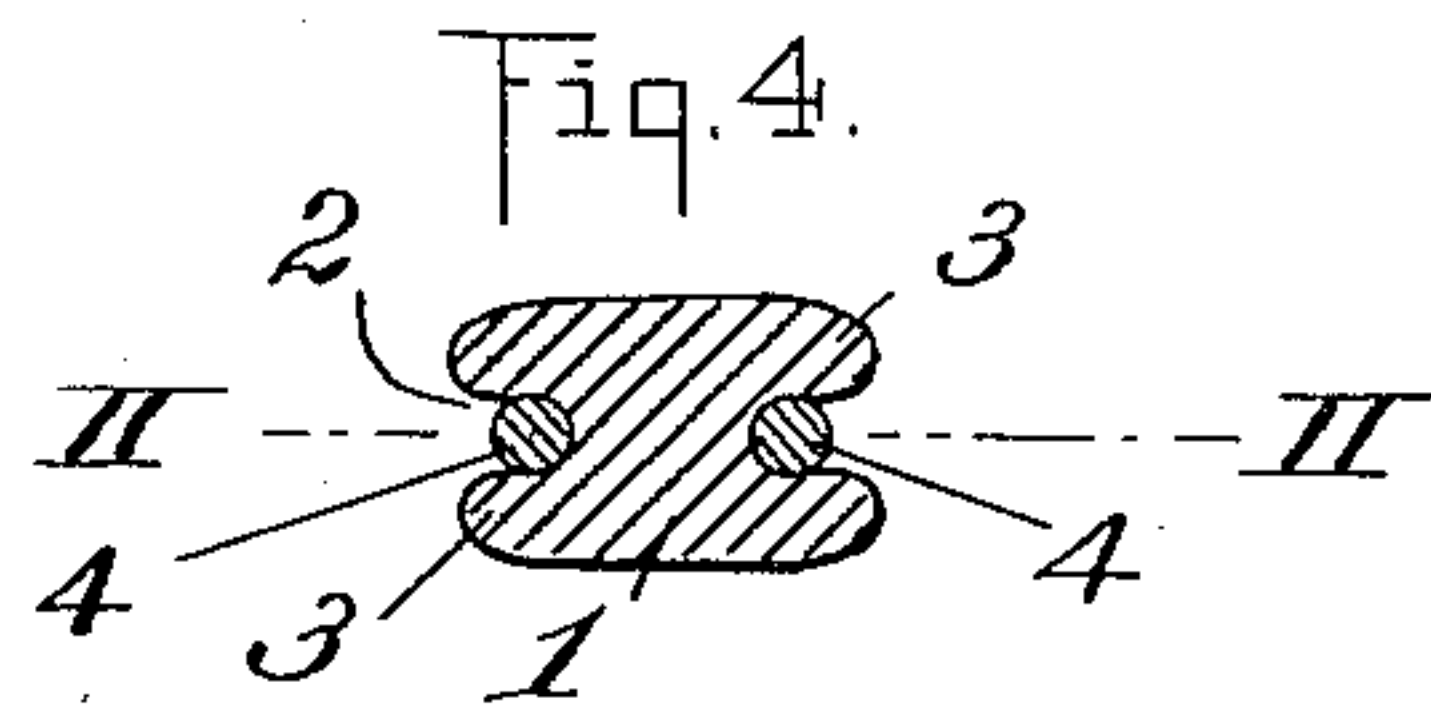
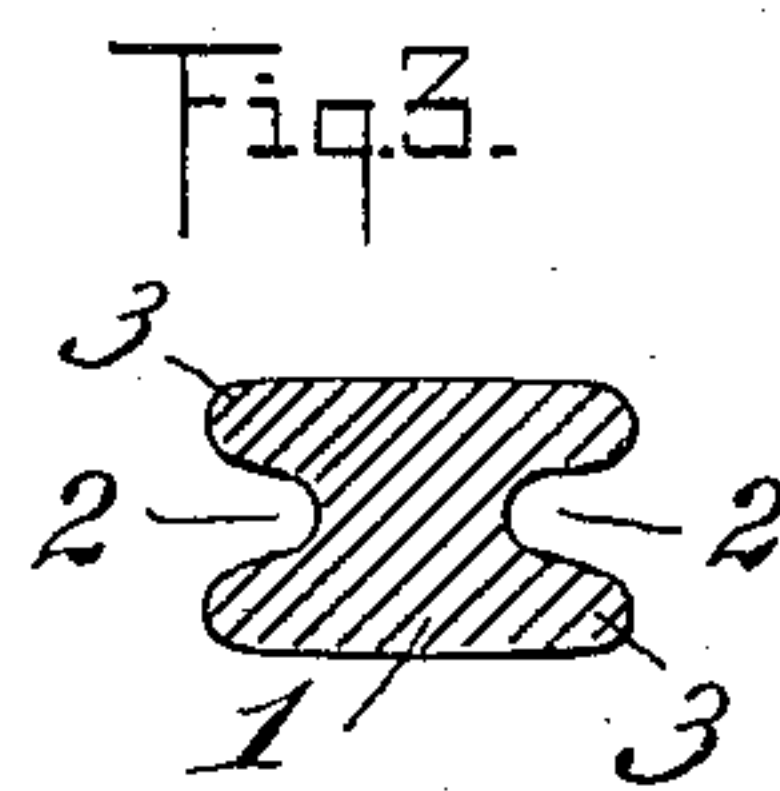
