

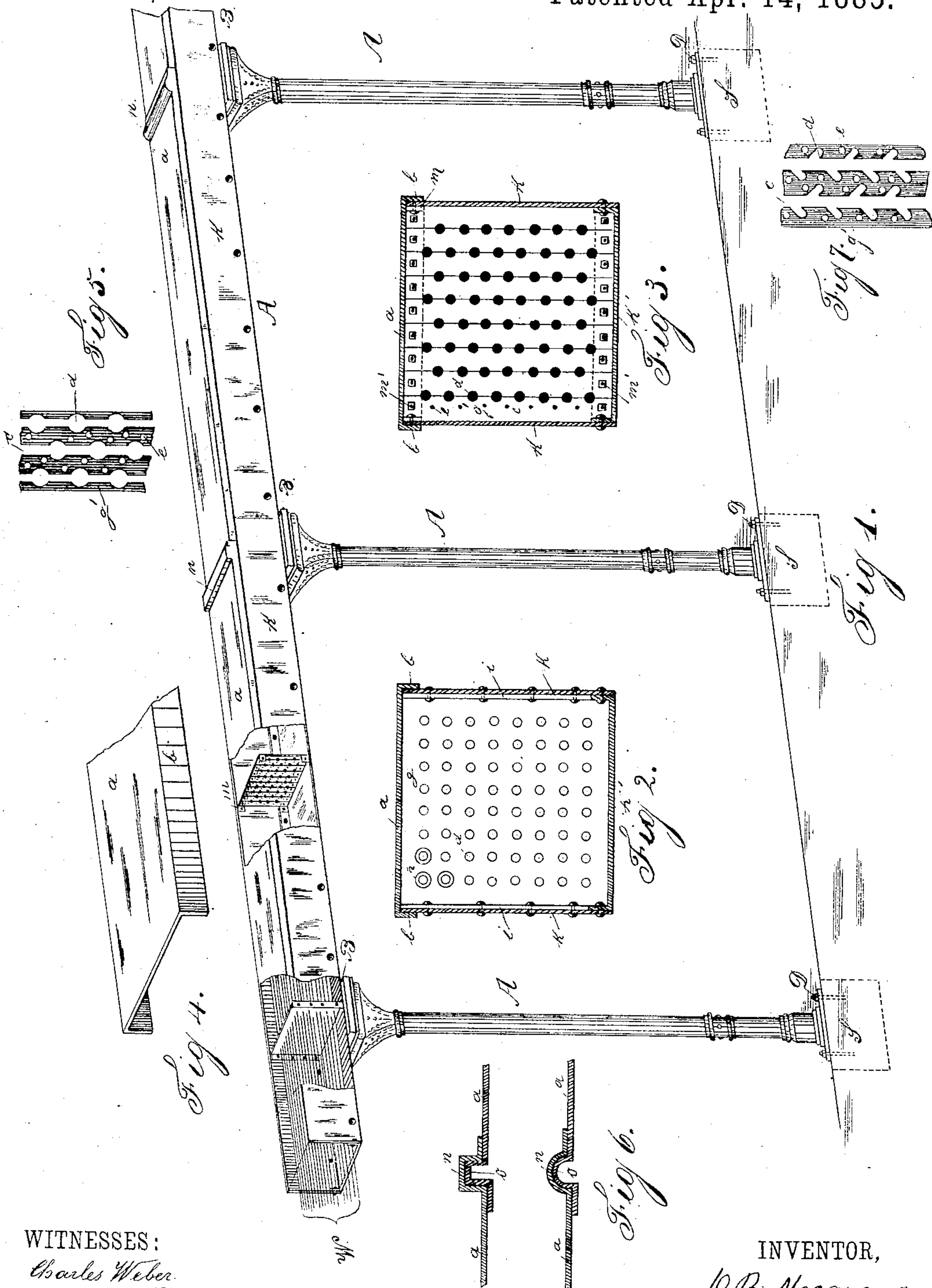
(No Model.)

D. B. MACQUARRIE.

AERIAL CONDUIT FOR ELECTRIC WIRES.

No. 315,526.

Patented Apr. 14, 1885.



WITNESSES:

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AERIAL CONDUIT FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 315,526, dated April 14, 1885.

Application filed September 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, DONALD B. MACQUARRIE, of Kansas City, Jackson county, Missouri, have invented a new and Improved Aerial Conduit for Electric Wires, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved aerial conduit for electric wires; and it consists in the devices and combination of devices hereinafter described, and particularly pointed out in the claims.

