

(No Model.)

3 Sheets—Sheet 1.

G. WESTINGHOUSE, Jr.
SUBWAY FOR ELECTRIC CONDUCTORS.

No. 434,165

Patented Aug. 12, 1890.

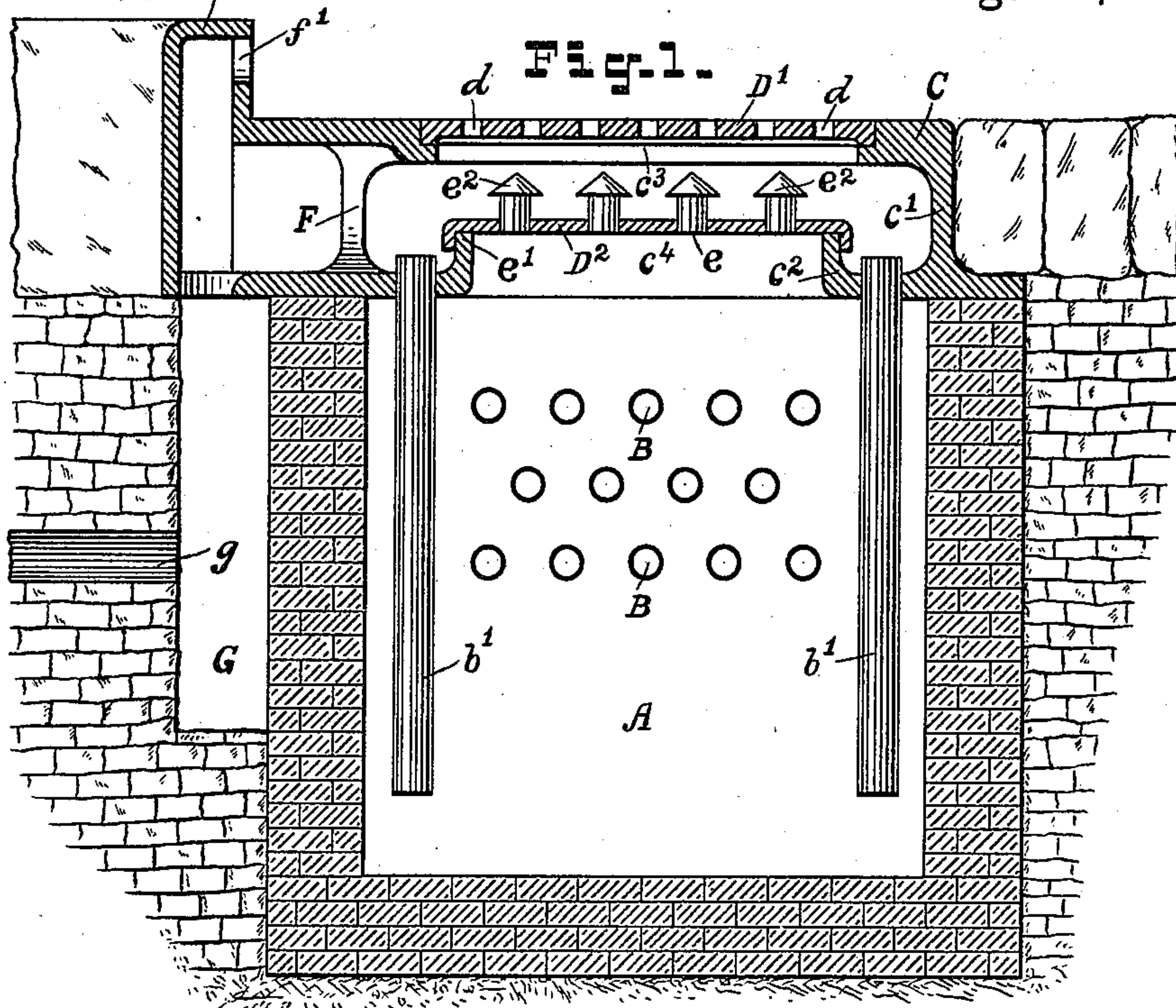
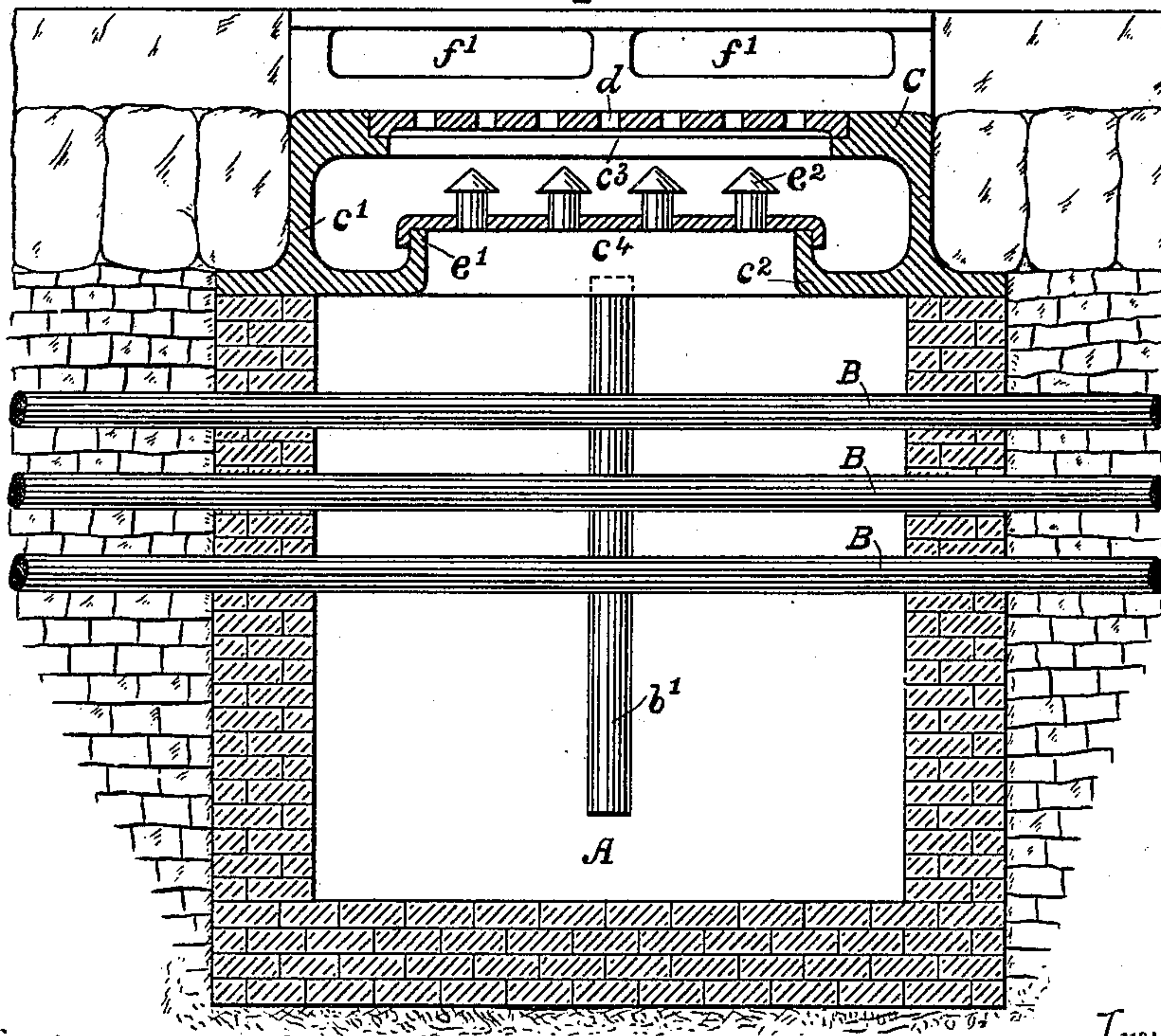


Fig. 2.



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By his Attorney
Charles A. Terry

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3 Sheets—Sheet 2.