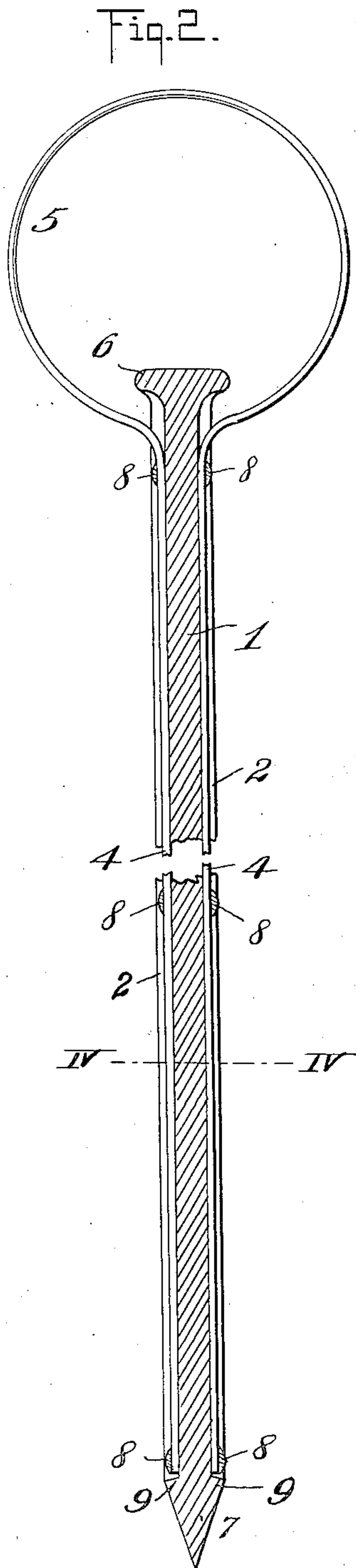
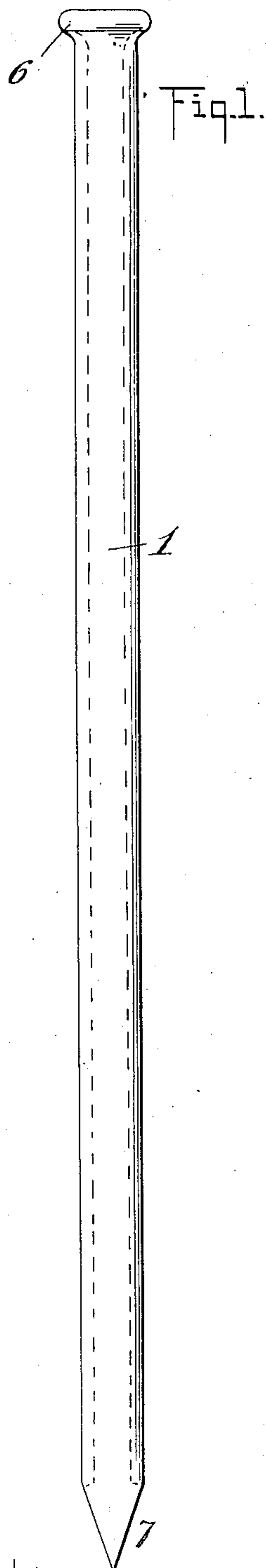


