(No Model.)

E. VERSTRAETE.

UNDERGROUND WIRE SYSTEM.

No. 441,043. Patented Nov. 18, 1890.

Fig. I.

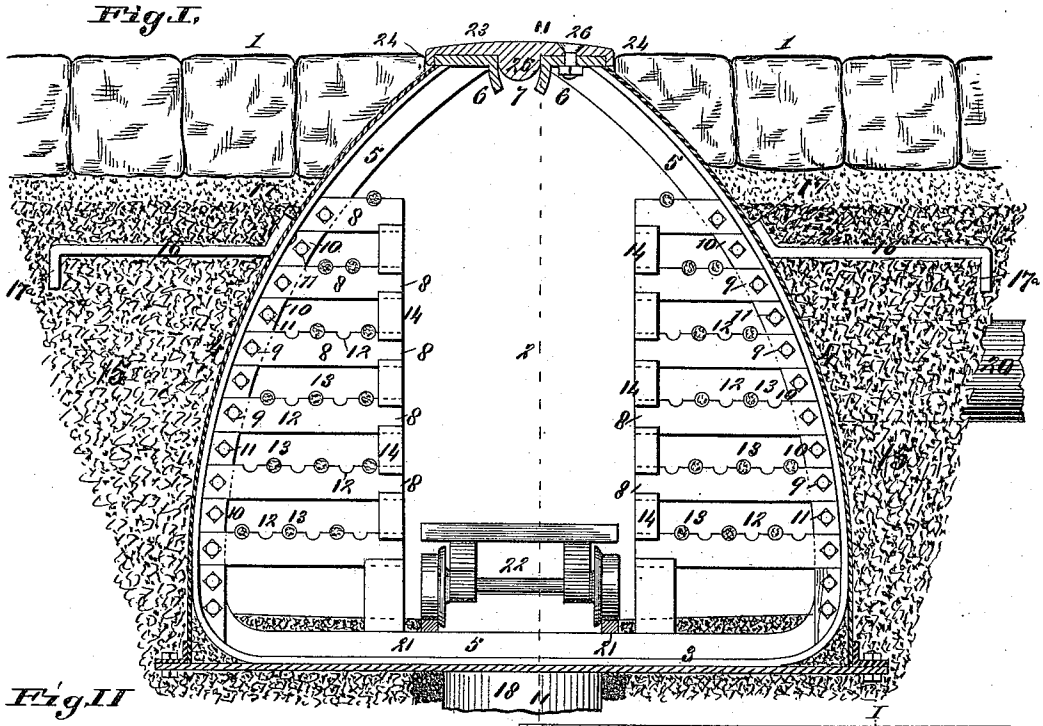
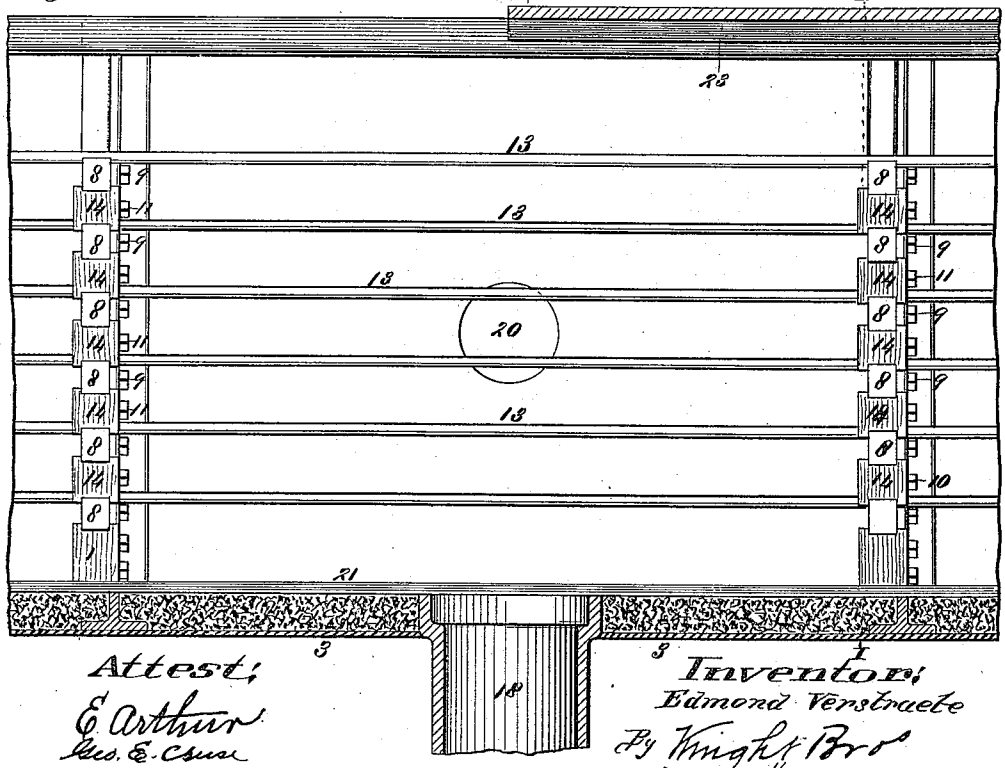


Fig. II



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDMOND VERSTRAETE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO PETER M. KLING AND GEORGE J. KOBUSCH, OF SAME PLACE.

