

C. BAJOHR.
 LIGHTNING CONDUCTOR POINT AND POINT ROD PROTECTOR.
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963,496.

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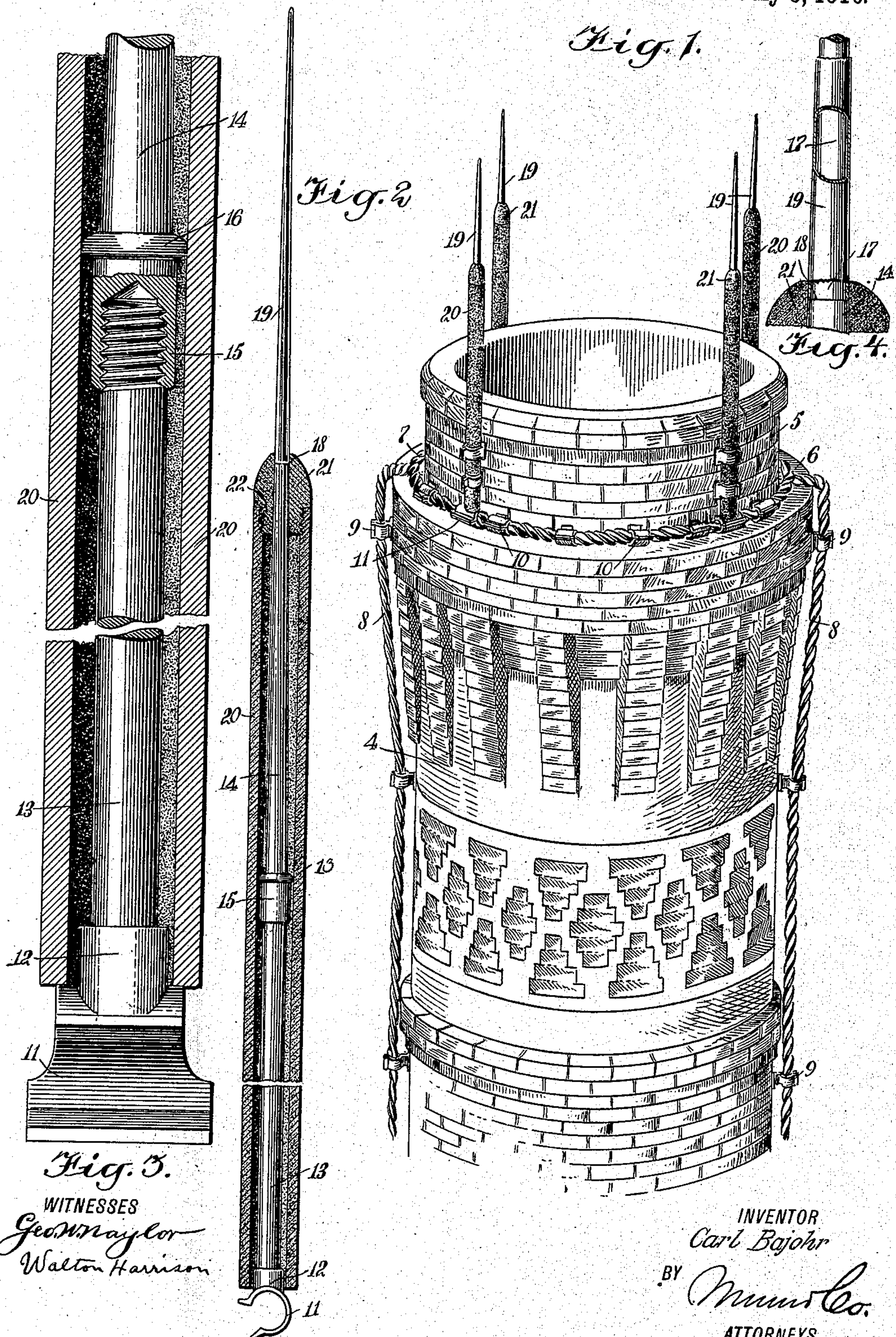


Fig. 3.
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CARL BAJOHR, OF ST. LOUIS, MISSOURI.

LIGHTNING-CONDUCTOR POINT AND POINT-ROD PROTECTOR.

963,496.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed November 16, 1909. Serial No. 528,349.

To all whom it may concern:

Be it known that I, CARL BAJOHR, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have invented a new and Improved Lightning-Conductor Point and Point-Rod Protector, of which the following is a full, clear, and exact description.

My invention relates to lightning conductors, my more particular purpose being to provide improved means by protecting the lightning conductor points upon power plant and smelter chimneys from the effects of oxidizing and corrosion, due to the out-streaming fumes of nitric, sulfuric and muriatic acid gases, which are present in various gases of combustion, and have a tendency to corrode the surfaces of lightning conductor points, thereby not only lessening their efficiency, but in time destroying them completely.

More particularly stated, I make a platinum tipped point which I mount upon a point rod, and then provide a tubular jacket made of graphite, retort or coal carbon, which incloses the whole point rod from the bottom part of the platinum tip to the copper cable lightning conductor circuit. Such points resist the action of all acid gases. This tubular jacket being made of conducting carbon, serves as a shield for preventing the deposit, upon the portion of the lightning conductor point and point rod inclosed by it, of any substance either made up of, or formed by, any acid fumes deleterious to the part thus inclosed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a fragmentary perspective showing the top of a chimney equipped with lightning conductors, and employing a number of my lightning conductor points; Fig. 2 is a section through one of the platinum points with its copper point rod and carbon protector; Fig. 3 is a detail showing in section the manner in which the lower end of the tubular protector is fitted in position; and Fig. 4 is a detail showing, partly in section, the fitting of the cone carbon with the carbon tube, to the platinum tipped section.

