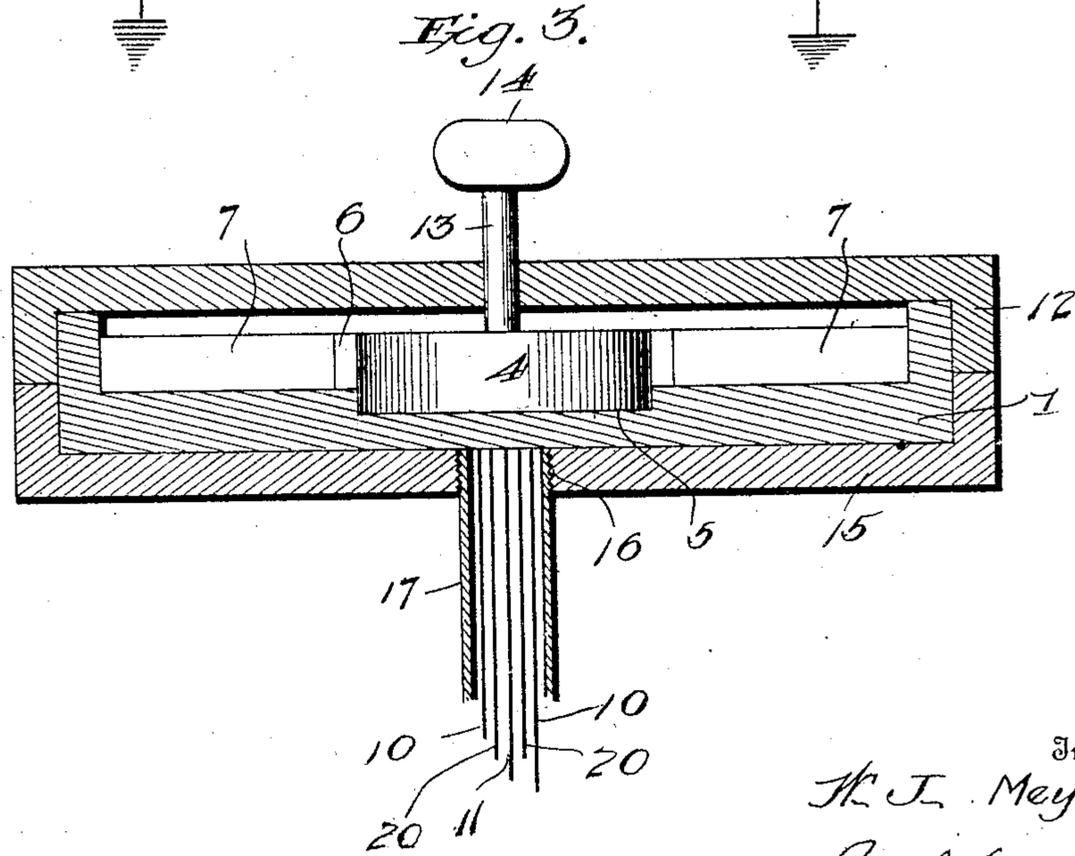
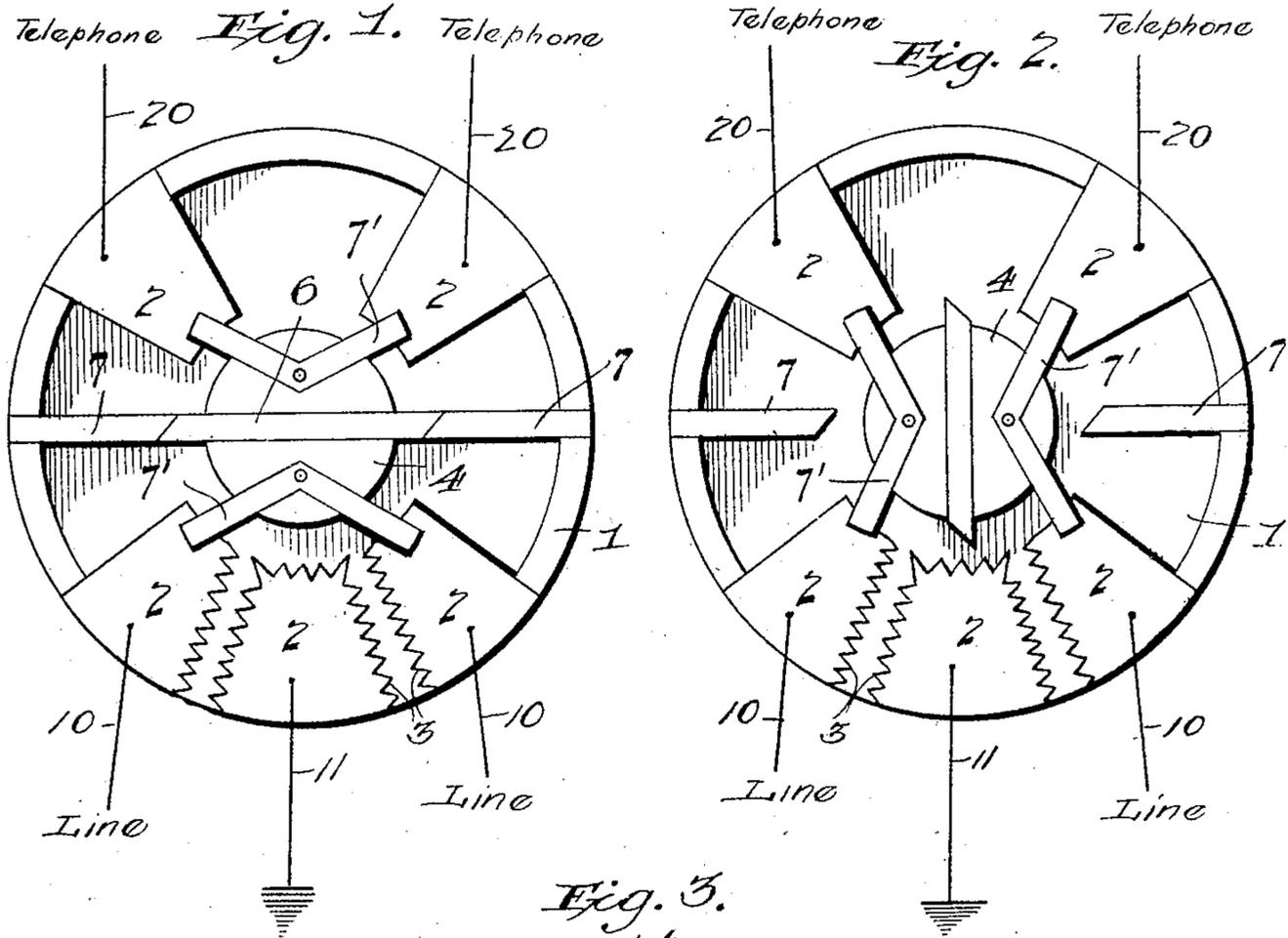


