

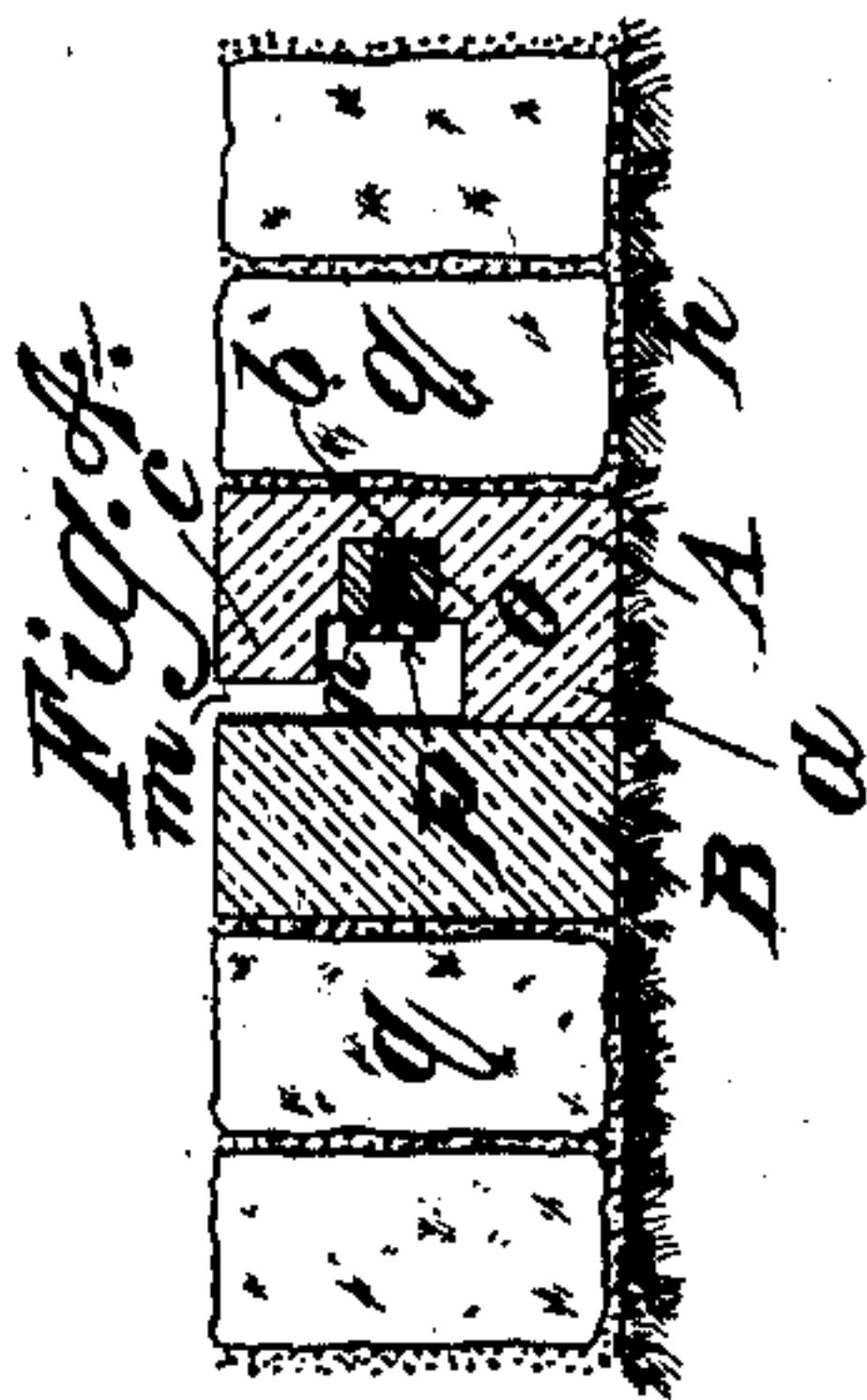
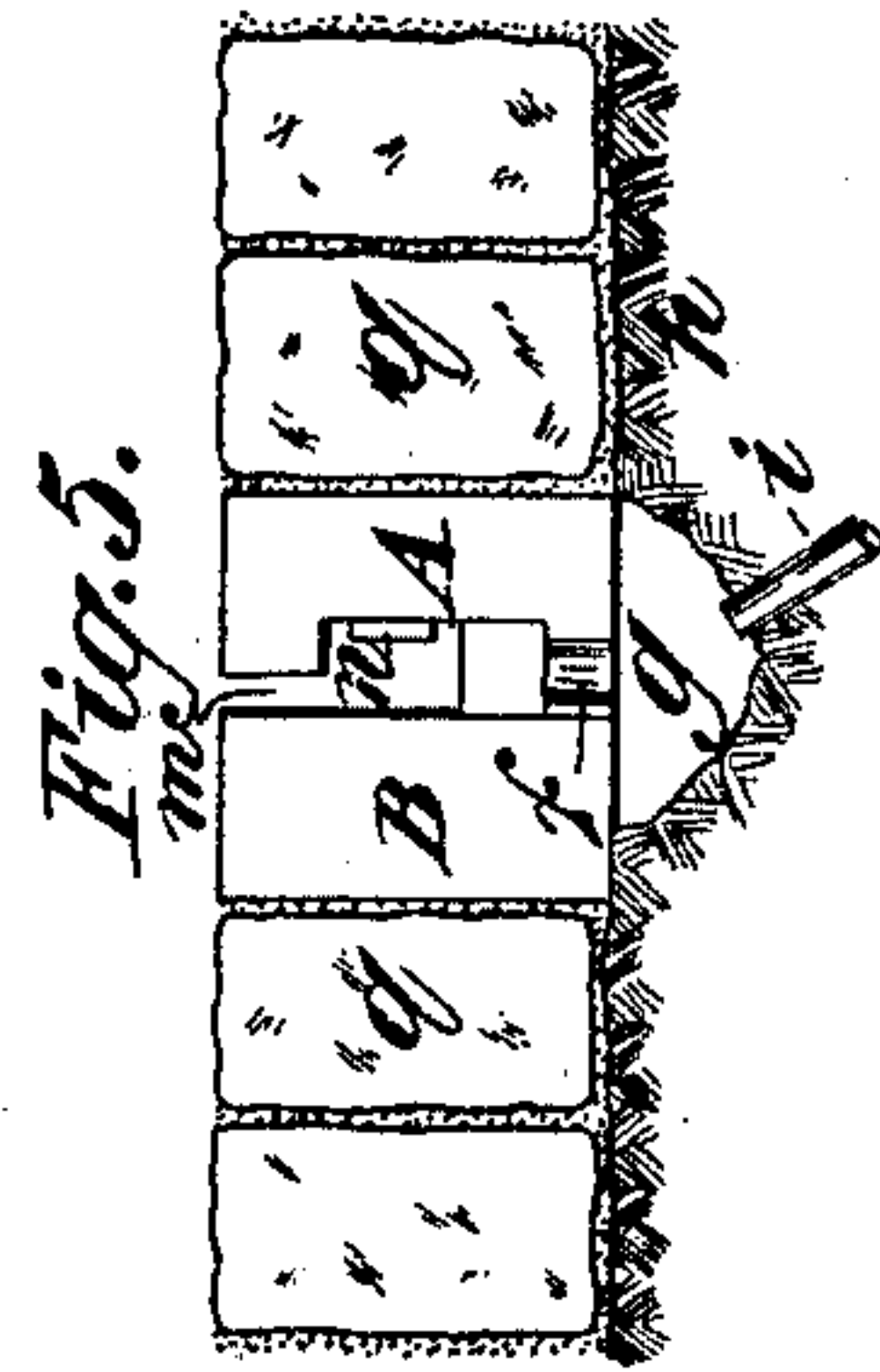
