No. 723,892. PATENTED MAR. 31, 1903.

R. W. LYLE.

TILE OR CONDUIT FOR ELECTRIC CONDUCTORS.

APPLICATION FILED JULY 1, 1902.

NO MODEL.

Fig. 1.

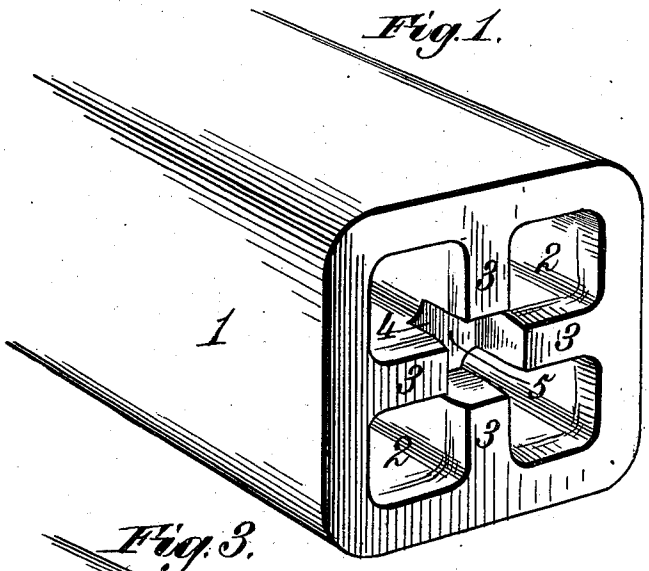


Fig. 2.

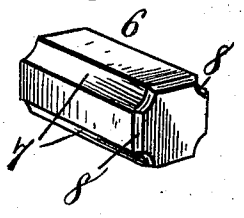


Fig. 3.

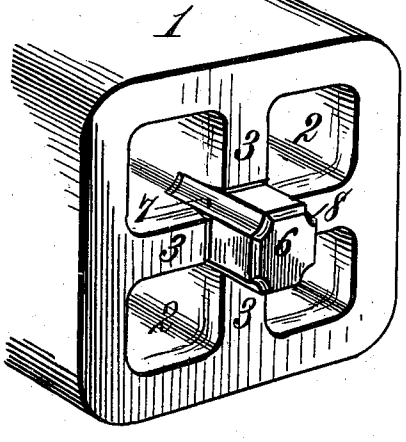


Fig. 5.

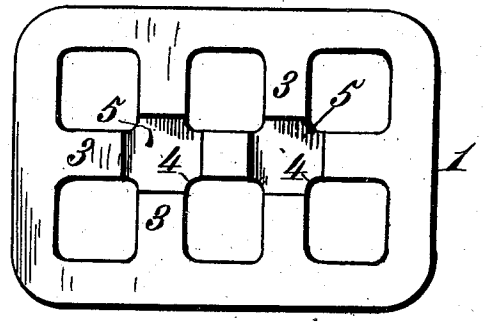
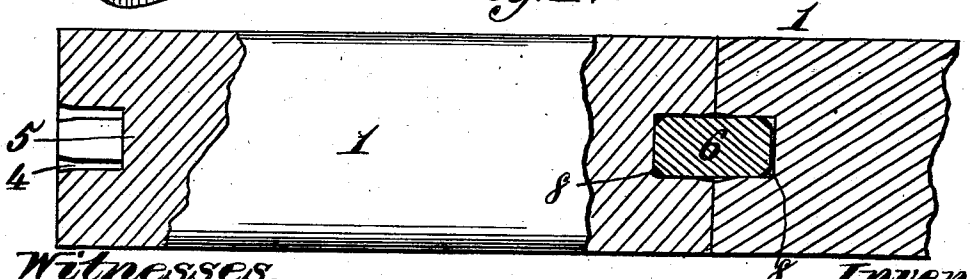


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TILE OR CONDUIT FOR ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 723,892, dated March 31, 1903.

Application filed July 1, 1902. Serial No. 113,917. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. LYLE, a citizen of the United States, residing at Perth Amboy, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Tiles or Conduits for Electric Conductors; 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 appertains to make and use the same.

This invention relates to cellular tiles employed in the construction of underground conduits for electric conductors, and has for its object to provide novel means for centering and connecting said tiles.

