

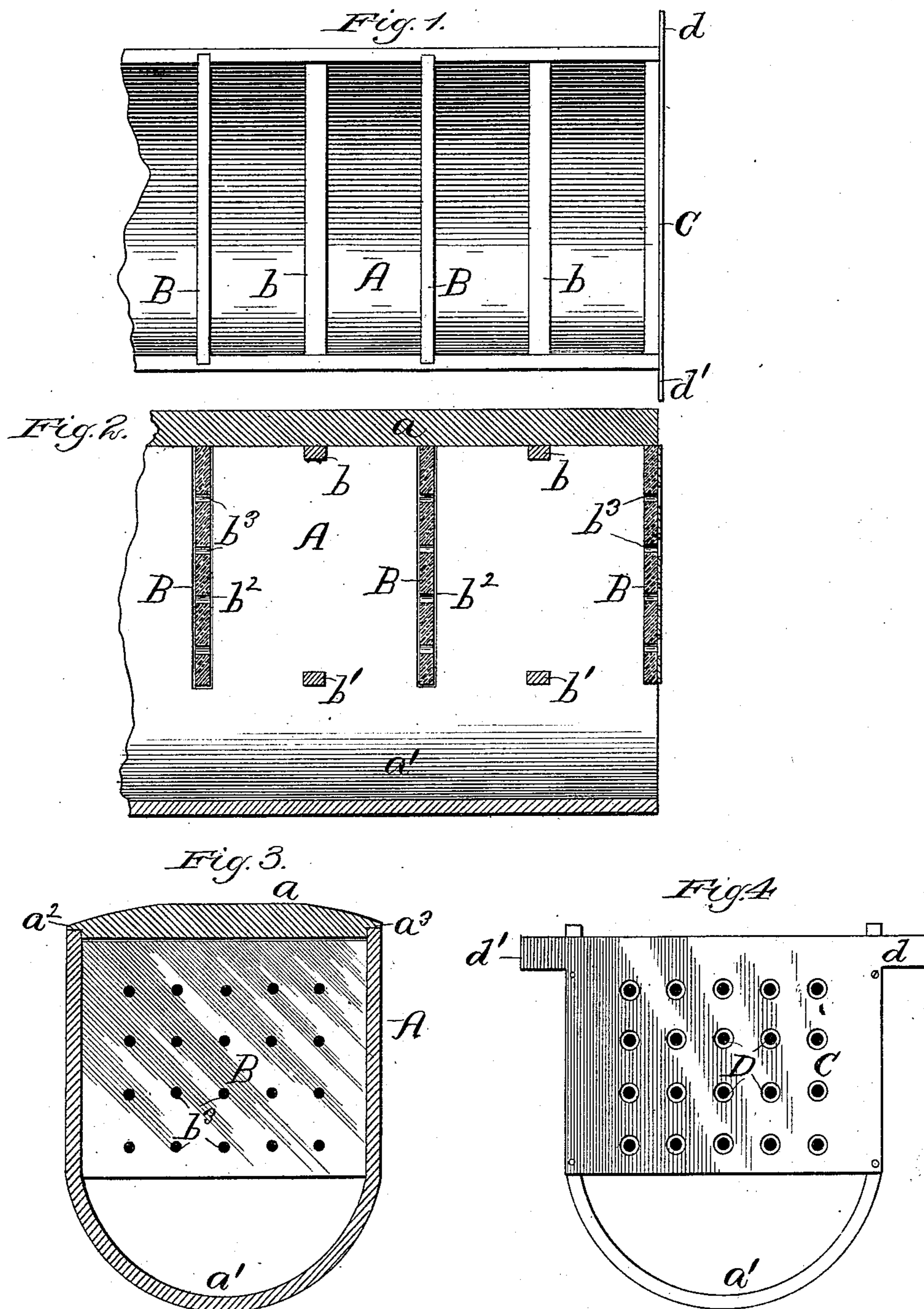
(No Model.)

E. O. HILDEBRAND.

CONDUIT FOR UNDERGROUND TELEGRAPH WIRES.