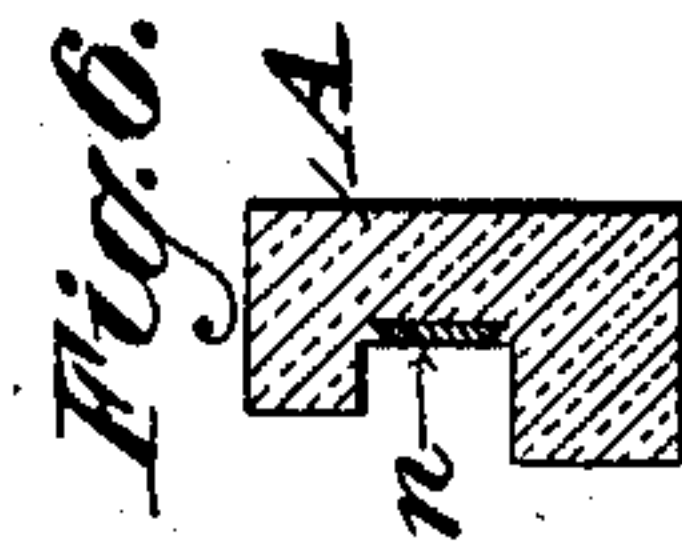
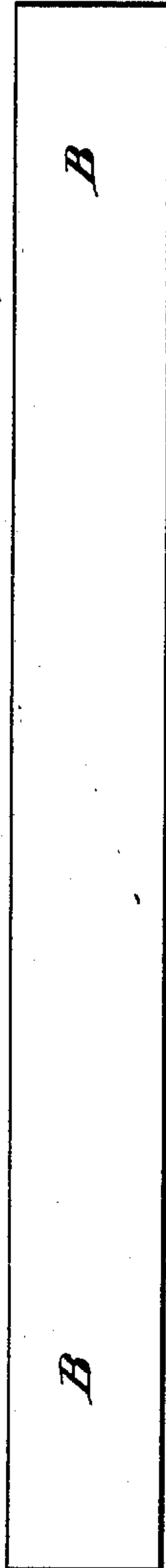
