

No. 870,187.

PATENTED NOV. 5, 1907.

F. M. LOCKE.
WALL INSULATOR.
APPLICATION FILED JULY 18, 1907.

Fig. 1.

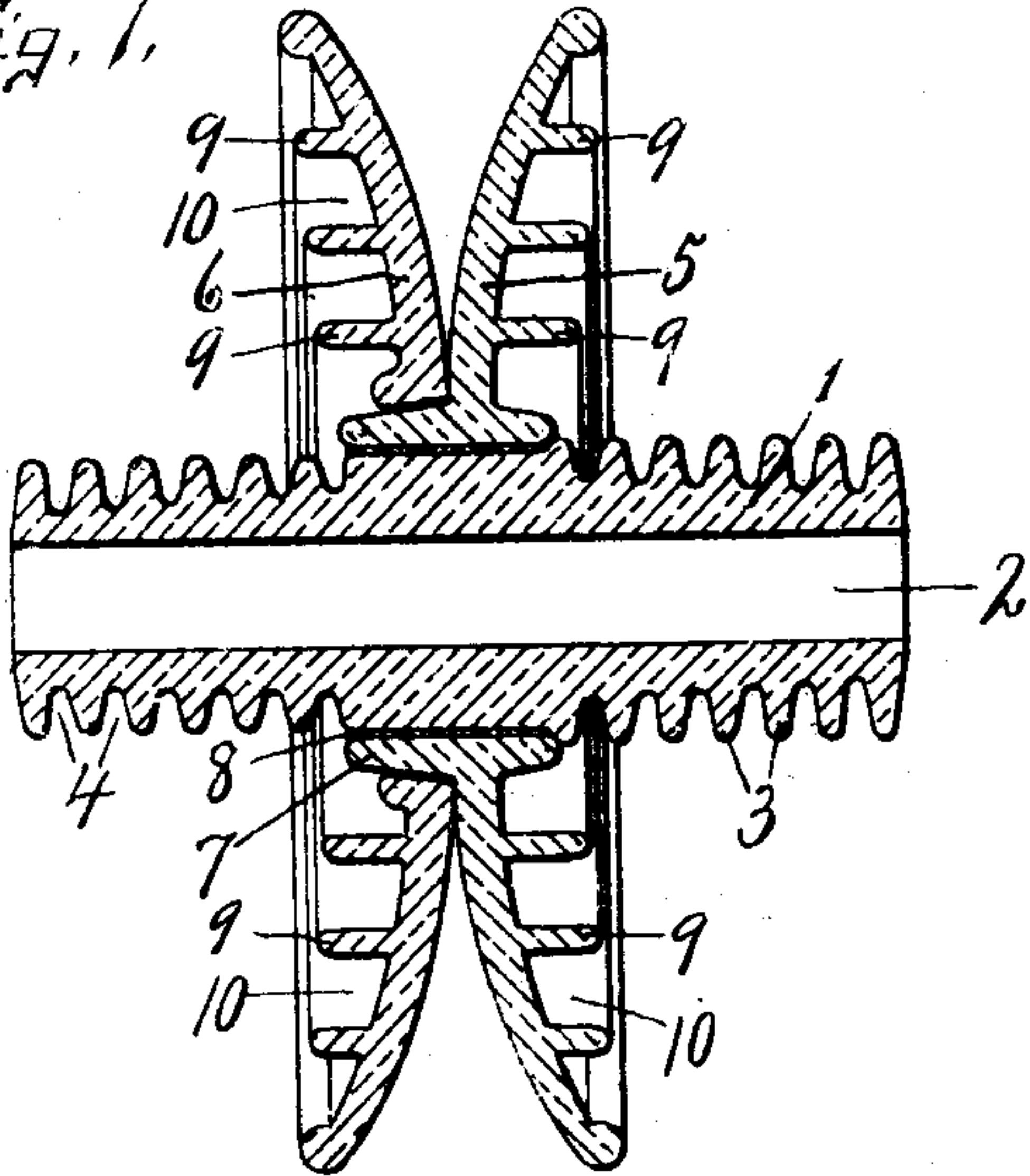


Fig. 2.

