

(No Model.)

J. J. PURCELL.  
COUPLING FOR UNDERGROUND WIRES.

No. 483,327.

Patented Sept. 27, 1892.

Fig. 1.

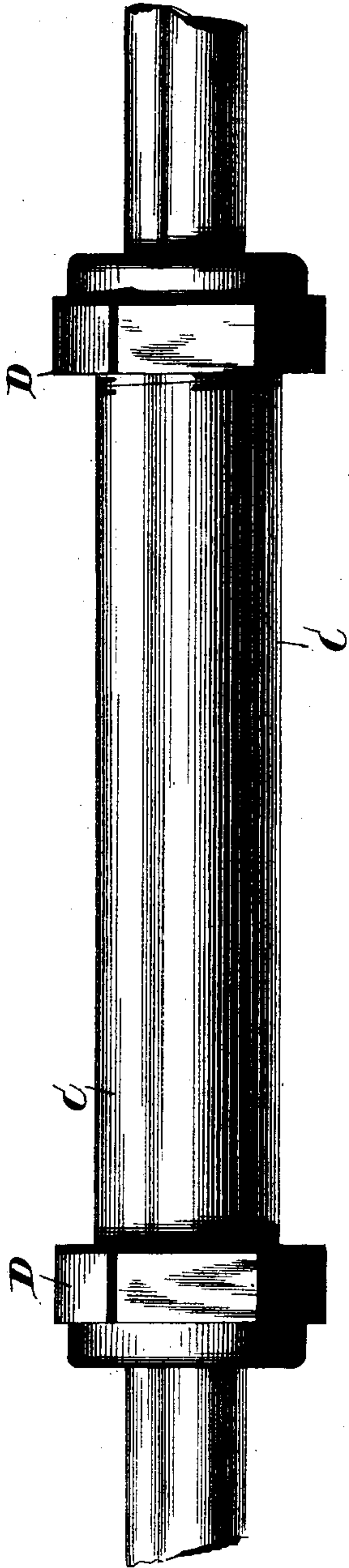
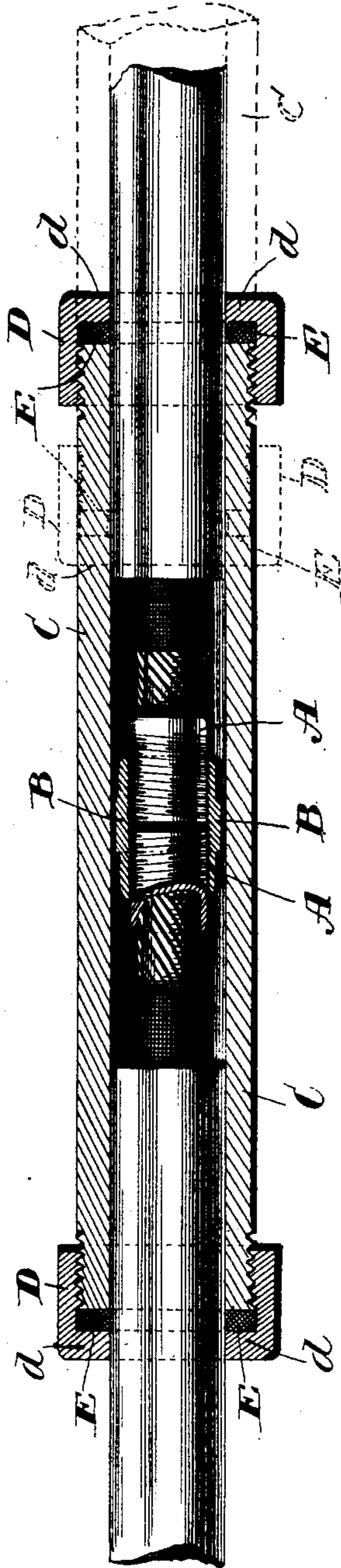


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN J. PURCELL, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF  
ONE-HALF TO WILLIAM H. ALLEN, OF SAME PLACE.

