(No Model.)

B. L. NEVIUS.

CONDUIT FOR UNDERGROUND WIRES AND CABLES.

No. 319,420. Patented June. 2, 1885.

Fig. 1.

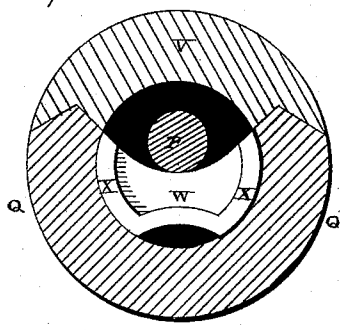


Fig. 2.

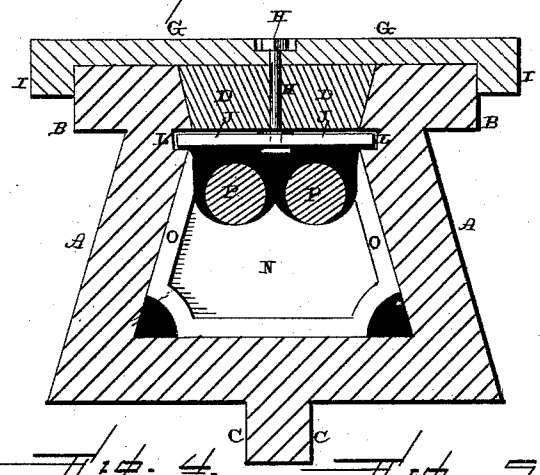


Fig. 3.

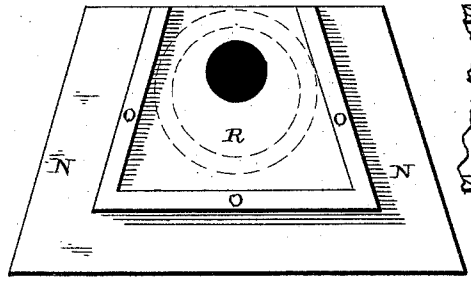


Fig. 4.

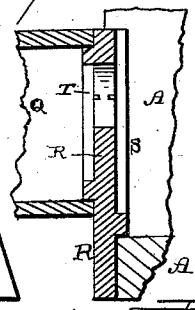


Fig. 5.

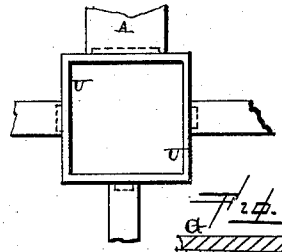


Fig. 11.

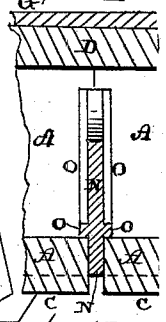


Fig. 6.

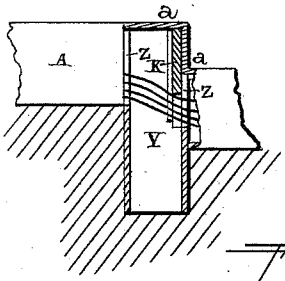


Fig. 7.

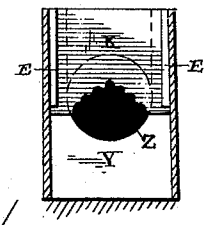


Fig. 8.

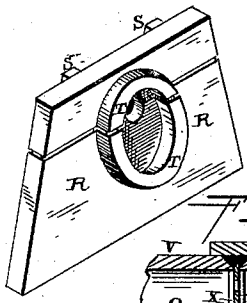


Fig. 10.

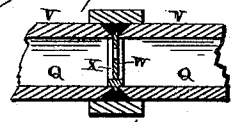


Fig. 9.

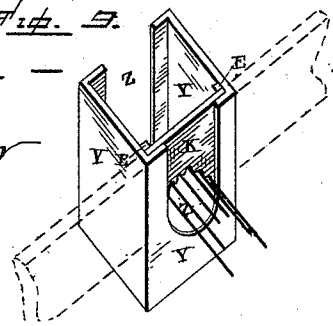


Fig. X.

Witnesses.

K. P. Gardner

L. L. Burket.

Inventor.

B. L. Nevius,

per F. A. Lehmann,

Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

BURNET L. NEVIUS, OF WASHINGTON, DISTRICT OF COLUMBIA.

CONDUIT FOR UNDERGROUND WIRES AND CABLES.

SPECIFICATION forming part of Letters Patent No. 319,420, dated June 2, 1885.

Application filed March 24, 1885. (No model.)

To all whom it may concern:

Be it known that I, BURNET L. NEVIUS, of Washington city, in the District of Columbia, have invented certain new and useful Improvements in Conductors for Underground Wires and Cables; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in conduits for underground wires and cables; and it consists in, first, the combination of a section of the large pipe provided with recesses in opposite sides, with a metallic cover, the board which is applied to its under side, a turning-bolt, which passes down through both cover and board, and a locking-lever, which is connected to the lower end of the bolt and adapted to catch in the recesses inside of the section; second, the combination of a section of the largest size of pipes with a box which is open at both top and bottom and provided with suitable openings in opposite sides, and which box is placed in between the sections of the curbstone; third, the combination of the sections of the conduit, a box which is placed between the sections of the curbstone, the cover which is placed over the top of the box, and the slide which is placed inside of the box, all of which will be more fully described hereinafter.

The object of my invention is to provide a cheap, simple, and practical conduit for underground cables and wires, and which is specially adapted for use where there are but one or two wires or cables to be run.