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No. 434,165_H

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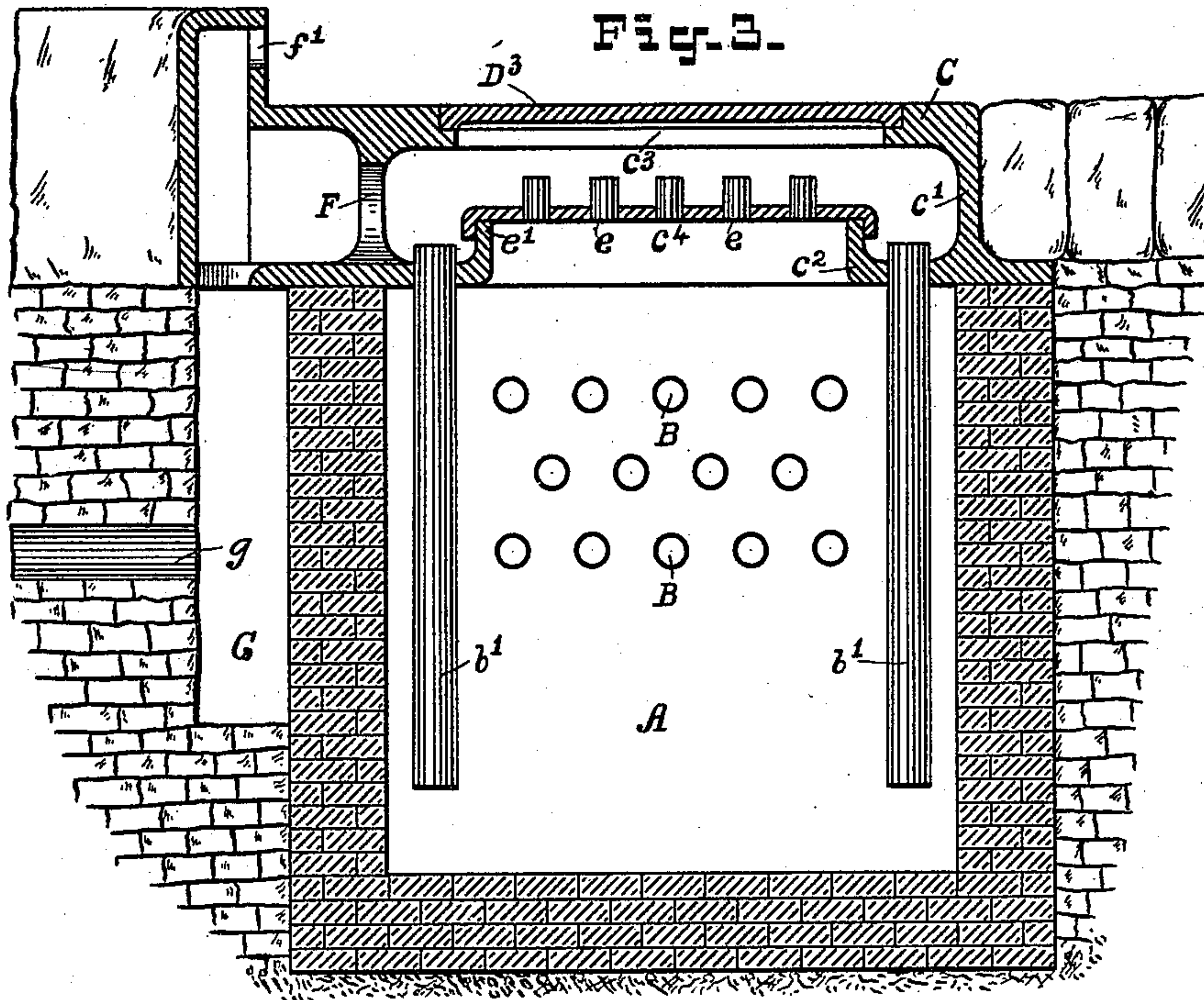
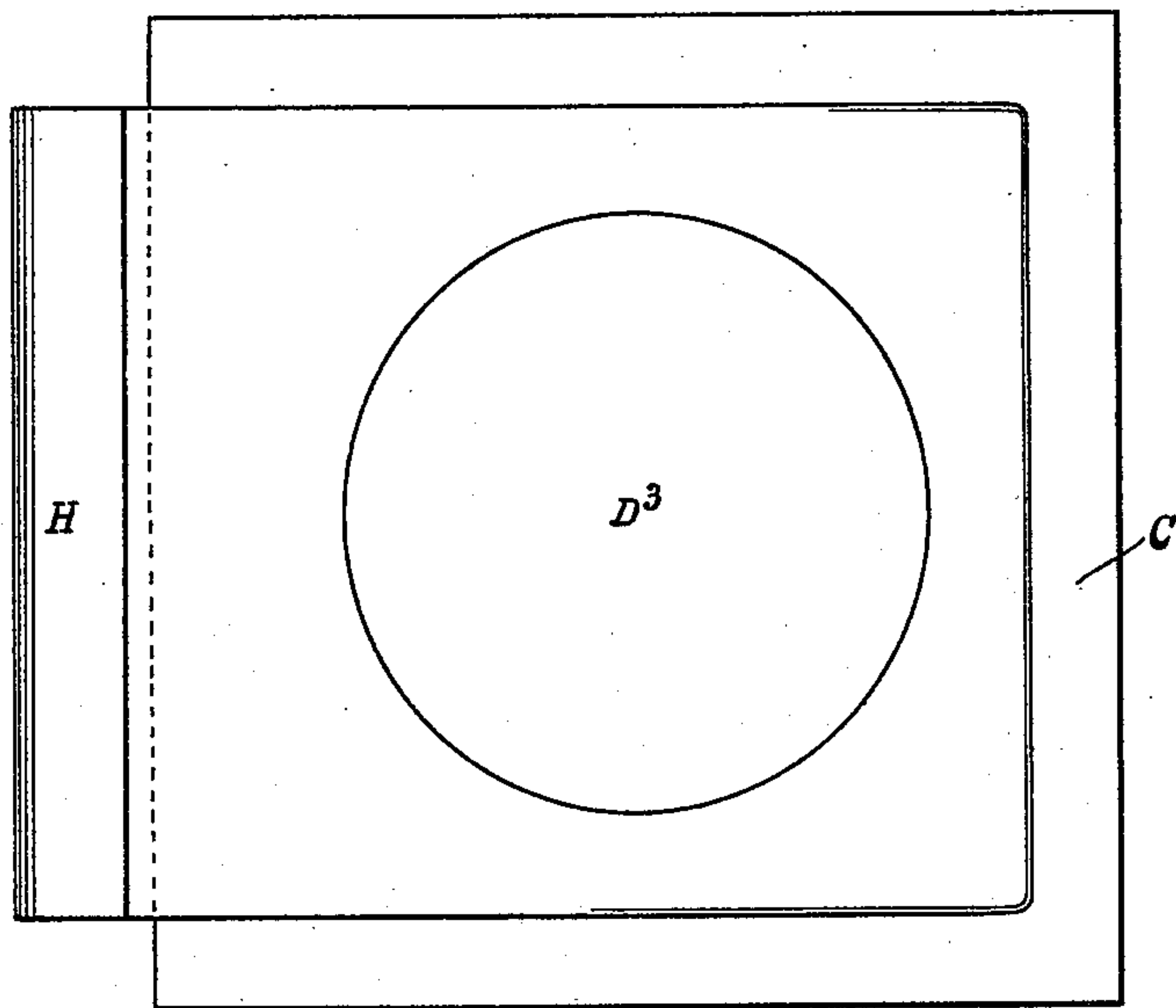