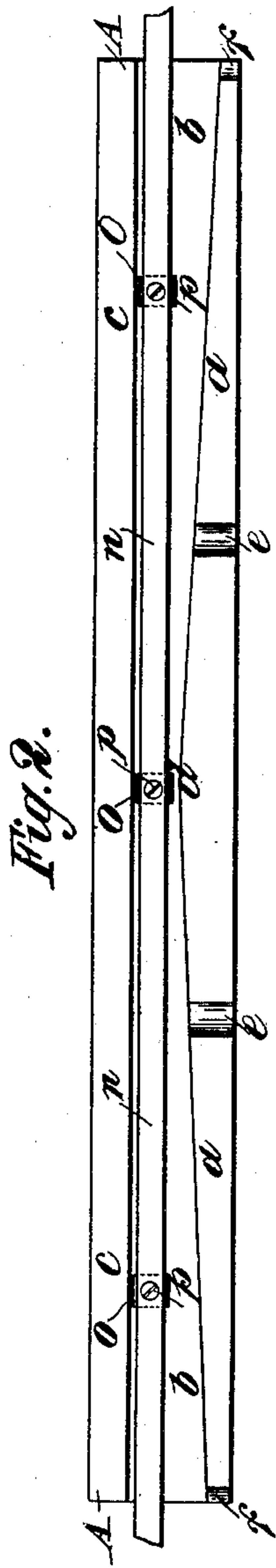
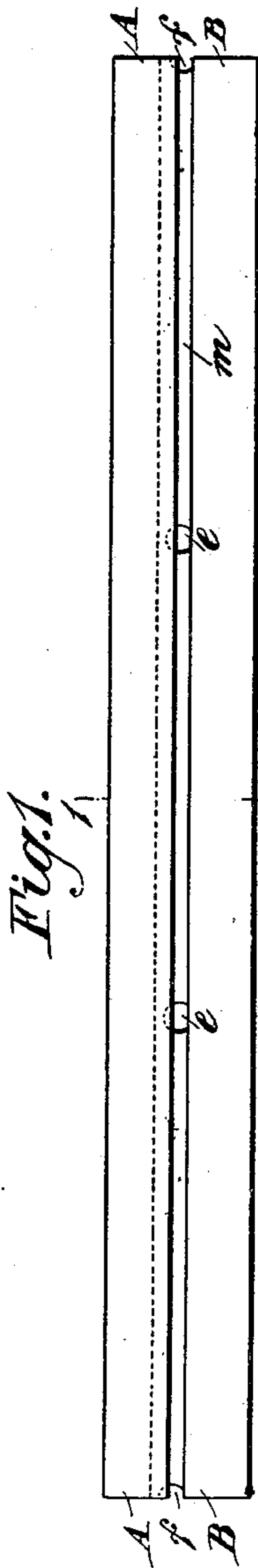
No. 711,292.