At 4 is a large chimney, which is provided with a reduced annular portion 5 and with

a crown 6. Resting upon the crown 6 and encircling the reduced portion 5 is a copper cable conductor circuit 7, having generally the form of a ring, and made of lightning conductor material. Connected with this ring and extending downwardly from it are lightning conductor terminals 8, which are engaged by lightning conductor fasteners or supporters 9, mounted upon the chimney.

At 10 are a number of circuit cable supporters engaging the cable 7, and secured rigidly upon the reduced portion 5 of the chimney. Engaging the cable 7 and spaced apart at intervals are point rod connectors 11, each provided with a neck 12. Extending into this neck and secured firmly by having a thread cut into it, is a rod 13, screwed in and secured by aid of hard solder. The upper end of this rod is threaded as indicated in Fig. 3. The lightning rod point is shown at 14, and has generally a conical form. The lower end 15 of this member is made hollow, and threaded internally so as to screw upon the upper threaded portion of the rod 13, as indicated in Fig. 3. Adjacent to the lower end of the lightning rod point 14 is an annular bead 16. The upper portion of the lightning rod point 14 is shown at 17 and tapers off gradually. It is provided with a shoulder 18, and abutting this shoulder is a tip or thimble 19 of platinum, which thus constitutes the outer or exposed surface of the lightning conductor point, as will be understood from Figs. 2 and 4.

A tubular shield 20, made of graphite, retort or coal carbon, and having an internal diameter somewhat larger than that of the rod 13, is fitted over the rod 13 and the lower portion of the lightning rod point. The bead 16 engages the internal surface of the tubular shield. A closure plug 21, having its upper end rounded, is provided with a reduced threaded portion 22, which fits into the upper end of the tubular shield 20, this upper end being threaded internally for the purpose. The outer surface of the closure plug 21 is thus brought flush with the outer surface of the tubular shield 20. The closure plug 21 is provided with an opening extending axially through it and this opening slightly overlaps the shoulder 18, and the lower portion of the platinum tip 19, as will be understood from Fig. 2.

The closure plug 21 fits so closely around the metallic parts which it encircles, as to

prevent ingress of water. If, however, any water should creep in through the closure plug, it can do no harm, for the reason that the bottom of the tubular shield 20 is open, and permits a free escape of water. If, now, heated gases of combustion (containing, as they do, various acids and other corrosive substances deleterious to metals) lodge upon the lightning conductor point and point rod, then they can do no harm whatsoever.

The tubular shield 20, because of the material of which it is made, is impervious to attacks from acid, or from other corrosive substances, and is not injured in the least by agencies of this character. The upper portion of the lightning conductor point being covered with platinum is, of course, immune from all corrosive influences, and the lower portion of the point is completely protected, as above described, by the tubular shield 20, and the closure plug 21. The bead 16 serves to space the tubular shield 20 so as to maintain it always concentric with the rod 13 and the lightning conductor point. If, for any reason, it be desired to remove the point, this is easily accomplished by first taking out the closure plug 21.

The parts may be assembled as indicated in Fig. 1, and thereafter placed in position as a unit, the point rod connection 11 being properly secured to the cable and the tubular shield being otherwise braced or supported in any approved manner, for instance as indicated in Fig. 1. While the parts inclosed by the tubular shield 20 are in this instance made of metal, I do not limit myself thereby, as obviously these parts are electrodes which may be made of other materials. The tubular shield 20 is also an electrode and assists in carrying the static discharge down to the ring 7.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination of an electrode, a point connected therewith and provided with an annular bead of greater diameter than the general diameter of said point, a tubular member of carbonaceous material encircling said bead and a portion of said electrode, and a closure plug engaging said tubular member and also engaging said point.

2. The combination of a tubular shield made of carbonaceous material, a closure plug fitted upon one end of said shield, and a lightning point extending into said tubular shield and engaging said closure plug.

3. The combination of a tubular shield made of carbonaceous material, a closure plug connected with said shield, and a lightning point extending through said plug and having a substantially conical form at the

point where it thus extends through said plug.

4. The combination of an electrode provided with a thread, a lightning point provided with a thread mating said thread of said electrode, said lightning point being further provided with an annular bead, a tube of carbonaceous material encircling said electrode and said lightning point, and a closure member encircling said lightning point and engaging said tube.

5. The combination of a tubular shield provided at one of its ends with a thread, a closure plug provided with a thread engaging said thread of said tubular shield, said closure plug being further provided with a shoulder engaging the adjacent end of said tubular shield, said plug being further provided with a substantially conical aperture extending through it, and a lightning point partially housed within said tubular member and extending through said plug, said lightning point having a substantially conical form where it engages said plug.

6. The combination of a tubular shield, a lightning point partially housed therein and extending therefrom, said lightning point being provided with an annular bead for the purpose of spacing it centrally within said tubular shield, and a closure member encircling said lightning point and spacing the same centrally in relation to said tubular shield.

7. The combination of a tubular shield, a closure member therefor, a lightning point having a platinum tip and partially housed within said tubular shield, and a closure member engaging said tubular shield and covering a small portion of said platinum tip.

8. The combination of a tubular shield, a lightning point housed partially therein and extending therefrom, said lightning point being provided with a platinum sheath upon its upper end, and a closure member engaging said tubular shield and overlapping the adjacent end of said platinum sheath.

9. The combination of a tubular shield, a lightning point partially housed therein and extending therefrom, said lightning point having a sheath of non-corrosive material, and a closure member mounted upon said tubular shield and overlapping the adjacent end of said shield.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL BAJOHR.

Witnesses:

OSCAR M. GRIMM,
GEORGE PAUKAN.