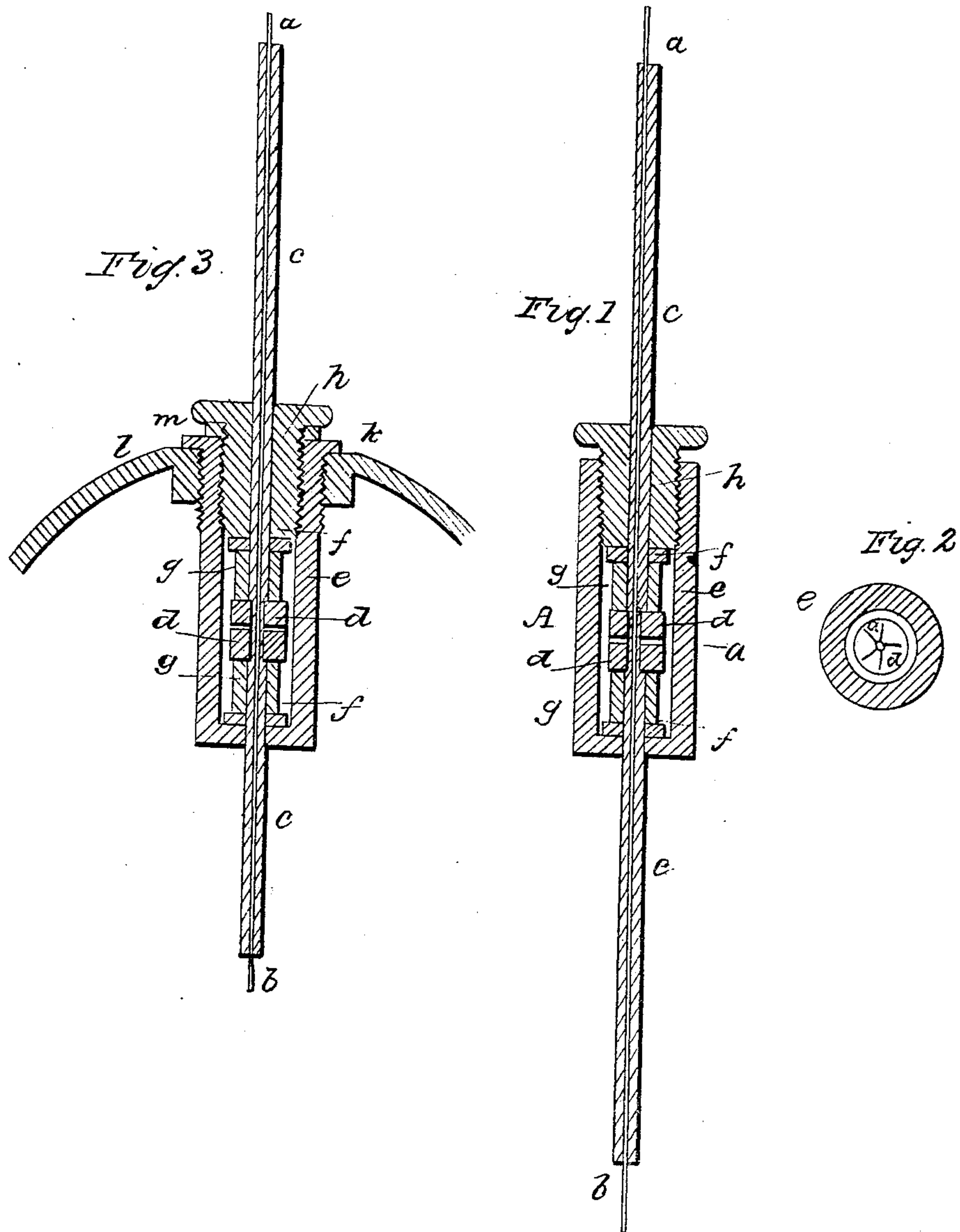


G. W. BEARDSLEE.  
Telegraph-Wire Coupling.

No. 47,918.

Patented May 30, 1865.



Witnesses  
Andrew Delacy,  
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# UNITED STATES PATENT OFFICE.

GEO. W. BEARDSLEE, OF COLLEGE POINT, LONG ISLAND, NEW YORK.