My invention consists in supporting upon posts or columns designed especially for the purpose a continuous chamber in which the wires are confined, substantially as hereinafter more fully set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in each figure.

Figure 1 is a perspective view of a section of my aerial conduit, portions of the chamber being broken away to exhibit the wires contained therein. Fig. 2 is a transverse section through the chamber at a point intersecting one of the combined wire-supporting and frame-bracing plates. Fig. 3 is a variation of the same. Fig. 4 shows a portion of the cover in perspective. Fig. 5 is an elevation showing the construction of several wire-confining devices, and Fig. 6 is a longitudinal section through the lap-joints of the removable cover, while Fig. 7 is a variation of the same.

In carrying out my invention I provide a line of supporting-posts, A, which may be tamped into the ground until solid, or by means of suitable flanges at their bases, and the bolts D, secured to a foundation of masonry, S, as shown. These posts may be of any suitable material, but preferably they are formed of cast-iron, having the flange B at the upper end, which projects sufficiently upon either side of the continuous chamber A. Upon this projection the cover *a* (when removed from its normal position) may be placed edgewise, which arrangement obviates the necessity of lowering it to the ground when the wires are being repaired. The said chamber is composed of the side sheets, K, having the flanged bottom sheet, K', riveted to the lower edge thereof. The plates *g*, one of which is placed

immediately over each supporting-post, are used mainly to impart a rigid rectangular form to the sides of the chamber, and being provided with flanges *i* they are securely riveted thereto, but they are also utilized as supports for the wires W, which are passed through the perforations *d*. These apertures may have the insulating rings or thimbles *h* inserted therein. There is provided at a suitable point or points intermediate of the plates *g* a series of thin vertical supporting-strips, *g'*, (shown particularly in Figs. 3, 5, and 7,) having the notches *d* along each edge, in which the wires W are carried, and securely fastened by means of a tie-wire that is passed through the smaller apertures *e* and encircles the main wire. The form of the said notches is obviously immaterial. At the same time, however, those exhibited in Fig. 7 are to be preferred, for, by reason of their peculiar hooked shape, they will retain the wires in position without tying.

The before-mentioned strips *g'* are, for convenience, removably secured to the transverse bars *m* by means of the screws *m'* or equivalents. A pair of these bars, by means of a flange upon each end, are attached in a vertical line to the sides of the conduit, as shown. A removable weather-proof cover, *a*, having the pendent side flanges, *b*, and provided with the raised portion *n* near one end, and with a similarly-formed elevation, *o*, at the opposite extremity, perfectly protects the contents of the conduit.

The length of each section of cover should correspond with the distance between the centers of the supporting posts or columns. The raised portion *n* of the cover-joints is of such dimensions as to fit snugly over the similarly-formed projection *o* of the cover section underlying it, thereby forming, as it were, a tongue-and-groove joint.

After the wires are in position any desired section of the conducting-chamber A, or the entire length thereof, may be filled with paraffine or other insulating compound; but this is not essential to the perfect operation of the line.

It is evident that by the use of the herein-before-described system telegraph and similar wires will be confined in a very limited space. For instance, a ten-inch conduit will accommodate two-hundred wires, whose electrical

condition and freedom from mutual interruption will be more nearly perfect than those of any other known system. The said system affords absolute protection to life and property, for it is impossible for a wire to break and fall from its position. The system will operate equally as well when constructed along the narrowest alleys or lanes as it will upon the broadest streets—a fact of no small importance in the construction and operation of a telegraph system.

I am aware that electrical conductors have been attached to the exterior of a horizontal metallic girder having an I-shaped cross-section supported upon a series of metallic pillars. Such a construction will not answer my present purpose, for various reasons, the main one of which is, the wires being practically exposed to the weather will not operate satisfactorily during the freezing and damp periods of the year. This defect is common to the ordinary pole system and is one which my improved system was especially designed to obviate. Therefore I disclaim the construction of pillars and girder referred to; nor do I

claim any of the devices set forth in United States Patent No. 286,942.

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

1. An aerial conduit for electric wires, comprising in combination a continuous chamber opening upward, a cover therefor removable in sections, and a series of posts or columns which support the continuous chamber and are provided with laterally-extending flanges or projections for supporting the cover during access to the chamber, substantially as described.

2. The combination, with the metallic side sheets, K, and the flanged bottom sheet, K', of the rectangular plate *g*, rigidly secured to each sheet, and provided with perforations *d*, substantially as described.

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

DONALD B. MACQUARRIE.

Witnesses:

HENRY D. ASHLEY,
OTTO BECKENBACH.