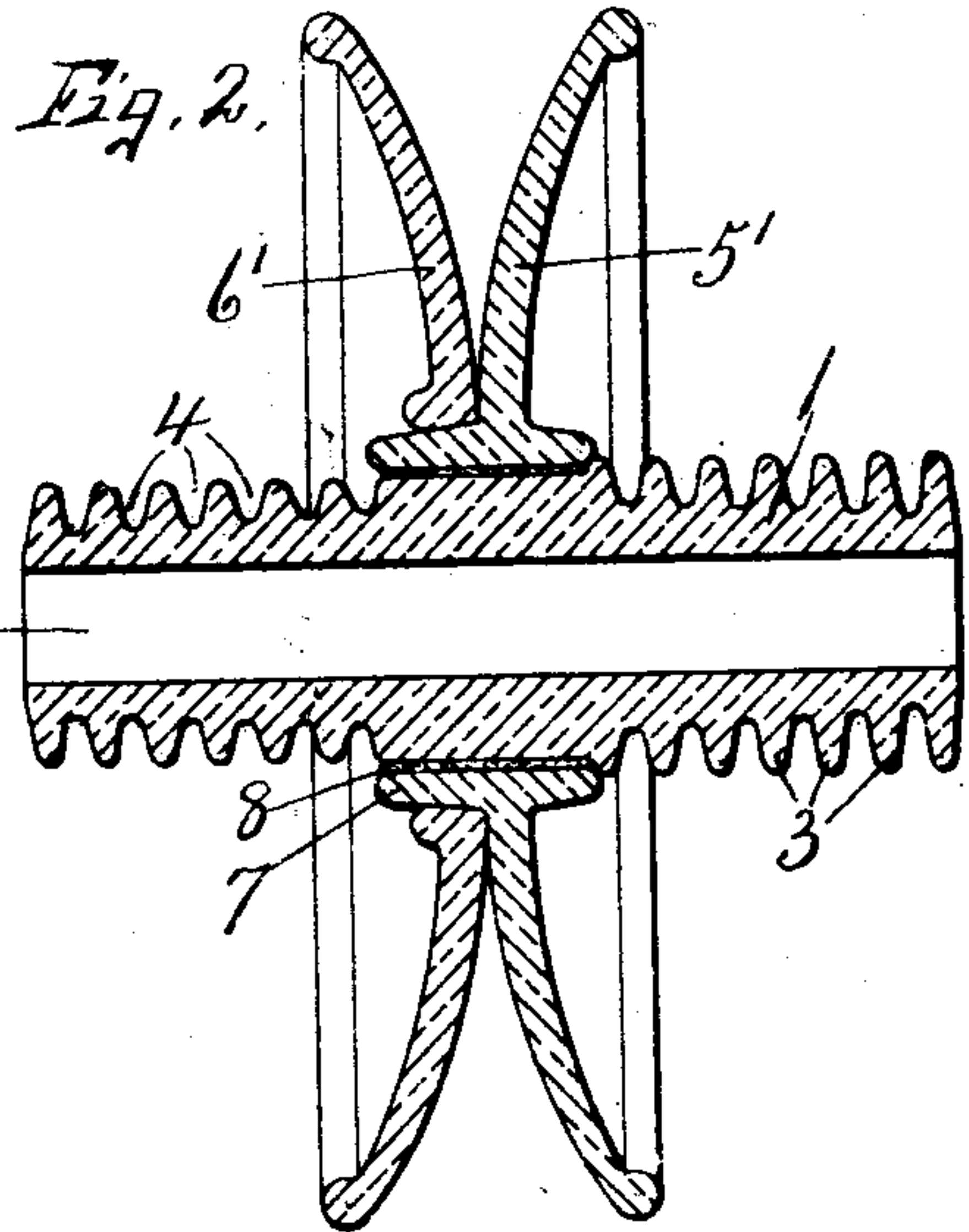


Fig. 3.

