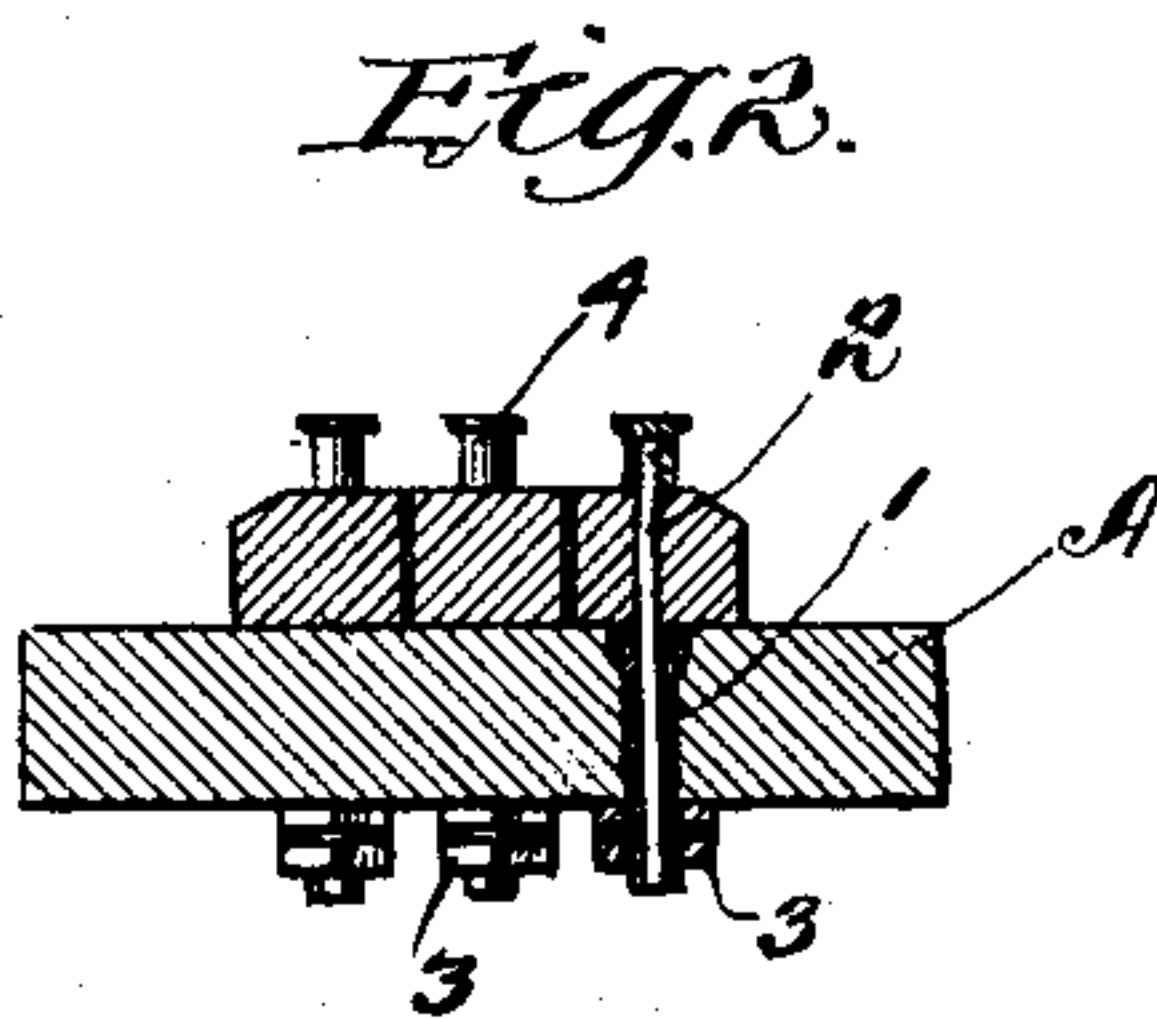