Fig. 4.



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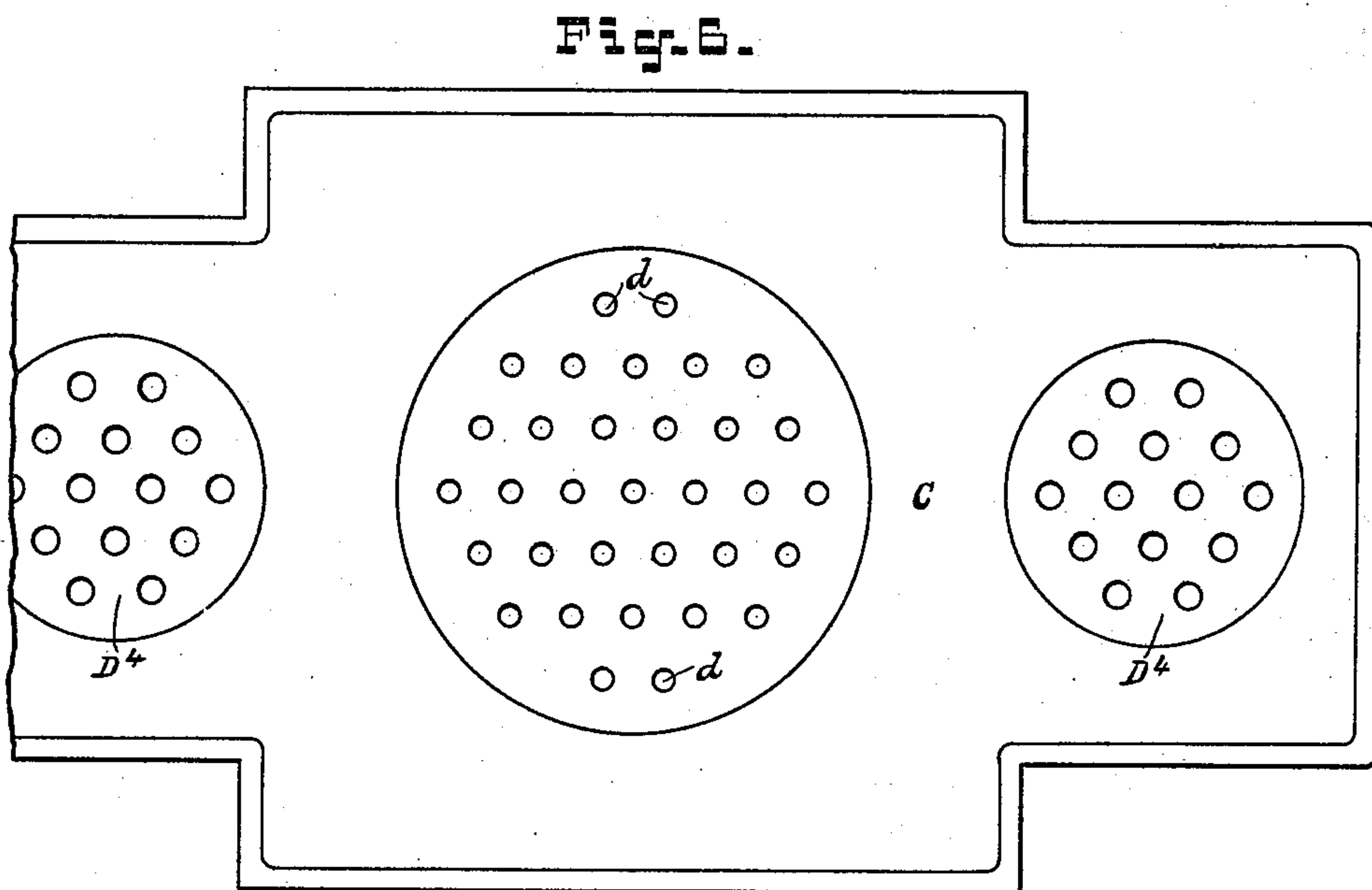
