(No Model.)

E. H. PHIPPS.

UNDERGROUND ELECTRIC CONDUIT.

No. 388,442. Patented Aug. 28, 1888.

Fig. 1

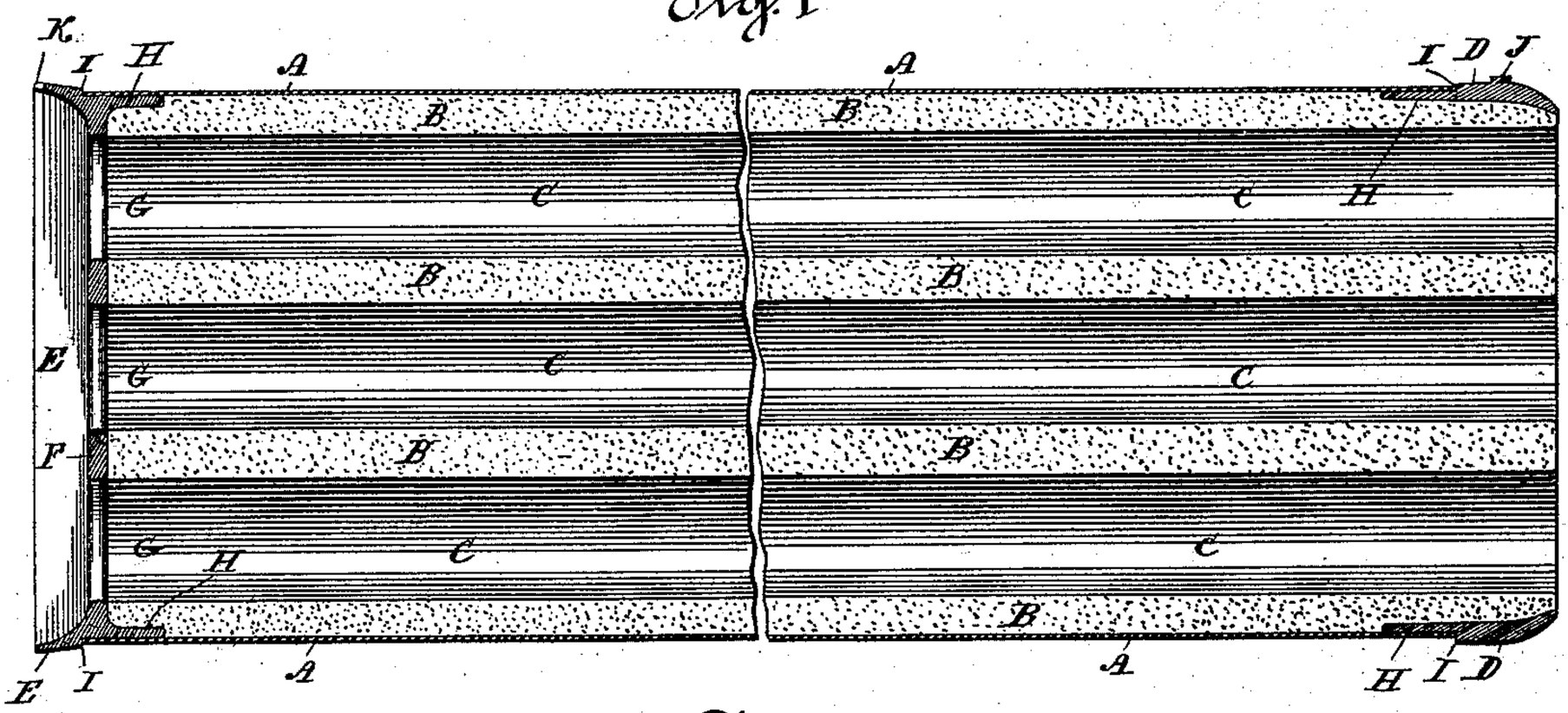


Fig. 2

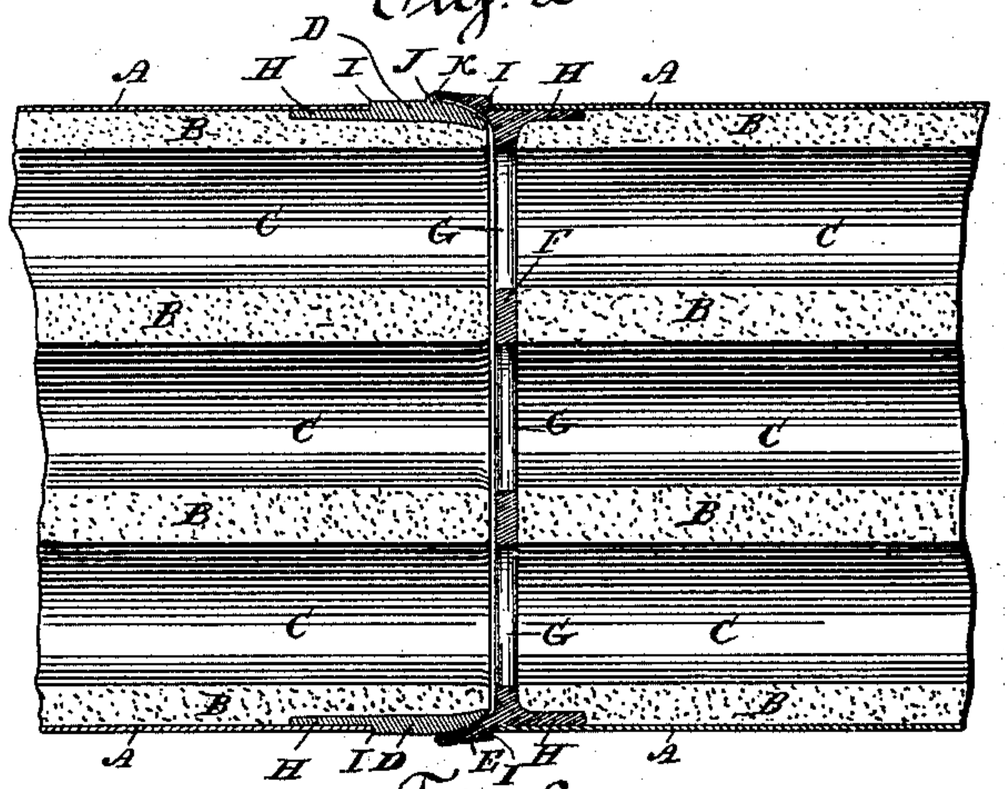


