W. C. BANKS.

GROUND CONNECTION.

APPLICATION FILED SEPT. 5, 1913.

1,111,783. Patented Sept. 29, 1914.

Fig. 1,

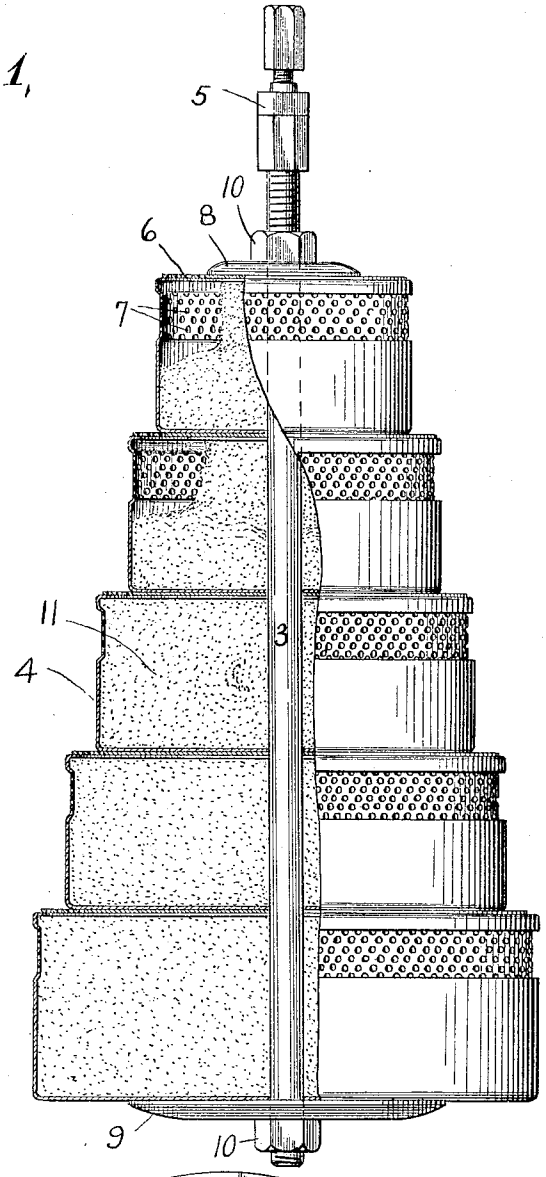
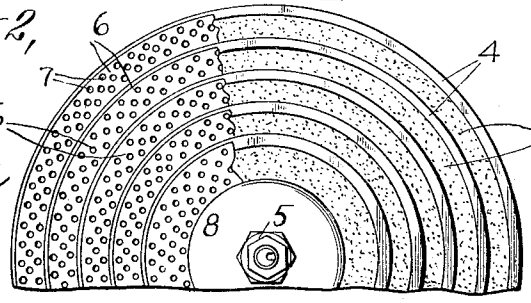


Fig. 2,



WITNESSES

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GROUND CONNECTION.

1,111,783. Specification of Letters Patent. **Patented Sept. 29, 1914.**

Application filed September 5, 1913. Serial No. 788,202.

To all whom it may concern:

Be it known that I, WILLIAM C. BANKS, a citizen of the United States, residing in the borough of Bronx, city and State of New York, have invented certain new and useful Improvements in Ground Connections, of which the following is a specification.

This invention relates to devices for effecting a connection from an electric conductor or other device to ground so as to form a path of low resistance over which electric current can pass to the earth.

The invention is directed to the provision of a ground connection for this use which is of an improved construction whereby more reliable connection to the earth is effected, the improvements in construction having reference particularly to the maintenance of a good electrical connection to ground throughout protracted periods of dry weather.

The ground connector constructed in accordance with the invention is adapted to be buried in the ground and to be connected by a suitable wire with one of the lines of a transmission system or any other device which is to be electrically connected to ground. It has been proposed heretofore to make such a ground connection in the form of a receptacle and to place in the receptacle a substance, such as charcoal, which will hold moisture throughout a long period because when the ground around a connector of this character is kept moist, much less resistance is offered to the flow of current from the connector to the ground.

In accordance with the present invention, a ground connector is provided consisting of a plurality of receptacles arranged one above another and progressively increasing in diameter from the top down, these receptacles being suitably secured together with the bottom of one resting on top of the next lower one. The several receptacles are adapted to hold an absorbent material, such as charcoal, and the sides and tops of the several receptacles are perforated. The sides of the several receptacles present an area sufficiently extended to insure good contact of the connector with the earth and the arrangement of the several receptacles, each one directly on top of another, each one perforated and each one of larger dimensions than the one directly above, insures the collection of the maximum amount of water in the receptacles after a rain by the overflow of surplus water from one receptacle to a receptacle lying under it.