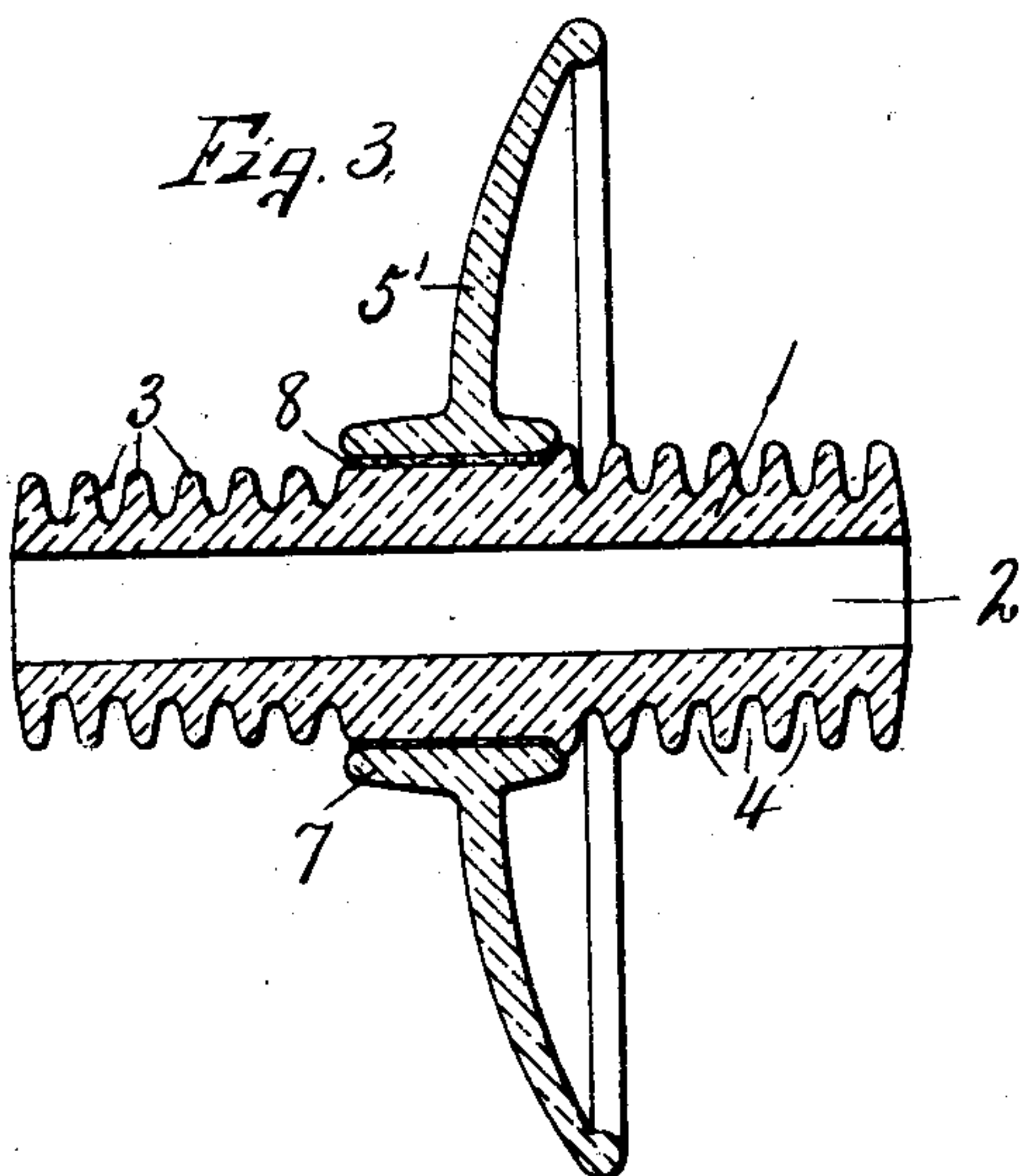
