

No. 689,937.

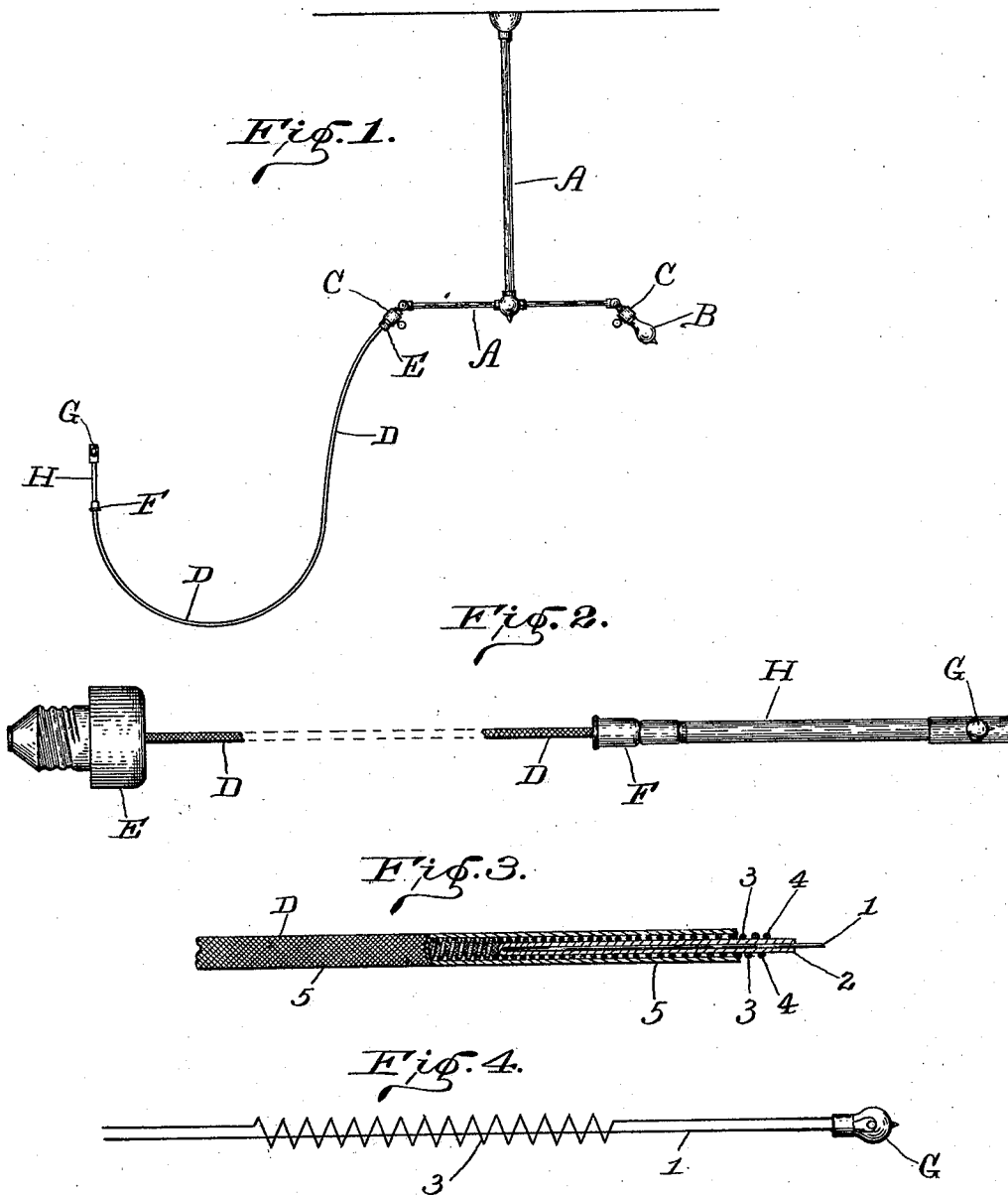
Patented Dec. 31, 1901.

E. E. WERNER.

COMBINED FLEXIBLE CONDUCTOR AND RESISTANCE CORD.

(Application filed Aug. 13, 1900.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

ERNEST E. WERNER, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO GARHART DENTAL MANUFACTURING COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

COMBINED FLEXIBLE CONDUCTOR AND RESISTANCE CORD.

SPECIFICATION forming part of Letters Patent No. 689,937, dated December 31, 1901.

Application filed August 18, 1900. Serial No. 26,741. (No model.)

To all whom it may concern:

Be it known that I, ERNEST E. WERNER, a subject of the Emperor of Austria-Hungary, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in a Combined Flexible Conductor and Resistance Cord, of which the following is a specification.

The object of my said invention is to provide in a conductor-cord for an electrical current a resistance whereby a device requiring less voltage can be coupled onto a circuit of a higher voltage simply by the use of my improved cord without providing any other resistance whatever. Obviously such a cord is capable of use for a large variety of purposes. I have illustrated the same for the purpose of operating a small electric lamp requiring, say, but fifteen volts from an ordinary incandescent-electric-lamp circuit which carries generally about one hundred and ten volts, this being a simple and ordinary use to which my invention may be applied. I desire, however, to be understood as claiming the same for any and all appropriate purposes and uses.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a view of an electric-light fixture designed to carry two electric lamps of the ordinary sort, one of said lamps being removed and a cord embodying my said invention attached in its place with a much smaller lamp on the end of said cord; Fig. 2, an enlarged view of the two ends of such an apparatus; Fig. 3, a detail partially-sectional view of a fragment of the cord on an enlarged scale, and Fig. 4 a diagrammatic view illustrating the electric circuit in which my invention is applied.

In said drawings the portions marked A represent the light-fixture; B, an ordinary incandescent lamp; C, the lamp-sockets; D, a flexible conductor embodying my invention; E, a plug on one end of said cord adapted to fit into a lamp-socket; F, a small socket on

the other end of said conductor; G, a small lamp operated through said conductor, and H a handle-like extension on said lamp for convenience in handling it.

A convenient and preferable form of conductor embodying my invention is composed of a central wire 1, surrounded with suitable insulation 2, which in turn is wound helically (generally from end to end) with a fine wire 3, also having suitable insulation 4, the whole being covered, as usual, with a braided covering 5, thus producing a flexible cord in which is included a suitable resistance. When the conductor is made in this manner, the central insulated wire forms one portion of the electrical circuit and the helically-wound fine resistance-wire forms the other side of the electrical circuit. As will be readily understood, by this means any desired amount of resistance may be provided for any given purpose, while the heavy, cumbersome, and inconvenient resistance-boxes are wholly dispensed with.

A conductor such as illustrated by the drawings provides a convenient means for running a small lamp appropriate to be used in dental and surgical work, and it may be used wherever it is desired to run any electrical device requiring but a low voltage from a high-voltage circuit.

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

1. The combination, with a high-voltage circuit and a low-voltage instrument, of a flexible connection embodying in itself both a conductor and a resistance device, substantially as set forth.

2. The combination of an electrical translating device, and a conductor having a fixed specific resistance, which resistance together with the resistance of the translating device produces the needed ohmic resistance for the operation of the device.

3. The combination of an electrical device, a flexible conductor, and a fixed specific re-

sistance combined therewith in the same flexible structure, substantially as and for the purposes set forth.

4. The combination of a conductor - wire
5 and a resistance coiled about said conductor and insulated therefrom, the whole forming a combined flexible conductor and resistance cord.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 10th day of August, A. D. 1900.

ERNEST E. WERNER. [L. S.]

Witnesses:

C. S. FRYE,
JAMES A. WALSH.