Figure 1 is a vertical cross-section of one of the smaller sections of the conduit. Fig. 2 is a similar view of one of the larger sections. Figs. 3, 4, and 8 are detail views of the division-plate. Fig. 5 is a plan view of a box, showing a number of different sizes of pipes of the conduit connected thereto. Figs. 6, 7, and 9 are different views of the box, which is placed at the curbstone, where the wires or cables are crossing the street. Fig. 10 is a detail view showing how the smaller pipes are coupled together. Fig. 11 is a vertical section showing a division-plate placed between the ends of two adjoining large pipes.

A represents a section of the larger portion of the conduit, which is made largest at its bottom, and provided with the flanges B at its top. Each section of the conduit will be of suitable length, is made tapering upon its outer side, and shouldered at its top, so that the earth will catch under the shoulders or the flanges B, and when the ground is heaved by frost in the spring, the conduit will be moved with it without being displaced.

On the under side of each section A is formed a longitudinal flange, C, of suitable width, and which flange serves not only to strengthen the section, but serves as a guide to the water or moisture which flows down around the sides and across the bottom of the section to this flange C, where the moisture is conducted down into the ground under the center of the pipe, instead of at one of its corners. Where the moisture runs down into the ground at one of the corners of the sections, the ground is liable to become soft, and when any heavy weight passes over one of the sections it is liable to sink down at that point. By conducting the moisture down under the center of the sections the softest part of the ground will be directly under the center, and then there will be no danger of any of the sections tipping over. Through the top of each section is made a tapering opening or mouth, and in this mouth is placed the board D, which snugly fits therein and forms a tight joint. This board D is secured directly to the under side of the metallic cover G by means of the bolt H, and which cover G is provided with the flanges I along its edges, so as to catch over the shoulders or flanges B, and thus prevent any moisture from getting into the tops of the sections A. The bolts H have rigidly secured to their lower ends suitable rods, levers, or catches, J, which, when the bolt is turned around by a suitable tool, which is applied to its head, are made to catch in the recesses L, which are made in opposite sides of the mouth of each section, as shown. These rods or levers serve to lock the cover rigidly in position, and thus prevent the wires or cables from being tampered with.

Between the ends of the sections A, when

all of the sections are of one size, are placed the division-plates N, shown in Fig. 11, which have suitable flanges, O, formed upon opposite sides, and which flanges O serve to connect the ends of the two adjoining sections together and center them into position. The corners of these division-plates may be cut away, as shown, so as to permit any moisture which may get into the pipes to run freely away. These division-plates serve as supports for the wires or cables P, and to brace and strengthen the sides of the sections A. The sections A will be used where there are one or more cables extending along the street; but where there is to be a conduit extending up an alley or along a street where a single wire is needed, then a smaller pipe, such as is shown in Fig. 1, will be used. Where this smaller pipe, which is composed of sections Q, extends in a line along with the main conduit, the two pipes, of different shapes and different sizes, will be connected together by a division-plate, R, which is provided with an angular flange, S, upon one side, and the circular flange T upon the other.

Where the two pipes are to be connected together at an angle, as shown in Fig. 5, a box, U, will be sunk into the ground, and then the different pipes or conduits will be attached to it in any suitable manner. In Fig. 5 this box is shown having pipes or conduits of different sizes extending in different directions.

The sections Q, together with their covers V, form perfectly round pipes, which will be sunk entirely below the surface of the ground, instead of running along flush therewith, as is the case with the conduit which is formed of the sections A.

In the sections Q will be placed the division-plates W, which are provided with circular flanges X, and which plates W serve to support the wires or cables in position at the same time that the flanges X strengthen the sections Q on their inner sides.

Where the main conduit is to cross a street, a terra-cotta box, Y, which is open at both its top and bottom, and which is made deep enough to extend below the sections of the curbstone, which are placed upon opposite sides thereof, is sunk into the pavement and flush with the outer side of the curbstone, as shown in Fig. 9. This box is made of sufficient depth to extend about a foot below the lowest conduit, so as to turn the water from the conduits each way; and the box is left open at its bottom, so that the water which runs into it from the conduits will sink into the ground, and thus be carried off.

In opposite sides of this box Y are formed suitable openings, Z, up against which the ends of the sections abut, and through which the wires or cables pass. Those sections A which extend across the street will be placed lower than those which extend along the sidewalk, for the purpose of preventing any water from the gutter running into the conduit. A metallic cover, *a*, is used, which is shaped as shown in Fig. 6, and which covers not only the top of the box Y, but one of the sections A out in the street. With the cover *a* of the box a terra-cotta slide, K, is used, which is kept in position by suitable lugs or projections, E, on the inner side of the box, and which slide rests upon the top of the wires and forces them downward sufficiently far to escape contact with the cover *a*. When the cover *a* is placed in position, its weight upon the top of the slide K forces it down until its top edge becomes flush with the top of the box Y.

Where the ends of the sections Q are connected together, the ends are beveled away, as shown in Fig. 10, and then the spaces between these bevels are filled with potter's clay, and over this joint is then placed a collar, so as to form a tight joint. In between each pair of sections is placed a division-plate, W, as already described.

Having thus described my invention, I claim—

1. The combination of a section, A, provided with the recesses L, with the metallic cover G, the part D, the bolt H, and the locking rod or lever J, substantially as shown and described.

2. The combination of the sections A with the box Y, which is placed between the curbstones, and which is provided with suitable openings, Z, for the passage of wires and cables, substantially as specified.

3. The combination of the box Y with the slide K and cover F, substantially as shown.

4. The combination of the sections A at the street-crossing with the box Y, which is open at both its top and bottom, and provided with openings Z upon opposite sides, the slide K, and the cover *a*, substantially as set forth.

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

BURNET L. NEVIUS.

Witnesses:
B. LEWIS BLACKFORD,
F. A. LEHMANN.