To this end my invention consists in the features and in the construction, combination, and arrangement of parts hereinafter described, and particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a perspective view of one end of one of my improved tiles. Fig. 2 is a perspective view of one of the dowels or centering-pins. Fig. 3 is a view similar to Fig. 1, showing the dowel- or centering-pin in place. Fig. 4 is a longitudinal sectional view of the conduit, showing the abutting ends of two tiles; and Fig. 5 is an end view of a tile in which two dowels or centering-pins are employed.

Referring to the drawings, the numeral 1 indicates one of my improved cellular tiles or conduit-sections, consisting of a hollow tile, preferably rectangular in cross-section and divided into a plurality of longitudinal compartments or cells 2 by transverse webs or partitions 3, which are disposed at right angles to one another and which project inward from the inner sides of the tile 1 and are united at the center of the tile to form a core 4. Each of the compartments 2 is adapted to receive one or more electrical conductors when the tiles are laid end to end.

Formed centrally in each end of the tile 1 is a mortise, which is formed by cutting away the central core 4 and the inner adjacent ends of the webs or partitions 3, thereby forming passages 5, which place the mortise in communication with the cells or compartments 2. The mortises may be formed in the ends of the tiles by any suitable means, but are preferably cut therein by a combined boring-tool and hollow square chisel, which is fully shown, described, and claimed in a separate application for Letters Patent filed by me on the 23d day of June, 1902. By means of the implement referred to the ends of the core 4 are removed by a boring-tool, and simultaneously the inner adjacent ends of the webs or partitions 3 are removed by a hollow chisel. During such operation of forming the mortise the debris or chips are partially discharged through the apertures 4 into the cells or compartments 2 instead of depending entirely upon the boring-tool to raise the same, as is usual with implements of this character, thereby preventing the liability of choking up the mortising device.

Adapted to be fitted in the mortised ends of the tiles are dowels or centering-pins 6, each consisting of a dowel substantially square in cross-section and of such size as to accurately fit the mortises in the meeting ends of each two adjacent tiles. The longitudinal edges or corners of the dowels 6 are rabbeted or grooved, as at 7, in such manner that when the dowel-pins are inserted in the mortises the grooved edges or corners of the dowels will form practically continuations of the walls of the compartments 2. The ends of the dowels are beveled or chamfered on their plain sides, as at 8, to facilitate the insertion of the dowels in the mortises and for a purpose hereinafter explained.

In laying a conduit composed of my improved tiles the latter are placed end to end and the dowels 6 are fitted in the mortised ends of the tiles, thus centering or alining the tiles or sections, and owing to the rectangular shape in cross-section of the mortises and the dowels the tiles are not only alined but are prevented from having any rotative movement relative one to another, whereby the several compartments or cells of the tiles form practically continuous ducts for the reception of the electric conductors.

By removing the jointure between the webs or partitions not only are the chips or debris permitted to escape by way of the cells or compartments, but should the mortises become filled with dirt or the like the latter may

be readily removed. By grooving the corners or edges of the dowels and by beveling or chamfering the ends of the latter all sharp edges at the abuting ends of the tiles are avoided, thus permitting the electrical conductors being easily drawn through the cells or compartments of the conduit without liability of the insulation being cut or abraded. Furthermore, by forming the mortises in the manner described I am enabled to use dowels of relatively large size in cross-section and without sensibly weakening the tiles, and the square or straight faced inner or adjacent faces of the cut-away portions of the webs or partitions 2 form firm and accurate bearing-surfaces for the flat sides of the dowels.

In Figs. 1 and 3 I have shown a cellular tile having four longitudinal cells or compartments; but it will be obvious that the tile may be provided with any number of compartments or cells, and in Fig. 5 of the drawings I have shown a tile provided with six cells or compartments and two mortises 4 for the reception of a corresponding number of dowels, the mortises being formed in the ends of the tile at the intercepting points of the webs or partitions 3, as before described.

The dowels or centering-pins 6 may be made of wood, iron, clay, or any suitable composition of matter and may be fitted loosely in the mortises, so as to be readily inserted while building a conduit, or they may be permanently secured or cemented therein by sulfur, asphalt, or any suitable cement. The tile sections thus become male and female and may be readily centered and alined when the conduit is being built. Furthermore, by affixing the dowels directly to the conduit-sections all liability of said dowels becoming lost and the labor involved in placing the same in position at the time the sections are laid is entirely overcome, the tiles being at once complete self-centering sections.