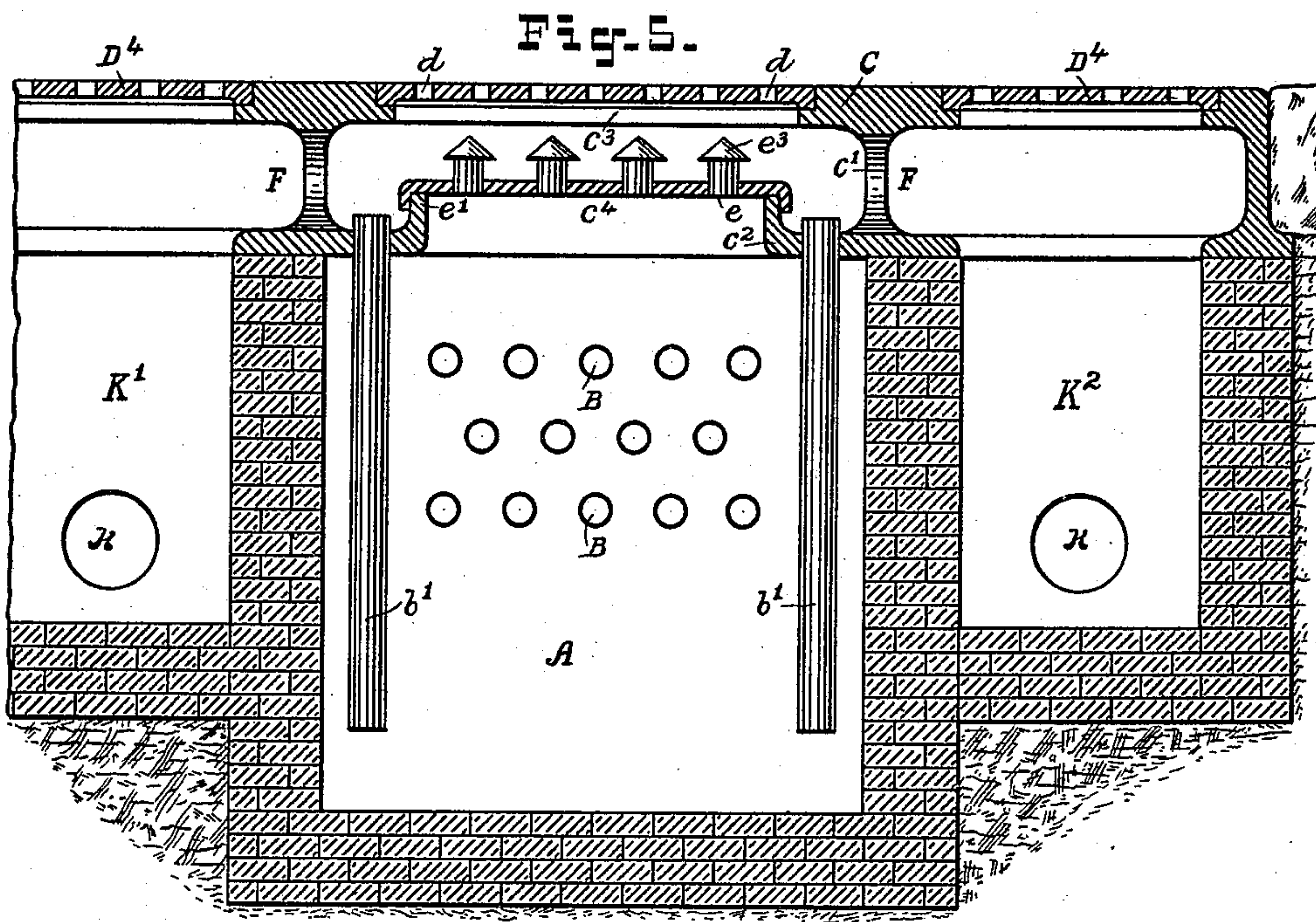
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UNITED STATES PATENT OFFICE.

