(No Model.)

W. H. JOHNSTON.

SUBWAY CONDUIT.

No. 574,430. Patented Jan. 5, 1897.

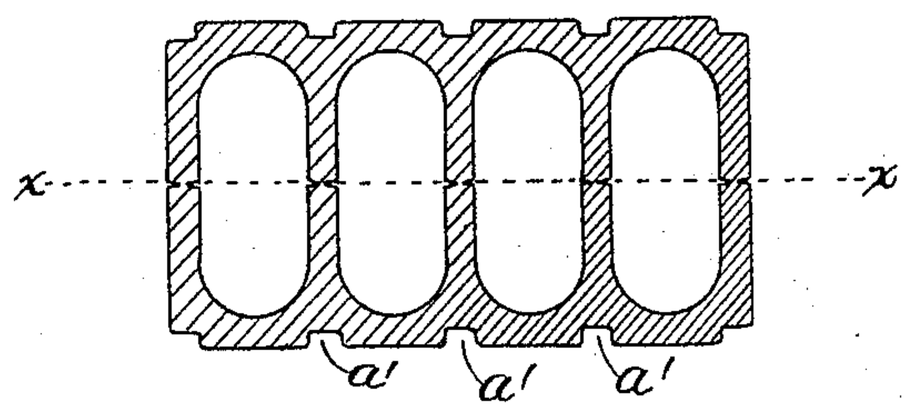

Fig. 1

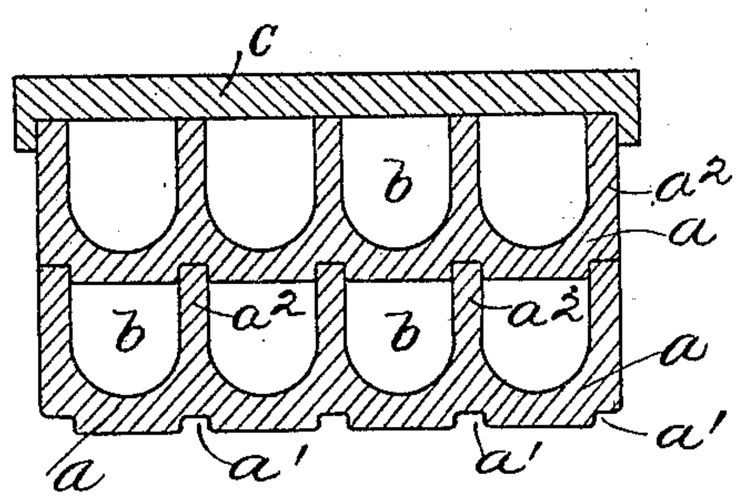

Fig. 2.