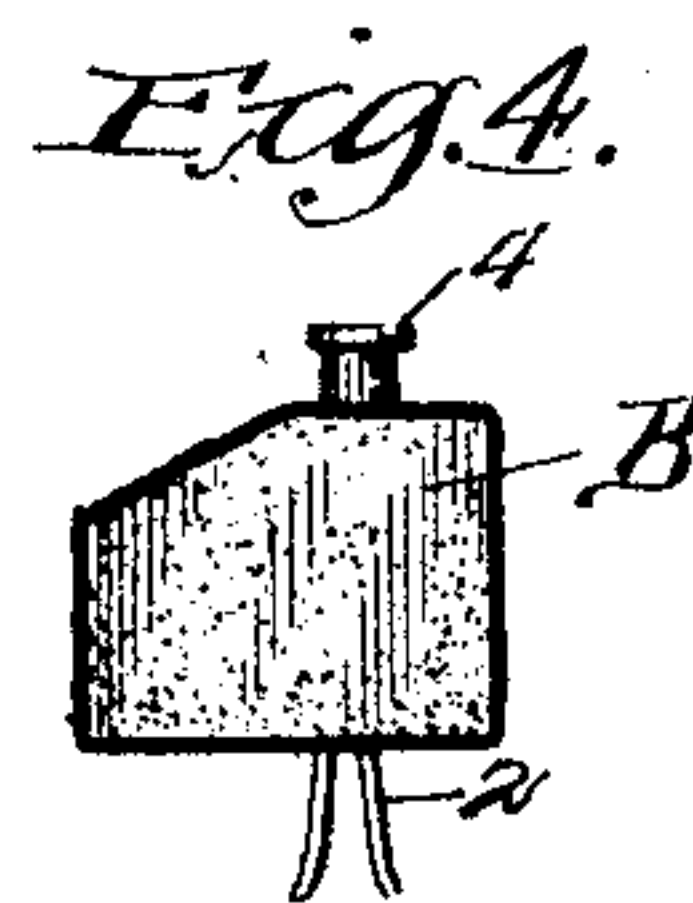
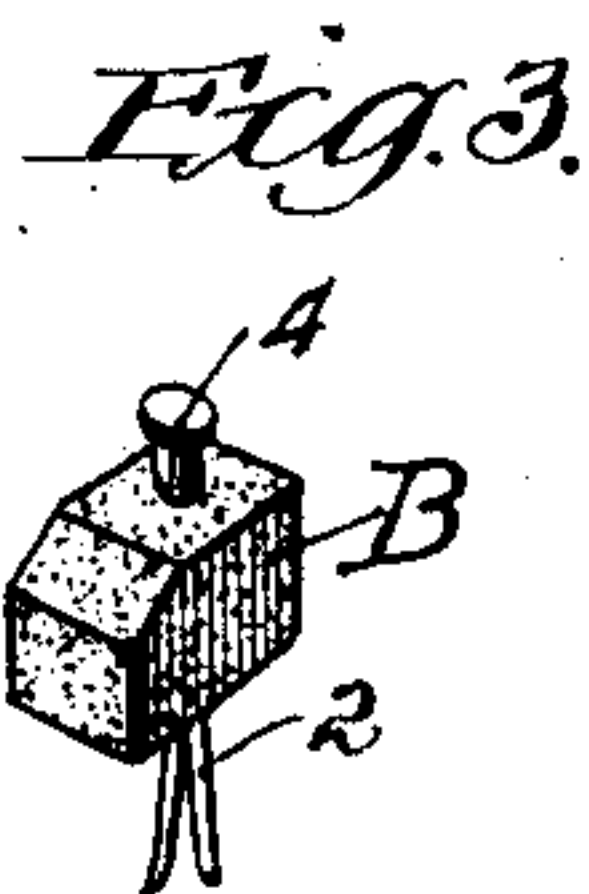