UNDERGROUND-WIRE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 441,043, dated November 18, 1890.

Application filed February 21, 1890. Serial No. 341,341. (No model.)

To all whom it may concern:

Be it known that I, EDMOND VERSTRAETE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Underground-Wire Systems, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved system of arranging wires underground; and my invention consists in features of novelty, hereinafter fully described, and pointed out in the claims.

Figure I is a transverse section taken on line II, Fig. II, and illustrative of my invention. Fig. II is a detail longitudinal section taken on line II II, Fig. I.

Referring to the drawings, 1 represents a road-bed, in which is located a conduit 2, the bottom of which is formed by plates 3, and the sides of which are formed by plates 4, and T rails or bars 5, the rails also extending across the bottom of the conduit and being bent to the contour of the conduit in transverse section. The rails or bars are placed a suitable distance apart, as shown in Fig. II, and their upper ends are left a short distance apart and sustain the slot-rails 6, between the inner edges of which is the slot 7.

8 represents strips, (preferably of wood,) which are secured by bolts 9 to the flange of the T rails or bars, and between these strips blocks 10, preferably of wood, are placed and secured to the flanges of the rails or bars by bolts 11. These blocks hold the strips the proper distance apart and afford additional support to the strips to that afforded by the bolts 9. The strips and blocks are preferably made of wood, as stated; but they may be made of other non-conductive material. The strips 8 are provided with notches 12 to receive the wires 13, which are located or placed in the system. Between the outer ends of the strips 8 blocks 14 are placed, the blocks being mortised to receive the strips, as shown in Fig. II. The function of these blocks is to support the outer ends of the strips under the weight of the wires, and when a wire is to be inserted the block occupying the space through which the wire is to be inserted is simply lifted out or removed, and when the wire is put in the block is inserted again, and thus the blocks permanently support the outer ends of the strips, which, though they would have sufficient strength to support the wires for the short time consumed in inserting a wire, would be liable to sag if not supported at the outer ends for any considerable length of time. The walls of the conduit are embedded in a mass of concrete 15, and to prevent their tendency to close at their upper ends I secure bars 16 to them at 17, these bars having downturned outer ends 17^a, which, engaging the concrete, act to prevent the contraction of the walls of the conduit.

18 represents pipes leading from the bottom of the conduit to a sewer or other drain.

20 represents pipes leading off laterally from the conduit, and through which the wires 13 may be taken to any desired point or place.

21 represents rails located in the bottom of the conduit, and upon which a truck 22 is placed. In applying the wires a person mounting the truck can easily move along through the conduit. The slot 7 is closed by a cap 23, which overlaps the slot-rails and engages their outer edges by downturned ends 24. The central portion of the cap has a rib 25, fitting between the inner edges of the slot-rails, and thus acting to prevent the closing of the slot in cold weather under the expansion of the street or road-bed. The cap 23 is made in sections, one end of one of the sections being shown in Fig. II, and these sections are secured to one of the slot-rails by bolts 26, as shown in Fig. I. When a wire is to be inserted, a person on the street would drop it through the slot by raising one section 23 of the cap after another, and a person on the truck would place it on one series of the strips 8 by removing and replacing the blocks 14, as stated.

This system of supporting underground wires is comparatively inexpensive, the wires are easily inserted and removed, and when in place are out of contact with each other or with any conductor of electricity, and a very great advantage in applying and removing the wires is accomplished by the slotted conduit,

through which the wires may be inserted from the street above after the conduit is completed.

I claim as my invention—

1. In an underground system for wires, the combination of the supporting-bars, strips secured to the bars and provided with notches to receive the wires, and blocks placed between the outer and inner ends of the strips, substantially as set forth.

2. In an underground system for wires, the combination of the strips for supporting the wires, with stationary supports at their inner ends and removable supports at their outer ends, which permits of the easy insertion of the wires, substantially as and for the purpose set forth.

3. In an underground system for electric wires, the combination of the bars, strips secured to the bars, blocks secured to the bars between the strips, and blocks placed between the outer ends of the strips and mortised to receive the strips, substantially as and for the purpose set forth.

4. In a conduit for underground-wire systems, the combination of the slot-rails, with a sectional cap fitting on the slot-rails over the slot, said cap having a rib 25, projecting into the slot, and downturned flanges on its outer edges fitting over the slot-rails, substantially as herein set forth.

EDMOND VERSTRAETE.

In presence of—
THOS. KNIGHT,
E. S. KNIGHT.