The preferred embodiment of the invention is illustrated in the accompanying drawings in which—

Figure 1 is a view partly in section and partly in elevation of the connector and Fig. 2 is a top view of the connector broken away in part.

Referring to these drawings, the connector consists of a central spindle or rod 3 on which a plurality of receptacles 4 are mounted one directly above another. The rod 3 is provided with a suitable connecting means 5 at its upper end for attaching thereto the lower end of a wire leading from the conductor or other device which is to be connected to ground. In the present instance, five receptacles are shown, but this number may be varied as desired. These receptacles are of progressively increasing dimensions from the top down. In the present instance, they are shown as circular in cross-section and each one is of greater diameter than the one directly above it. Also the bottom of each receptacle bears upon the top of the receptacle directly below it. Each receptacle is formed from a single piece of sheet-metal by drawing the piece to a cylindrical configuration as shown in the drawing. The bottom of each receptacle is closed, except for a small central opening therein through which the rod 3 passes, the rod fitting snugly in this opening so as to preclude the escape of water through the opening. Each receptacle has a top or cover 6 which is perforated over its entire area or perforated over that portion of its entire area which projects beyond the bottom of the receptacle next above it. Also, each receptacle has a plurality of perforations in its side wall adjacent to the upper edge thereof. In the present instance, each receptacle is shown as having a circumferential band of perforations 7 in the upper portion of its cylindrical wall. In assembling the parts moisture absorbent material, such as charcoal 11, is inserted in the receptacles 4 and the rod

3 is threaded through the central openings in the cover 6 and the bottoms of the receptacles 4. Washers 8 and 9 are then placed upon the rod 3 in contact with the cover of the uppermost receptacle and the bottom of the lowermost receptacle and nuts 10 are then tightened up upon the threaded ends of rod 3 to hold the several receptacles together firmly with each in contact with the adjacent ones.

When a ground connector of this construction is put into use, water is poured upon the series of receptacles before closing the opening in which the connector is buried so that the receptacles 4 are substantially filled with water up to the perforations in the side walls thereof. The amount of water held by the receptacles and the absorbent material therein is sufficient to keep the earth around the connector in a moist condition for an extended period of time and by reason of the moisture of this surrounding earth, less resistance is offered to the flow of current from the connector to the earth. After a rain, water will seep through the earth and will enter into and collect within the several receptacles, particularly the uppermost receptacle. When the uppermost receptacle has become filled with water up to the perforations therein, surplus water entering the uppermost receptacle will overflow from that receptacle through the perforations in the side wall thereof and enter the next lower receptacle through the perforations in the cover thereof. Such transfer of surplus water from one receptacle into the next lower receptacle is greatly facilitated by the fact that these two receptacles are in contact with each other so that this surplus water flows down the side wall of the upper receptacle and into the lower one without having to pass through the earth at all. The collection of water in the several receptacles following a rain therefore takes place rapidly so that a supply of water is accumulated sufficient to maintain the surrounding earth in a moist condition throughout a dry period of substantial length.

Having now described my invention, what I claim as new therein and desire to secure by Letters Patent is as follows:

1. A ground connection comprising a central rod adapted to have a wire connected to its upper end and a plurality of receptacles secured upon the rod in electrical contact therewith and in engagement with each other, said receptacles increasing in diameter from the top downward and each of them being perforated so that water may overflow from each into the next lower one, substantially as set forth.

2. A ground connection comprising a central rod adapted to have a wire connected to its upper end and a plurality of receptacles secured upon the rod in electrical contact therewith and in engagement with each other, said receptacles increasing in diameter from the top downward and each of them having the side walls thereof perforated adjacent to the upper edge thereof, substantially as set forth.

3. A ground connection comprising a central rod adapted to have a wire connected to its upper end and a plurality of receptacles secured upon the rod in electrical contact therewith, each of said receptacles having a removable cover which is in engagement with the bottom of the next higher receptacle, which extends beyond the bottom of the next higher receptacle and which has a multiplicity of perforations in the portion thereof extending beyond the next adjacent receptacle, substantially as set forth.

4. A ground connection comprising a central rod adapted to have a wire connected to its upper end and a plurality of receptacles secured upon the rod in electrical contact therewith, said receptacles increasing in diameter from the top downward and each of them having a perforated top and a multiplicity of perforations in the side wall adjacent to the top, substantially as set forth.

This specification signed and witnessed this 2nd day of September, 1913.

WILLIAM C. BANKS.

Witnesses:
CHARLES W. SCOTT,
FRED DASSAU.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."