Having described my invention, what I claim is—

1. An underground-conduit section, comprising a hollow tile having intersecting webs or partitions which divide the tile into separate cells or compartments, the intersecting portions of said webs or partitions at an end of the tile being removed to provide a mortise with side openings which latter communicate with said cells or compartments.

2. An underground-conduit section, comprising a hollow tile provided with a plurality of transverse webs or partitions united at their inner ends to form a central core, said core having formed in its opposite ends mortises which communicate with the cells or compartments formed by the webs or partitions, substantially as described.

3. An underground conduit, comprising a hollow tile provided with a plurality of transverse webs or partitions which divide said tile into a number of longitudinal cells or compartments, said tile having formed centrally in its opposite ends a rectangular aperture which communicates with the said cells or compartments, substantially as described.

4. An underground-conduit section, comprising a hollow tile provided with a plurality of transverse webs or partitions united at their inner ends to form a central core, the opposite ends of said core and partitions being removed to form a mortise for the reception of a tenon, said mortises having side openings which communicate with the cells or compartments formed by said webs or partitions, substantially as described.

5. An underground-conduit section, comprising a hollow tile provided with transverse longitudinal intersecting partitions united at the center of the tile to form a central core, the opposite ends of the core and the inner ends of the partitions adjacent thereto being removed to form mortises, said mortises communicating with the cells formed by the partitions, substantially as described.

6. An underground-conduit section, comprising a hollow tile provided with transverse intersecting partitions forming a plurality of longitudinal cells and a central core, the opposite ends of the core and the inner ends of the partitions adjacent thereto being removed to form mortises having side openings, in combination with a tenon shaped in cross-section to fit said mortises, substantially as described.

7. An underground-conduit section, comprising a hollow tile provided with a plurality of longitudinal transverse intersecting partitions forming longitudinal cells and a core at their point of intersection, one end of the core and the adjacent ends of the partitions being removed to form a mortise having side openings, for the purpose specified.

8. An underground-conduit section, comprising a hollow tile provided with a plurality of longitudinal transverse intersecting partitions forming longitudinal cells and a core at their point of intersection, the core and a portion of each partition adjacent thereto being removed to form mortises in the opposite ends of the tile, and a tenon secured in one of said mortises, substantially as described.

9. An underground conduit comprising a hollow tile provided with a plurality of longitudinal transverse intersecting partitions forming longitudinal cells and a core at their points of intersection, the ends of the core being entirely removed to provide open-sided mortises in the opposite ends of the tile, and a tenon permanently secured in one of said mortises and projecting beyond the end of the tile, substantially as described.

10. An underground conduit, comprising a hollow tile provided with a plurality of longitudinal and transverse intersecting partitions forming longitudinal cells and a core at their points of intersection, the core and a portion of each partition adjacent thereto being removed to form rectangular mortises in the opposite ends of the tile, and a rectangular tenon shaped to fit the mortises in the

meeting ends of two adjacent tiles, the end edges of said tenon being beveled, substantially as described.

11. An underground conduit, comprising a hollow tile provided with a plurality of longitudinal transverse intersecting partitions forming longitudinal cells and a core at their points of intersection, the ends of the core and the adjacent ends of the partitions being removed to form an angular mortise, a tenon having a shape in cross-section corresponding to the shape of the mortise and having grooved corners to aline with the inner corners of the cells, substantially as described.

12. An underground electric conduit, consisting of a plurality of hollow tiles arranged end to end and each provided with a plurality of transverse longitudinal intersecting partitions forming longitudinal cells and a core at their points of intersection, the ends of the core and the adjacent ends of the partitions being removed to form angular mortises, and tenons, angular in cross-section, fitted in the mortises of the adjacent ends of meeting tiles, said tenons corresponding in shape in cross-section to the shape of the mortises and having grooved edges which aline with the inner corners of the cells, substantially as described.

13. A tenon for uniting the meeting ends of underground-conduit tiles, said tenon being angular in cross-section and having grooved edges, which correspond with the contour of the partition-walls of the tile.

14. A tenon for uniting the meeting ends of underground-conduit tiles, said tenon having its longitudinal edges cut away, to correspond in shape with the contour of the partition-walls of the tile with which the tenon is used.

15. A tenon for uniting the meeting ends of underground-conduit tiles, said tenon being cut away at its longitudinal and end edges, said longitudinal edges corresponding in shape with the contour of the partition-walls of the tile with which the tenon is used, for the purpose specified.

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

ROBERT W. LYLE.

Witnesses:
B. S. BARNARD,
W. J. BURKE.