## IMPROVEMENT IN COUPLING CONDUCTING-WIRES.

Specification forming part of Letters Patent No. 47,918, dated May 20, 1865.

*To all whom it may concern:*

Be it known that I, GEORGE W. BEARDSLEE, of College Point, Long Island, in the State of New York, have invented a new and useful Insulated Coupling for Electric Conductors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal section of two conductors united by my improved insulated splice; Fig. 2, a cross-section taken at the line A *a* of Fig. 1, and Fig. 3 a section representing my said invention as applied to a torpedo.

The same letters indicate like parts in all the figures.

The object of my said invention is to produce a ready means of so coupling or connecting insulated conducting-wires intended for conducting currents of electricity as to insure the contact of the wires, and at the same time secure a complete insulation of the wires where the coupling or union is effected.

In Figs. 1 and 2 of the accompanying drawings, *a* and *b* represent two lengths of electric conductors, each consisting of a strand of wires slightly twisted and covered with vulcanized india-rubber, as at *c*, to effectually insulate the wire strand within. I prefer to use what is well known as the soft compound of vulcanized india-rubber for this purpose, as I believe it to be the best; but I do not mean to limit myself to the use of that substance. When such conductors are to be spliced or united, I remove the insulating-coating *c* from the wire strands for a short distance from the ends to be spliced or united and pass the part of each so stripped through the central hole of a metallic disk, *d*, and bend the several wires of the strand over the face of the disk, as represented. Before putting the metal disks *d* onto each conductor, on one of them I slip what I term the "coupling-tube" *e*, then a small washer, *f*, and then a short elastic plug, *g*, made of the soft compound of vulcanized india-rubber, and on the other conductor I slip, in like manner, a coupling-nut, *h*, and a like washer and elastic plug.

The coupling-tube *e*, I prefer to make of what is known as "vulcanite," or the hard compound of india-rubber. It is a short hollow cylinder with a head at one end, with a central hole to

receive the conductor, and the bore at the other end is threaded to receive the coupling-nut *h*, which has a central hole through which the conductor passes, and which is threaded to fit in the coupling-tube. I prefer to make this nut of the same material as the coupling-tube. When the two metallic disks *d d* are inserted in the coupling-tube and the coupling-nut screwed tight into the coupling-tube, the two metallic disks, with the ends of the wires of the conductors bent over their faces, are brought into contact, and the two cylindrical plugs of the soft compound of india-rubber, interposed one between each metallic disk and washer, will be compressed longitudinally, and by such endwise pressure spread out into close contact with the bore of the coupling-tube. In this way I am enabled readily to couple, splice, or unite the two conductors, so as to insure the contact of the metallic conductors, while at the same time the joint or coupling is so thoroughly insulated that it can be used successfully under water.

For coupling electric conductors with electric fuses inside of torpedoes, to effect the explosion of the contained charges, the coupling-tube *e* is formed, as represented in Fig. 3, with a shoulder or collar, *k*, at the outer end, and the rest is threaded and screwed into the torpedo *l*, with a gasket, *m*, of the soft compound of india-rubber, interposed to make a water-proof joint. One end of a short conductor, *b*, is connected with the coupling-tube in the same manner as above described, and the other end connected with any suitable fuse within the torpedo, and the conductor *a* is connected with the coupling-nut *h* in like manner as above described. In this way the conductor is readily connected with the torpedo by simply inserting the coupling-nut in the coupling-tube, and the whole completely insulated, so that it can be safely used under water.

Although I have above stated that I prefer to coat the wire strand of the conductor with, and to make the elastic plugs of, the soft compound of vulcanized india-rubber, I do not wish to be understood as limiting myself to the use of such substance, as other substances or preparations of substances may be substituted; and so with the making of the coupling-tube and nut of vulcanite or hard compound of india-rubber, I have simply named that substance as being the best, in my judgment, for



the purpose; but other non-conducting substances may be substituted.

What I claim as my invention, and desire to secure by Letters Patent for effecting the insulated coupling or union of electric conductors, is—

The combination of the metallic disks, or the equivalents thereof, on the conductors,

the coupling tube and nut, or its equivalent, and the elastic plugs interposed between the metallic disks and the coupling tube and nut, substantially as and for the purpose specified.

GEO. W. BEARDSLEE.

Witnesses:

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