## COUPLING FOR UNDERGROUND WIRES.

SPECIFICATION forming part of Letters Patent No. 483,327, dated September 27, 1892.

Application filed February 16, 1892. Serial No. 421,740. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. PURCELL, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Couplings for Underground Wires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to couplings for electric conductors, and more especially to that class which are provided for affording access to underground wires, which in the form of a cable are inclosed by a covering of lead; but, while designed especially for this particular form of conductor, it is to be understood that I do not limit myself to this use, but regard myself as entitled to use it in connection with other forms of conductors and whether the same are for telegraph, telephone, or lighting purposes.

My object is to provide a coupling which shall be simple, cheap, capable of use by unskilled persons, and which shall effectively answer the purpose for which it is designed.

To these ends and to such others as the invention may pertain said invention consists in the coupling constructed and operating substantially as and for the purpose hereinafter specified.

In the drawings, Figure 1 is a side elevation showing my coupling in use. Fig. 2 is a longitudinal section of the same.

In carrying my invention into practice the insulation and the lead covering of the conductor are removed at the point where it is desired that access shall be had to the wires, so as to expose the latter, and then the wires are cut; or, of course, the cable can first be cut and then from the end of each section the lead and the insulator removed for a short distance lengthwise of the same. Over the exposed portion of the wires of each section I slip and securely fasten thereto an externally-threaded sleeve A of conducting material. The sleeve of one section is provided with a right-hand thread, while the sleeve of

the other is provided with a left-hand thread, and said sleeves, and so the wires, are connected by a nut B, that is provided with right and left hand threads to engage the corresponding threads of the sleeves. The purpose of this double threading will be readily understood. As the nut is a conductor, the wires of the two sections will thus be electrically as well as mechanically connected together. To perfectly house this joint and prevent the access of moisture to the wires, I employ a sleeve or tube C, whose internal diameter is such as to cause it to snugly fit the lead-covered portion of the cable, but yet not so tightly but that said sleeve may readily be slid along the cable. Said sleeve is slipped over the end of one section and out of the way before the wires are coupled, as above described, and then after they are thus coupled it is moved to a position over the joint, so that a portion of its length will extend over each section. Each end of the sleeve C is threaded externally for a short distance for engagement by a nut D. Said nut has an internally-projecting flange *d*, which snugly fits the lead-covered portion of the cable, and between said flange and the end of the sleeve is an annular elastic washer E, that also when not compressed between the nut and the sleeve end snugly fits the cable. This washer performs two functions: first, it serves as a water-tight packing, and, second, when compressed between the nut D and sleeve by screwing up the nut it will be expanded diametrically and be caused to engage the lead surface of the cable with such a degree of friction as to securely hold the sleeve in position, the application of considerable force upon the sleeve being necessary to move it. To obtain access to the wires, it is necessary simply to loosen the nuts D and D sufficiently to allow the washers E and E to relax and then slide or move the sleeve C longitudinally along the cable sufficiently to expose the joint therein. Removal of the nuts is not necessary.

The simplicity and cheapness of my invention and the facility with which it may be originally applied and removed to give access to the wires must be apparent. The housing consists solely of the sleeve or tube C, the two

nuts D D, and the two washers E and E, there being no parts whatever that are united to the lead covering. Skill is not essential to its proper application, and even after the conductor is laid my coupling can be readily applied.

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

10 The combination, with the two sections of an electrical conductor, of a sleeve upon the end of each section, the one having externally right-hand threads and the other externally left-hand threads, a nut having internal right  
15 and left hand threads and a central exter-

nal enlargement and receiving said sleeves, the sleeve C, fitted snugly over the outer covering of the conductor and having external threads at its ends, the flanged nuts engaging the threads of said sleeve C and fitted closely  
20 over the outer covering of the conductor, and the packing-rings between the ends of the sleeve C and the outer ends of the nuts, all substantially as shown and described.

In testimony whereof I affix my signature in  
25 presence of two witnesses.

JOHN J. PURCELL.

Witnesses:

FRANKLIN H. HOUGH,  
R. S. DONALDSON.