Patented Oct. 14, 1902.

G. F. CORNWALLIS-WEST.  
ELECTRIC RAILWAY OR TRAMWAY.

(Application filed May 23, 1902.)

(No Model.)



Witness:-  
J. W. Griswold,  
R. H. Bishop.

Inventor,  
George Frederick Cornwallis-West  
By Davis & Davis,  
Attorneys.



# UNITED STATES PATENT OFFICE.

GEORGE FREDERICK CORNWALLIS-WEST, OF LONDON, ENGLAND.

## ELECTRIC RAILWAY OR TRAMWAY.

SPECIFICATION forming part of Letters Patent No. 711,292, dated October 14, 1902.

Application filed May 23, 1902. Serial No. 108,618. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE FREDERICK CORNWALLIS-WEST, a subject of the King of Great Britain and Ireland, residing in London, England, have invented Improvements in and Pertaining to Electric Railways or Tramways, of which the following is a specification.

In an electric railway or tramway according to this invention in order to provide in a simple, economical, safe, efficient, and durable manner for the carrying of an exposed electric-current conductor the same is located in a conduit which is constructed of blocks of devitrified glass, such as that well known as "Garchey's" glass stone, which blocks are so constructed and laid together and in connection with suitable drains as to produce not only an appropriate insulating-conduit for the purpose mentioned, with ample provision for efficient drainage and capable of being easily flushed, but also durable portions of the exposed general surface of the roadways between the rails, the said blocks being made to fulfil the twofold purpose of forming the conduit and serving as paving-blocks.

The invention consists in various novel features of construction and combinations and arrangements of parts, all as hereinafter described, and set forth in the claims.

Figure 1 of the accompanying illustrative drawings shows in plan a portion of a conduit composed of two blocks A B of devitrified glass constructed and arranged according to my invention. Fig. 2 shows in elevation the inner side of the block which is marked A in Fig. 1. Fig. 3 shows in elevation the inner side of the block which is marked B in Fig. 1. Fig. 4 shows a transverse section of a portion of roadway between two rails, (which rails are not shown,) the section being (so far as the conduit is concerned) on the line 1 2 of Fig. 1. Fig. 5 shows a portion of roadway between two rails, (which rails are not shown,) this view being taken in a transverse vertical plane where the ends of two juxtaposed lengths of conduit abut. Fig. 6 shows a block A in which the corresponding length of conductor *n* is located in the block itself and is of a form to be thereby kept in place without the use of separate fastening devices.