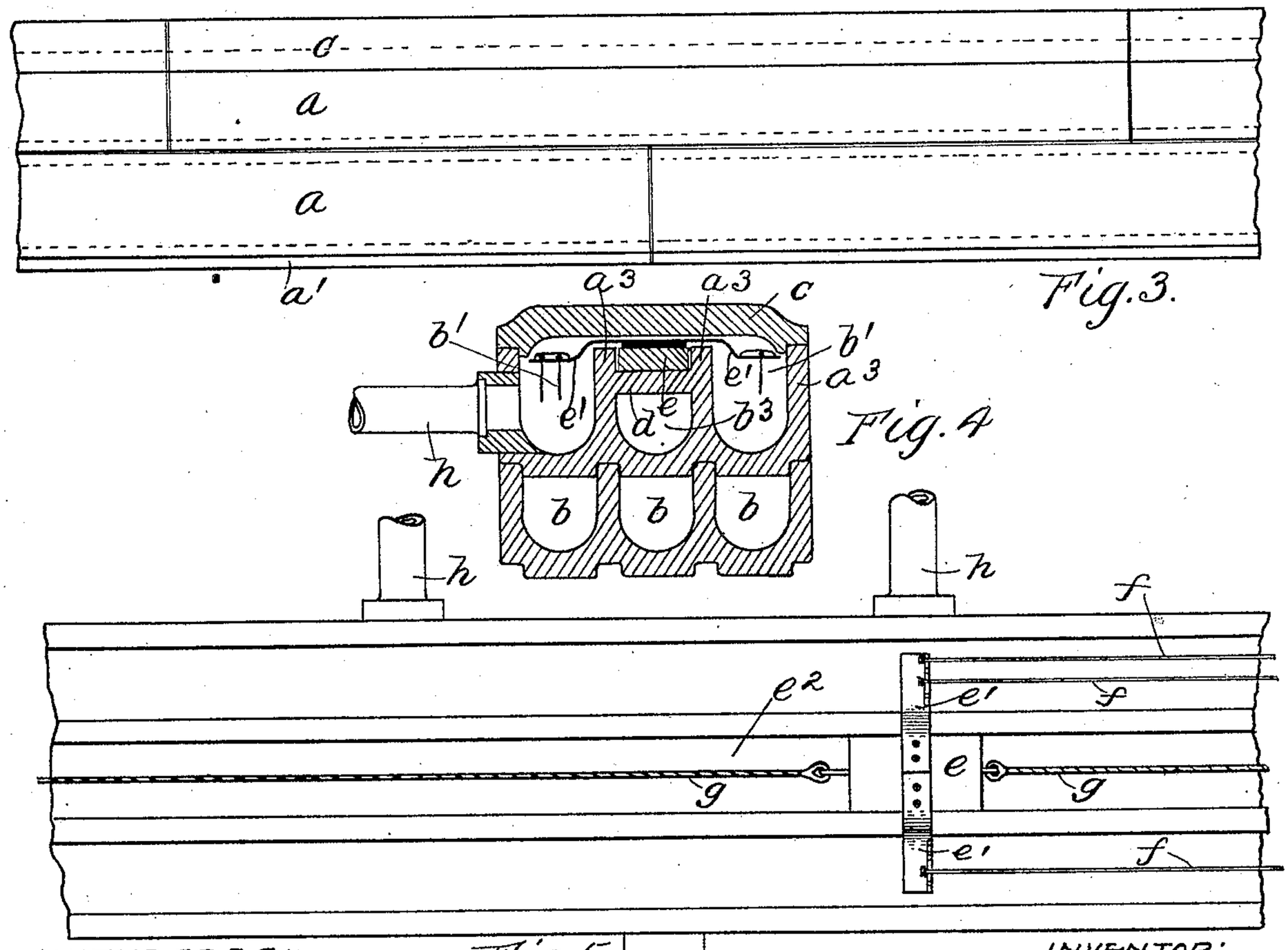

Fig. 3.

Fig. 4

Fig. 5.

WITNESSES:
L. P. C. Banner
John W. Sinclair

INVENTOR:
WILLBUR H. JOHNSTON.
BY Barton & Brown
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLBUR H. JOHNSTON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE BELL TELEPHONE COMPANY OF MISSOURI, OF SAME PLACE.

SUBWAY-CONDUIT.

SPECIFICATION forming part of Letters Patent No. 574,430, dated January 5, 1897.

Application filed August 15, 1896. Serial No. 602,913. (No model.)

To all whom it may concern:

Be it known that I, WILLBUR H. JOHNSTON, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Subway-Conduits, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a subway-conduit for electrical conducting wires or cables, and its object is to provide improved means for drawing conducting-wires through the conduits.

I will explain my invention by reference to the accompanying drawings, which illustrate one form of conduit to which my invention may be applied.

In the drawings, Figure 1 is a cross-section of a double tile before it is broken, upon the line $x\,x$, to form two individual tiles. Fig. 2 is a cross-section of a subway-conduit formed of two layers. Fig. 3 is an elevation of the same. Fig. 4 shows in cross-section a conduit containing main or cable ducts and distributing-ducts, together with my improved means for drawing the wires through distributing-ducts to the openings at which they are to be led out to the points of application. Fig. 5 is a top view of the same, the cover being removed.

Like letters refer to like parts throughout the several figures.

Each tile a has grooves a' formed therein, into which the walls a^2 of any other tile may be fitted and secured by cement or mortar. Thus the open ducts in each tile are covered by the bottom of the next tile above, except the top layer of tiles, which requires a separate covering. The conduit may be thus built up until the desired number of ducts are formed, when the cover c is added, completing the structure.

Referring to Figs. 4 and 5, the upper layer of tiles is molded so as to form two distributing-ducts $b'\,b'$ on each side, in which are laid those wires which are to be led out at various intermediate openings $h\,h$ between the manholes to the points of application. Between these two distributing-ducts b' is located a branch cable-duct b^3, in which cables are placed to which immediate access is not required. A partition d is formed across the upper part of this middle duct b^3, forming, with the upper parts of the wall a^3 of the duct b^3, a guideway e^2, in which a block e may slide. Arms $e'\,e'$ are secured to the block or carriage e, to which wires $f\,f$ may be removably fastened, said arms extending over the walls a^3 a^3 into the distributing-ducts b'. Ropes $g\,g$ are attached to the block e, by which it may be pulled along the guideway e^2 to draw the wires f through the conduit. Openings $h\,h$ are provided at intervals along the distributing-ducts b', from which the wires $f\,f$ may be led to the points of application.

It will be seen that many advantages exist in employing the form of conduit shown in Figs. 4 and 5, in which one or more layers of tile may be built up in the manner illustrated in Fig. 2, after which the topmost layer may be made as shown, containing two distributing-ducts, one cable-duct, and a guideway along which the block e may be pulled to draw the wires through the distributing-ducts to the openings $h\,h$, where they are to be led out. In the cable-duct b^3 of the top layer and in the cable-ducts $b\,b$ of the underlying layers may be placed the larger cables, to which immediate access is not required.

It is obvious that my invention may be employed in other styles of conduits than that shown, and I do not therefore desire to be limited to the particular application of my invention shown.

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

1. In a conduit for electrical conducting wires or cables, the combination with main or cable ducts, of distributing-ducts b', a guideway e^2 centrally disposed with relation to said distributing-ducts, a block e adapted to slide back and forth in said guideway, arms $e'\,e'$ mounted upon said block e, and extending into each of said distributing-ducts, to which arms may be secured the wires $f\,f$, which it is desired to draw through said distributing-ducts, and ropes $g\,g$ attached to either end of said block to draw it through the guideway in either direction, substantially as described.

2. In a conduit for electrical conducting wires or cables, the combination with main or cable ducts, of distributing-ducts b', a guideway e^2 centrally disposed with relation to said distributing-ducts, a block e adapted to slide in said guideway, arms e' e' mounted upon said block e, and extending into each of said distributing-ducts, to which arms may be secured the wires f f, which it is desired to draw through said distributing-ducts, and a rope g attached to said block to draw it through the conduit, substantially as described.

3. The combination of a cable-duct b^3, a guideway located therein, a carriage e adapted to travel in said guideway, means for imparting longitudinal motion to said carriage, a second cable-duct b' disposed parallel to duct b^3, an arm or projection e' extending from said carriage into duct b' to which arm a conducting-wire that is be drawn through duct b' is adapted to be secured substantially as described.

In witness whereof I hereunto subscribe my name this 24th day of June, A. D. 1896.

WILLBUR H. JOHNSTON.

Witnesses:
GEORGE P. BARTON,
D. W. C. TANNER.