Fig. 3

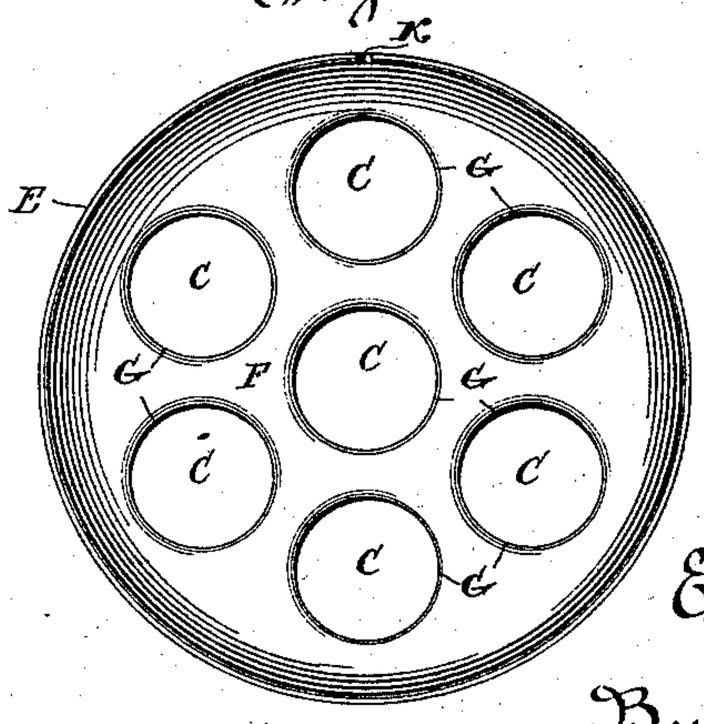
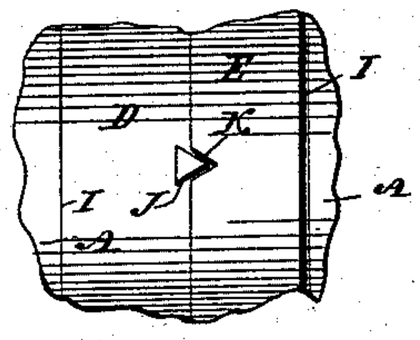


Fig 4



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UNITED STATES PATENT OFFICE.