No. 297,397.

Patented Apr. 22, 1884.



UNITED STATES PATENT OFFICE.

EMIL O. HILDEBRAND, OF CHICAGO, ILLINOIS.

CONDUIT FOR UNDERGROUND TELEGRAPH-WIRES.

SPECIFICATION forming part of Letters Patent No. 297,397, dated April 22, 1884.

Application filed December 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, EMIL O. HILDEBRAND, a subject of the Emperor of Russia, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Conduits for Underground Telegraph-Wires, of which the following is a full, clear, and exact description, that will enable others to understand and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to an improvement in conduits for underground lines; and it consists of certain novel features in the construction and arrangement, as will be hereinafter more fully set forth and claimed.

Figure 1 is a top or plan view; Fig. 2, a vertical longitudinal section; Fig. 3, a vertical transverse section; Fig. 4, an end elevation.

Referring to the drawings, A represents a trough-shaped conduit, in which the wires or electric conductors are strung. This conduit is composed of baked earthenware, and is provided with the removable top or cover *a*. The rounded bottom *a'*, extending down some distance below the lowest row or series of wires, provides a channel for carrying off the water that may find its way into the conduit, and thus prevents the same from interfering with the working of the wires. This trough-like compartment or passage underneath the wires also provides a necessary air-space for the purpose of maintaining a circulation and replacing the damp air by a dry atmosphere. The conduit will be made up of joints or sections in such lengths as may conveniently facilitate the handling of the same, the joining ends being made to overlap, and then cemented together to form a tight joint and a continuous line. The removable cover is made to project down a little in the inside of the upper part of the conduit, and is provided with the flanges *a² a³*, which project over and rest upon the edges of the conduit, as shown in Fig. 3 of the drawings. By this arrangement a close-fitting shoulder-joint is given to these parts, and a lateral movement or displacement of the cover is prevented and convenient access

given to the interior of the conduit. It is not necessary that the conduit through which the wires pass should be placed at any great depth in the ground, but just far enough below the surface of the earth to insure safety. The upper cross-bars, *b*, serve as a rest to support the weight of the cover *a*, and, in connection with the lower companion cross-bars, *b'*, assist in strengthening the side walls of the structure and rendering the same less liable to being injured by heavy rains washing away the surrounding earth. The perpendicular side walls of the conduit are provided with the grooves or recesses *b²*, placed at regular intervals, for the reception of the glass diaphragms B, which are adapted to slide into place from the top and remain in a vertical position. These diaphragms are provided with a number of perforations, *b³*, through which the wires pass, the same being just large enough for the passage of the wires. They should be of sufficient thickness to impart the desired strength, and may be placed at such a distance apart as practical working may require.

The plate C is provided with the arms *d d'*, and represents a lightning-arrester, and may be composed of brass or other suitable conductive material. This plate is placed transversely in the conduit, as shown in Fig. 4 of the drawings, and is provided with the perforations D, corresponding to the perforations in the glass diaphragms. The perforations in the plate C are, however, of a greater area than the openings in the diaphragms, in order to prevent the wires passing through from having contact with said plate and becoming grounded. The plates will be placed in the conduit at such points as the different offices may be located, and the wires will enter the ground from poles or other supports, thus effectually preventing interruptions from atmospheric changes, as the lightning will enter the ground from the nearest point. By this arrangement there is no possibility of the wires becoming crossed or grounded, and new connections may be conveniently made at any point.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A conduit for underground telegraph-wires, provided with a removable cover, and
5 having the rounded bottom part, a' , forming a chamber or passage under the wires, in combination with the removable perforated diaphragms B and the cross-bars $b b'$, substantially as and for the purpose described.

10 2. In a conduit for underground wires, the

combination, with the conduit A, of the metallic plate C, provided with the arms $d d'$, and having numerous perforations for the passage of the electric wires, substantially as and for the purpose set forth.

EMIL O. HILDEBRAND.

Witnesses:

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L. M. FREEMAN.