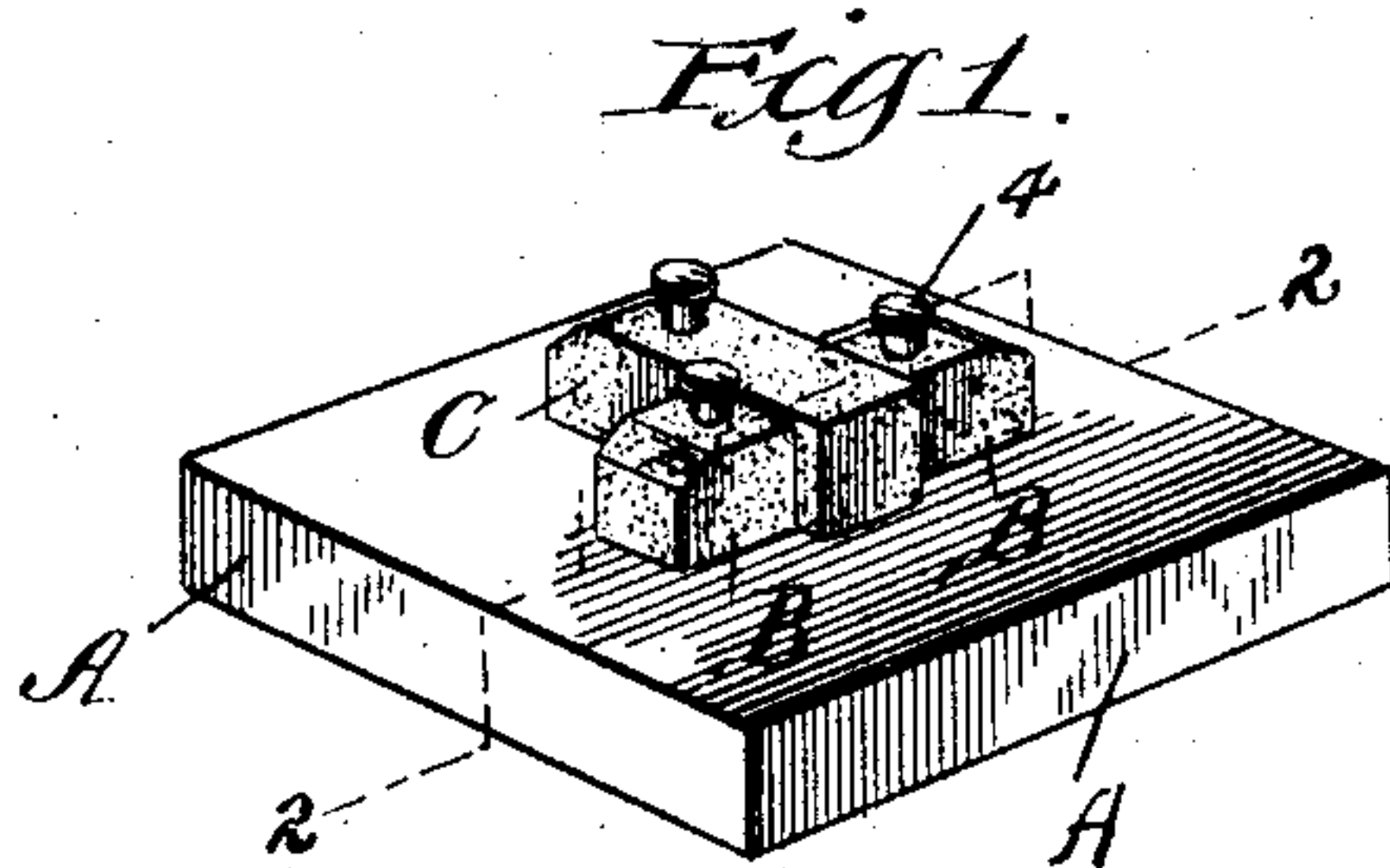