No. 847,935.

PATENTED MAR. 19, 1907.

J. F. GOLDING.
ELECTRICAL GROUNDING DEVICE.

APPLICATION FILED NOV. 18, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN F. GOLDING, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO MONOLITH STEEL COMPANY, INCORPORATED, A CORPORATION
OF VIRGINIA.

ELECTRICAL GROUNDING DEVICE.

No. 847,935.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed November 18, 1905. Serial No. 288,047.

To all whom it may concern:

Be it known that I, JOHN F. GOLDING, a citizen of the United States, residing at Washington, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Electrical Grounding Devices, of which the following is a specification.

My invention relates to grounding devices for electric conductors, having for its objects to produce an appliance of a very simple, economical, and durable character, which will give a good electrical connection with the ground and which can be readily put in place for use or removed for use in another situation.

The invention consists in the parts and combinations thereof hereinafter set forth and claimed.

In order to make my improvements clearly understood, I have shown in the accompanying drawing means for carrying the same into practical effect without limiting the invention in its useful applications to the particular construction which I have chosen as the preferred embodiment of the invention and as the best for purposes of illustration.

In said drawing, Figure 1 is a side view of an electric grounding device embodying my invention. Fig. 2 is a sectional view on line II of Fig. 4. Fig. 3 is a cross-sectional view of the main bar before the application of the electrical conductor. Fig. 4 is a sectional view on line IV of Fig. 2.

Referring to the drawing, 1 is the main bar of the grounding device. This consists, preferably, of a section cut to the desired length of a long bar or rod which has been formed, as by a rolling process, of the shape shown in Fig. 3. In such shape the bar has two grooves 2, which are adapted to receive the electric conductor or conductors. It will be understood that one or more than two of such grooves may be employed without departing from the invention.

The bar 1 is of soft steel or other suitable material to give good conduction of the electric current and to enable the lips 3 at the sides of the grooves to be pressed upon the electric conductor to secure the latter.

The conductor is shown at 4, consisting of copper wire or other suitable metal or a cable formed of strands of metal, as may be

preferred. The preferred arrangement is to leave a loop 5 of the conductor at the top of the device and lay the two limbs of the conductor in the grooves 2 on opposite sides of the bar 1. Here the said limbs are secured in electric contact with the bar by swaging or rolling the bar or the lips 3 thereof for the full length of the bar or at the desired point or points, so that the said lips are caused to grasp and hold the conductor firmly. The loop 5 serves for the attachment of the line conductor (not shown) or for the handling or transportation of the device or for pulling it from the earth.

6 is a head which may be formed at the top of the bar 1 for convenience in driving the device into or extracting it from the ground.

7 is a point at the lower end of the bar to facilitate its entrance into the earth.

It will be observed that the construction above described is very strong and durable, that it is adapted to carry the conductor deeply into the earth and ground the same for practically its whole length, and that the device is readily extractable and transportable for renewed use in various situations. The grounding device is especially well adapted for use in field telegraph and telephone service.

It will be apparent that the grooves 2 protect the limbs of the conductor 4 for their length from the bottom to the top of the driving-bar. The grooves also have a tendency to collect water and improve the electric contact of the device with the earth. They also afford long and close electric contacts between the bar and conductor. My invention does not exclude the idea of applying solder to secure the conductor in the grooves 2 or to improve the electrical contact between the conductor and the bar, which has been pressed onto the conductor, as already explained. This is illustrated in Fig. 2, where solder is shown as so applied, at 8, at the top, lower end, and intermediate portion of the bar. The whole device may be galvanized, if desired, or any particular portion of it, as preferred. The line conductor may serve as the grounding-conductor, its end being brought down and swaged into the groove 2 of the bar, after which the latter is driven into the earth.

The loop 5 may be formed by twisting or otherwise connecting together the upper ends of separate conductors, which are separately secured in the grooves 2—that is to say, the two limbs of the conductor shown in Fig. 2 need not be integral with each other.

The bar may be slightly swaged near the point to close the lower ends of the grooves 2, as seen at 9 in Fig. 2. This tends to keep the grooves more or less free from earth, as the bar is driven and open to receive accumulations of water, also protecting the bottom ends of the conductor and preventing any possibility of their being forced out of the grooves as the bar is driven. On the other hand, if the ends of the conductor are well secured in the grooves an advantage results from leaving open the lower ends of the grooves, inasmuch as the conductor is then forced into more intimate contact with the earth, and is directly grounded independently of the driving-bar.

The dimensions of the device will or may depend upon the conditions of the use to which it is to be put. Thus its length may depend upon the moisture or dryness of the earth. I have successfully constructed the bar in lengths of twenty-seven inches and upward and of a cross-sectional area of about one-half of a square inch.

What I claim is—

1. In an electrical grounding device, the combination of a grooved driving-bar, and an electric conductor secured in the groove of the bar, substantially as set forth.

2. In an electrical grounding device, the combination of a driving-bar having compressible lips, and an electric conductor in

permanent electric contact with said lips, substantially as set forth.

3. In an electrical grounding device, the combination of a grooved driving-bar, and an electric conductor looped at its middle and having its ends secured in the grooves of the bar, substantially as set forth.

4. In an electrical grounding device, the combination of a grooved driving-bar, and a conductor secured in a groove of the bar and protected by the lips of such groove from the bottom end of the conductor to the surface of the earth.

5. In an electrical grounding device, the combination of a grooved driving-bar, a conductor in a groove of the bar and protected by the lips of the same, and a solder connection between the conductor and the bar.

6. In an electrical grounding device, the combination of a grooved driving-bar, a conductor in a groove of the bar, and a solder connection between the bottom end of the conductor and the bar.

7. As an electrical grounding device, a grooved driving-bar adapted for the attachment of a line-wire and extending to the surface of the earth when in operative position so that it may be readily extracted and transported for use in other situations, the groove or grooves being formed in the integral body of the bar, substantially as described.

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

JOHN F. GOLDING.

Witnesses:

H. N. Low,

HUGH B. ROWLAND.