GEORGE WESTINGHOUSE, JR., OF PITTSBURG, PENNSYLVANIA.

SUBWAY FOR ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 434,165, dated August 12, 1890.

Application filed March 15, 1890. Serial No. 343,974. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, Jr., a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Ventilated Subways for Electric Conductors, (Case 382,) of which the following is a specification.

The invention relates to the construction of man-holes or junction-boxes of subways or underground conduits for electric conductors.

The special purpose of the invention is to provide a suitable subway or conduit which will be thoroughly ventilated and thus kept free from explosive gases which are liable to escape from the pipes conveying illuminating and other gases in the vicinity of the subway.

The invention will be described particularly in connection with the accompanying drawings, in which—

Figure 1 is a cross-section, and Fig. 2 a longitudinal section, of a man-hole or junction-box embodying the features of the invention. Fig. 3 is a cross-section of a modified form, and Fig. 4 is a plan of the same. Figs. 5 and 6 are similar views of another modification.

Referring to the figures, A represents a suitable chamber or vault of the proper size for receiving the conductors or cables of any suitable character, and these may be drawn through the tubes represented at B, and these tubes may terminate in or near the opposite walls of the chamber A or pass through them, as represented in Fig. 2, as circumstances may require.

The particular method of running the cables or joining them does not constitute any portion of this invention.

For the purpose of keeping the chamber A well ventilated and dry, it is constructed as follows: Over the vault or chamber there is placed a casting C. This casting is made with two walls c' c^2 , and it has openings c^3 and c^4 . One of these openings c^3 is provided with a lid D' , through which openings d are formed for the purpose of allowing the circulation of air or gas. An inner lid or cover D^2 is provided for the openings c^4 and fits over a suitable flange e' . This lid is provided with openings e , which may be protected by hoods e^2 to prevent the water which may pass through the openings d from flowing into the vault. The

water is allowed to drain away into a basin G outside the vault through an opening F of the casting. The flange e' rises above the level of the lower plate, and the space about it forms a triangle communicating with the opening or outlet F. From this basin the water may escape through the pipe g , communicating with a sewer or leading to any other point. Tubes b' may extend from the lower wall of the casting down into the vault to convey fresh air thereto. These may project above the lower wall a sufficient distance to prevent the water from flowing through the tubes. When these are used, the openings e may sometimes be omitted.

The air may escape from the vault through the passage F and horizontal openings f' above the plane of the lid D' . The casting is made with a projection H, which extends upward at the edge of the sidewalk and forms the curb.

In Fig. 3 a modification is shown wherein the solid plate or lid D^3 replaces the lid D' shown in Fig. 1, and the openings e of the inner lid do not in this instance require the hoods e^2 . In other respects the construction is essentially the same.

It may be observed that in the construction shown in Figs. 1 and 2 the ventilating-opening f may be sometimes omitted, sufficient ventilation being afforded by the openings d .

In Figs. 5 and 6 there are shown two side vaults $K' K^2$, similar to the basin G, but larger, and they are provided with openings closed by the lids D^4 . From these vaults tubes k may connect with a sewer, so that all of the drainage from above the chamber A may be carried off to the sewer. The mud and refuse which may collect in the vaults $K' K^2$ may be removed through the top by removing the lids D^4 .

I claim as my invention—

1. In a ventilated subway, the combination of a vault, a lid therefor having ventilating-openings, a water shed or drain about said lid, a receiving-basin with which the water-shed communicates, and an air-duct extending from above said lid to the external air.

2. A subway-vault for electric conductors, extending through a street, consisting of a chamber, a lid therefor having ventilating-openings, a second lid separated from the first by an air-passage, and a horizontal duct be-

neath the curb of the street communicating with said air-passage.

3. The combination, with the vault A, of the double-wall casting covering said vault, the lids D' and D², separated by an intervening air-space, and the flange or curb H, in which there are formed one or more openings f', substantially as described.

4. The combination, with a vault for an electric subway, of a ventilated cover for the same, a water-shed about the cover, and the vaults K' K² for receiving the water-shed from the cover-space.

5. In a ventilated subway-vault, the combination, with the double-walled cover having an intervening horizontal air-space, of the upwardly-projecting ventilating-section H, having the lateral opening f'.

6. In a ventilated subway, the combination, with the vault, of the double-walled cover therefor, having an intervening air-space, the lid D², and the hoods e², covering the ventilating-spaces e, substantially as described.

7. The combination, with a series of tubes laid in the earth for receiving conductors, of man-holes or junction-boxes into which said tubes lead, and ventilating-ducts from said man-holes, substantially as described.

In testimony whereof I have hereunto subscribed my name this 11th day of March, A. D. 1890.

GEO. WESTINGHOUSE, JR.

Witnesses:

CHARLES A. TERRY,
JAMES W. SMITH.