A and B are two blocks of devitrified glass

of the kind hereinbefore referred to. The block A is constructed with a laterally-projecting base part *a*, which constitutes the bottom of the conduit, a vertical portion *b*, which forms one side wall of the conduit, and an upper laterally-projecting part *c*, which forms the top of the conduit, while the tops of the parts *b* and *c* constitute together a surface which itself forms part of the paved roadway for ordinary traffic between the rails. (Not shown.) The upper surface of the laterally-projecting base part *a* has its highest part at *d*, whence it inclines downward toward the respective ends of the block in order to carry off any liquid that may enter the conduit.

*e e* are recesses, which when the blocks A and B are juxtaposed, as shown in Figs. 1, 4, and 5, form holes adapted to convey liquid from the conduit. *f f* are end recesses, which when blocks are arranged end to end form similar holes for drainage. All these holes are arranged to communicate with recesses, such as *g*, formed in the foundation *h* and provided with drain-pipes, such as *i*.

The block B constitutes the second side wall of the conduit, and its top forms a part of the surface of the roadway. *m* is a slot-like opening between the upper parts of the two blocks, in which can travel the arm or carrier of a brush or slider carried by a car.

*n* is the conductor of electricity.

*o o* are blocks of metal, such as steel, cast in the block A and formed with holes, which are internally screw-threaded.

*p p* are screws, which pass through countersunk holes in the conductor and are screwed into the blocks *o*, so as to hold the conductor *n* in position. The heads of the screws do not project beyond the surface of the conductor *n*.

*q q* are paving-blocks, of granite or other suitable substance.

As will be evident, the shapes of the blocks A and B, as also of the conductor *n*, as well as the method of fastening it in position, may be somewhat modified according to requirement without departure from the essential characteristics of my invention, and the dimensions and other details are likewise susceptible of variation. Thus, for example, according to one modification (indicated by Fig. 6) the conductor is of dovetail shape in



cross-section and is inserted in the block A, which may be done when casting that block. The length of conductor *n* of each block A in this case is electrically connected to those of  
 5 the adjoining blocks A after the blocks have been placed *in situ*, as will be readily understood.

What I claim is—

1. As a new article of manufacture a paving-block of devitrified glass which constitutes the top, the bottom, and one side of a conduit for carrying an electric-current conductor, said bottom having its upper surface inclined and being provided with means for  
 15 escape of liquid from said conduit.

2. A paving-block of devitrified glass which constitutes the top, the bottom and one side of a conduit for carrying an electric-current conductor said bottom having its upper surface inclined and being provided with means for escape of liquid from said conduit in combination with a second paving-block which constitutes the other side of said conduit an opening being provided between the upper  
 25 parts of said two blocks throughout their length.

3. A paving-block of devitrified glass which constitutes the top, the bottom and one side of a conduit for carrying an electric-current  
 30 conductor said bottom having its upper surface inclined and being provided with means for escape of liquid from said conduit in combination with a length of electric conductor and with a second paving-block which constitutes the other side of said conduit an opening being provided between the upper  
 35

parts of said two blocks throughout their length.

4. In a paving-block of devitrified glass which constitutes the top, the bottom and one side of a conduit for carrying an electric-current conductor said bottom having its upper surface inclined and being provided with means for escape of liquid from said conduit, means whereby said conductor is fastened to the side wall of said conduit and a second paving-block which constitutes the other side of said conduit an opening being provided between the upper parts of said two blocks throughout their length.

5. A paving-block of devitrified glass which constitutes the top, the bottom and one side of a conduit for carrying an electric-current conductor said bottom having its upper surface inclined and being provided with means for escape of liquid from said conduit in combination with a length of electric conductor.

6. A paving-block of devitrified glass which constitutes the top, the bottom and one side of a conduit for carrying an electric-current conductor said bottom having its upper surface inclined and being provided with means for escape of liquid from said conduit in combination with means whereby said conductor is fastened to the side wall of said conduit.

Signed at 77 Cornhill, in the city of London, England, this 5th day of May, 1902.

GEORGE FREDERICK CORNWALLIS-WEST.

Witnesses:

WM. O. BROWN,

PERCY E. MATTOCKS.