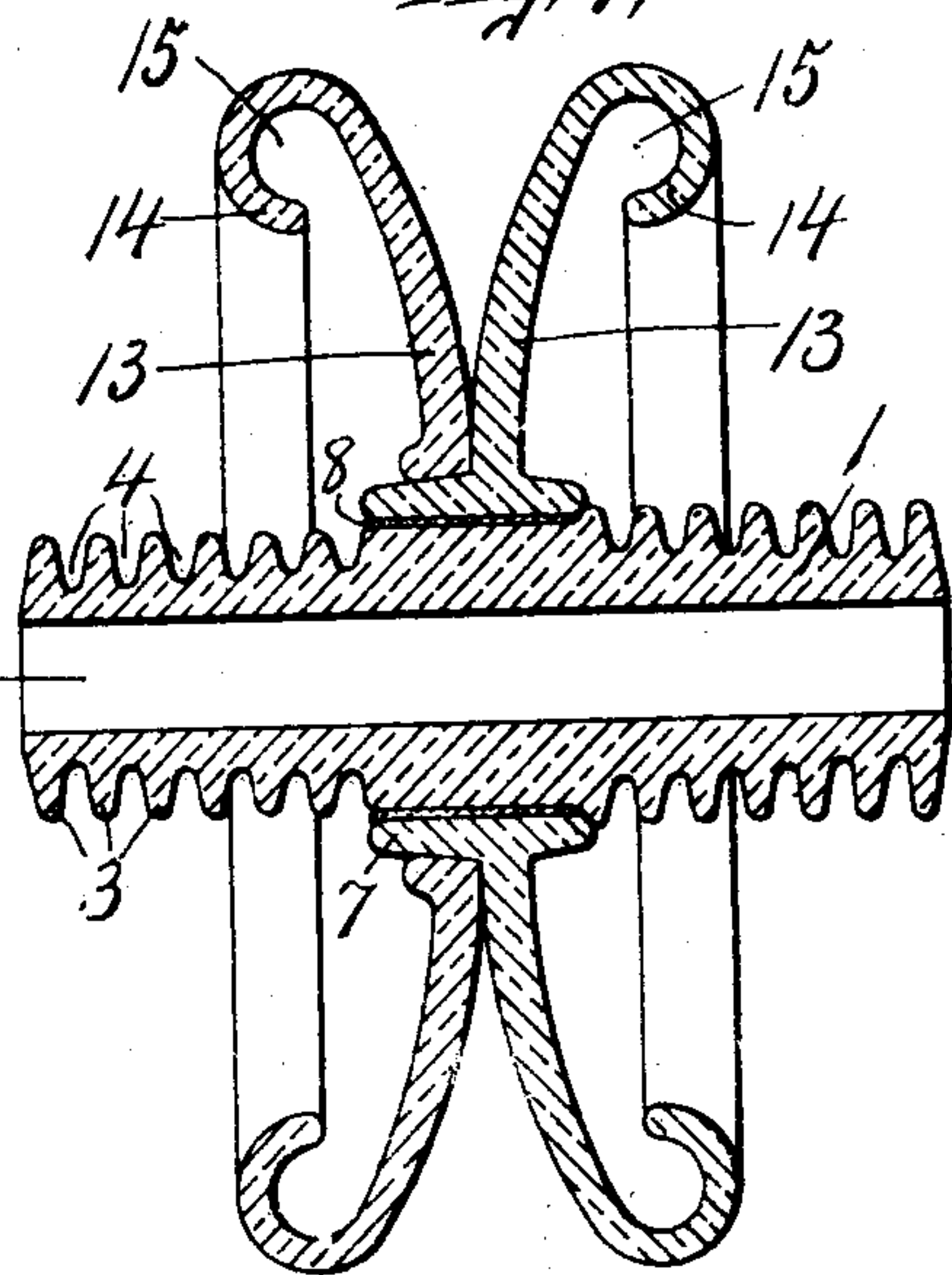