No. 666,329.

Patented Jan. 22, 1901.

C. A. ROLFE.
LIGHTNING ARRESTER.
(Application filed July 13, 1899.)

(No Model.)



Witnesses:
J. B. McIn
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UNITED STATES PATENT OFFICE.

CHARLES A. ROLFE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ROLFE
ELECTRIC COMPANY, OF SAME PLACE.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 666,329, dated January 22, 1901.

Application filed July 13, 1899. Serial No. 723,654. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. ROLFE, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Lightning-Arresters, of which the following is a specification.

My invention relates to lightning-arresters for allowing high electrical discharges or flashes of lightning to pass from an electrical line to ground without injuring the instruments or apparatus upon that line.

The object of the invention is to provide a simple, practical, inexpensive, and efficient lightning-arrester. To the attainment of this and other desired ends the invention consists in matters hereinafter set forth.

In the accompanying drawings, Figure 1 is a perspective view of a lightning-arrester embodying my invention. Fig. 2 is a vertical section of the same, taken on line 2 2 in Fig. 1. Figs. 3 and 4 are views of certain of the parts of which the instrument is composed.

The lightning-arrester shown comprises a base A, composed of insulating material and three carbons B B and C, mounted upon the base A. The carbons B B are arranged on opposite sides of the carbon C, which latter is desirably made longer than the carbons B B. The carbons B B are placed so as to be close to the carbon C, in which way a very small air-space is left between them.

The carbons B B are understood to be connected to the opposite sides of the circuit and the carbon C to be connected with the ground.

All of the carbons are coated with shellac or other similar permanent adhesive insulating material. By so doing the dust or particles themselves are prevented from flying off, and these particles or other particles of dust or foreign matter are prevented from making contact with the carbons should any of them become wedged between adjacent faces of any of the carbons. It will also be seen that by coating the carbons with such substance the desired roughened and uneven surfaces of the carbons are preserved, and

the carbons can be placed close to one another without fear or possibility of injurious effect. It is apparent that when so constructed lightning upon the line will jump from one or the other of the carbons B B to the carbon C and will pass from the latter to the ground. This will puncture the shellac or similar material coating the carbons in minute perforations; but it will not change its character—that is to say, it will not change to a conductor which will form a connection between the carbons.

It is obvious that by making the coating of the carbons of a permanent or non-changing insulating material and not such material as will change to a conductor upon the passage of lightning from one carbon to another the lightning-arrester is in its normal and working condition immediately after any discharge has passed through it. In other words, no ground which must thereafter be removed is put upon the line. In removing one kind of trouble another is not added.

The instrument is always in condition for service and requires no attention after the discharge of a flash of lightning.

The carbons B B and C could be mounted upon the insulating-base A in any desired way. As a matter of further improvement, however, the base A is provided with metallic sockets 1, and the carbons are provided with metallic rods or pins 2, adapted to fit within the socket 1. By such arrangement any or all of the carbons can be easily and quickly removed for the purpose of repairing or replacing them or for testing the wires. The lower ends of the sockets are provided with nuts 3, by which the proper lines can be connected to them, as well shown in Fig. 2. The pins 2 are held against sliding through the carbons by caps 4, screwed upon their upper ends. The pins 2 are desirably split longitudinally and the split portions made to flare outwardly, as shown in Fig. 3, so as to hold them with some degree of friction in the sockets 1. This arrangement assures perfect contact with the carbons.

It will be seen that a lightning-arrester constructed in this way or involving this prin-

ciple of coating the carbons with a permanent insulating material is simple, effective, practical, and inexpensive.

What I claim as my invention is—

5 1. A lightning-arrester provided with carbons, arranged so as to have opposing adjacent faces, and having these faces coated with a permanent adhesive insulating material.

10 2. In a lightning-arrester, a ground-carbon, and one or more line-carbons in close proximity thereto, said carbons being coated with shellac or similar substance.

3. A lightning-arrester having an electrode provided with a coating of permanent and adhesive insulating material.

4. A lightning-arrester having a carbon electrode provided with a coating of permanent and adhesive insulating material.

Signed by me at Chicago, Illinois, this 10th day of July, 1899.

CHARLES A. ROLFE.

Witnesses:

A. MILLER BELFIELD,
ISADORA E. MELDRUM.