EDWARD H. PHIPPS, OF NEW HAVEN, CONNECTICUT.

UNDERGROUND ELECTRIC CONDUIT.

SPECIFICATION forming part of Letters Patent No. 388,442, dated August 28, 1888.

Application filed April 4, 1888. Serial No. 269,609. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. PHIPPS, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Underground Electric Conduits; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in underground conduits for electric wires, the object being to produce a cheap, serviceable, and efficient article.

With these ends in view my invention consists in making in one piece a combined ring and perforated diaphragm for the ends of multitubular conduit-sections.

My invention further consists in certain details of construction, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in central longitudinal section of a conduit-section embodying my invention. Fig. 2 is a view in vertical section showing the joint made between two of my improved conduit-sections. Fig. 3 is a view in end elevation of a conduit-section, looking toward the inclosed end thereof; and Fig. 4 is an enlarged broken plan view showing the finger of the male ring and the notch in the female ring for guidance in laying the conduit-sections.

As herein shown, each conduit-section consists of a sheet-metal shell, A, a filling, B, of cement, grout, concrete, or other composition, having seven parallel circular passages, C, formed in it, and a rigid metallic male ring, D, and a similar female ring, E. The said rings are respectively located in the opposite ends of the shell, the female ring being provided with a disk or diaphragm, F, located between its ends, inclosing the cement at the end of the shell, and provided with seven circular openings, G, conforming in size to the passages C aforesaid, and respectively arranged in alignment therewith. Each of the said rings is provided with a sleeve, H, adapted to fit closely into the head of the shell, and with a shallow shoulder, I, virtually corresponding in depth to the thickness of the shell which abuts against it, the outer ends of the rings being adapted to form the opposite members of a universal joint.

The male ring D is provided near its outer end with a finger, J, and the female ring with a notch, K, located in its outer edge and adapted to receive the said finger. In laying the conduit-sections the rings are placed in such relation to the passages in the filling that when the finger of a male ring is entered into the notch of female ring the passages in the two sections will be in alignment.

When the conduit-sections are laid, the perforated disks form, as it were, bridges for the wires or cables located in their passages, the walls of which they protect, and especially when the wires or cables are being drawn through the completed conduit and the sections are relatively deflected, which results in throwing the wires or cables against the said walls. The disks also increase the general strength of the conduit, in which they occur at regular intervals. The number of passages in the filling and the number of openings in the disks may of course be varied at pleasure to meet the requirements of the use which the conduits are to be put to, and, if desired, the disks may be made independent of the rings. I would therefore have it understood that I do not limit myself to the exact construction shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

I am aware that it is not new to provide the ends of multitubular conduit-sections with rings and with perforated disks made independent each of the other. I do not, therefore, broadly claim providing such sections with rings and diaphragms, but only the construction shown herein.

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

1. A combined ring and perforated diaphragm for the ends of multitubular conduit-sections, the ring and diaphragm being made in one piece and the ring having a sleeve, a hollow shoulder, and one member of a universal joint, and the diaphragm having perfora-

tions and being located within and between the two ends of the ring, substantially as set forth.

2. A conduit-section having a metal shell, a cement or composition filling therefor provided with two or more parallel passages and two rigid metallic rings respectively located in opposite ends of the shell and adapted to form the opposite members of a universal joint, one of such rings having a diaphragm made integral with it and adapted to inclose the end of the section, and having openings respectively arranged in alignment with the passages of the filling, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD H. PHIPPS.

Witnesses:
CHAS. B. SHUMWAY,
M. S. SEELEY.