Fig. 4.



Witnesses.

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WALL-INSULATOR.

No. 870,187.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRED M. LOCKE, of Victor, in the county of Ontario, in the State of New York, have invented new and useful Improvements in Wall-Insulators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in wall insulators adapted to be used as an entrance insulator into a building by inserting the same through a suitable hole or opening in the wall and attaching it at the periphery.

The specific object of my present invention is to materially increase the electro static capacity of the insulator and thereby prevent surface leakage of the current from the conductor to the surrounding wall by surrounding the entrance tube through which the wire passes with one or more insulator disks of considerably greater cross sectional area than that of the tube for the purpose of reducing the liability of static discharges due to conduction or creeping of the current over the insulator surfaces and at the same time to provide ample air space or gap between the arcing points of the insulator to effectually resist such arcing.

A further object is to arrange two or more concavo-convex disks around and upon the center entrance tube with their convex faces in juxtaposition to afford an intervening air space gradually increasing in width from the center toward the peripheries of said disks so as to more effectually resist arcing of any current leakage from one surface to the other at their junction with the wall.

Other objects and uses will be brought out in the following description.

In the drawings—Figures 1, 2, 3, and 4 are sectional views of modified forms of my improved wall insulator, all of which are adapted for high voltage electric conductors. In each of these modifications, I have shown an entrance tube —1— of insulating material such as porcelain having a central lengthwise opening —2— for the reception of the line wire not shown, said tube being corrugated longitudinally forming a series of annular ribs —3— and intervening spaces —4— for the purpose of increasing the electro static capacity or surface of the insulator and resisting as far as possible surface leakage and electro static stresses to which the tube is subjected.

In Fig. 1 I have shown the central portion of the tube as surrounded by a pair of concavo-convex disks —5— and —6— of insulating material such as porcelain having their convex faces arranged in juxtaposition, the disk —5— being provided with a central hub —7— which is fitted upon and preferably secured to the central portion of the entrance tube —1— by an interposed cementitious bond —8—. The disk —6— is, in this in-

stance, fitted upon the hub —7— of the insulator —5— and may be secured thereto by any suitable cementitious substance whereby the disks are firmly united to each other. Each of these disks —5— and —6— is provided with a series of concentric flanges —9— spaced apart forming intervening annular spaces —10— for the purpose of further increasing the surface area of the disks and affording ample intervening air space between the arcing points of the flanges and entrance tube to more effectually resist arcing of the current from the conductor to the surrounding wall. These flanges —9— are preferably formed on the concave sides of the disks —5— and —6— and their outer edges are, therefore, disposed at substantially right angles to the axis of the tube —1— and in this instance are disposed within the plane of the outer edges of said disks which latter are preferably beaded and over hang the flanges —9— to protect them as far as practical from accumulations of moisture thereon. The wall insulator shown in Fig. 2 is substantially the same as that shown in Fig. 1 except that the disks as —5'— and —6'— are unprovided with annular flanges —9'— and spaces —10'—, that is the inner and outer faces are substantially plain but in both instances the convex faces are arranged in juxtaposition leaving an intervening air space which gradually increases in width from the center toward the periphery thereby materially increasing the electric resistance of the insulator and also increasing the arcing distance between the disks as they approach the periphery or wall of the opening in which the insulators are mounted.

In Fig. 3 I have shown a single concavo-convex disk —5'— as surrounding the entrance tube —1— and is substantially the same as the disk —5'— shown in Fig. 2 and may be used in connection with conductors of lower voltage than that for which the insulator shown in Figs. 1, 2 and 4 are intended.

In Fig. 4 I have shown a pair of concavo-convex insulators —12— and —13— which are quite similar in construction to those shown in Fig. 2 except that their peripheries are provided with over turned rolls or annular flanges —14— leaving an intervening air space —15— between the flanges —14— and main body of the insulator, the object of which is to increase the surface area of the disks so as to more effectually neutralize any tendency toward surface leakage of the current from the conductor to the surrounding walls of the opening in which the insulator is located.

What I claim is:

1. A wall insulator comprising an entrance tube, and a concavo-convex disk surrounding the central portion of the tube.
2. A wall insulator comprising an entrance tube, and a pair of disks surrounding the central portion of the tube and having convex meeting faces.
3. A wall insulator comprising a corrugated entrance tube, and a pair of disks arranged side by side upon the

central portion of the tube and having the outer edges of the meeting faces spaced apart.

4. A wall insulator comprising an entrance tube, and a pair of concavo-convex disks surrounding the tube with their convex faces in juxta-position.

5. A wall insulator comprising an entrance tube, and a concavo-convex disk surrounding the entrance tube and provided with a laterally projecting annular flange.

6. A wall insulator comprising an entrance tube and a

pair of concavo-convex disks surrounding the tube and each provided with a series of concentric annular flanges projecting from their concave faces. 10

In witness whereof I have hereunto set my hand this 15th day of July, 1907.

FRED M. LOCKE.

Witnesses:

W. A. HIGINBOTHAM.

C. A. MOORE.