W. J. MEYER.
LIGHTNING ARRESTER.
APPLICATION FILED OCT. 8, 1906.



Witnesses
T. L. Woodman
James F. Brown

By

Inventor
W. J. Meyer
Geo. S. Washon
 Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. MEYER, OF BISON, KANSAS.

LIGHTNING-ARRESTER.

No. 860,683.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. MEYER, a citizen of the United States, residing at Bison, in the county of Rush and State of Kansas, have invented new and useful Improvements in Lightning-Arresters, of which the following is a specification.

This invention relates to a lightning arrester for use on telephones and other analogous electrical instruments, as well as independently on inside of a house where lines come through a wall, and the primary object of the invention is to prevent the interior of the building or house from being affected in the least by lightning running in over a line wire, and when the arrester is used with a telephone, the telephone apparatus will be protected and burning out of parts thereof avoided with obvious advantages in electrical apparatus of this character.

The invention consists in the construction and arrangement of the several parts which will be more fully hereinafter set forth.

In the drawings, Figure 1 illustrates a plan view of a lightning arrester embodying the features of the invention. Fig. 2 is a view similar to Fig. 1 showing the parts in different positions. Fig. 3 is a transverse vertical sectional view of the improved device showing the same complete.

Similar references designate corresponding parts throughout the several views.

Numeral 1 designates a cup-shaped body preferably formed of porcelain in some other non-conducting material and at regular intervals therein are radially arranged segmental plates 2 of metal held in place by suitable fastenings and some of the same having saw teeth edges 3. In the center of the body or cup-shaped disk 1 a small disk 4 of porcelain or other material is rotatably disposed, the said disk being held in a slight depression 5 as shown by Fig. 3. The disk 4 has a rib of porcelain as at 6 projecting beyond the periphery thereof at diametrically opposite points and is adapted to terminally aline or coincide with ribs 7 held by the cup-shaped disk 1, the ends of the ribs 6 and 7 being so shaped as to closely interlock and are preferably dovetailed. The disk 4 has angular contacting strips 7' secured thereto, the legs of said strips being long enough to reach from the disk over to the plates 2 to set up a contact between the series of plates in a manner which will be hereinafter more fully explained. The engaging terminals of the ribs 6 and 7 are also of such shape that they will prevent the disks 4 from being turned too far or beyond a predetermined point and yet establish the alinement or coincidence of the terminals of the ribs desirable. The line wires 10 are connected to two of the toothed plates 2 by any suitable means, said wires coming in at the back of the cup-shaped disk 1 and the toothed plate between those having the line wires connected thereto is attached

to ground by means of a suitable wire 11 also running in at the back of the cup-shaped disk 1. To the opposite metal plates, or those without the teeth, the telephone wires 20 are connected and also extend inwardly through the back of the cup-shaped disk 1.

To complete the arrester a cup-shaped disk 12 of porcelain or similar material is placed over the front thereof and secured by means of suitable screws so as to entirely inclose the movable parts and contact plates and strips 2 and 7'. A rod or spindle 13 projects through the center of the cover disk 12 and engages the rotatable disk 4, said rod or spindle having a suitable button 14 thereon for operating the said disk 4 to change the position of the contacting arms 7' and of the rib 6 with respect to the ribs 7. Over the back of the cup-shaped disk 1 or body of the arrester a further inclosing disk 15 of porcelain or other material is applied and has a central screw-threaded opening 16 in which is secured a tube 17 of hard rubber or other analogous material which extends through the wall and forms a non-conducting guide or inclosure for the several wires.

After the parts have been arranged as set forth, the operation of the spindle or rod 13 and the rotatable disk 4 through the medium of the button 14 will change the position of the contact arms 7', the latter being normally so placed as shown by Fig. 2, as to connect the two metal plates to which the telephone wires are attached respectively with the plates to which the line wires are connected. When an electrical storm is present and lightning is liable, or, likely to run in over the line, the disk 4 is turned to bring the parts into the position shown by Fig. 1 and thus cut out the telephone from the line and completely separate the line connecting plates and the ground plate from the plates attached to the telephones by a wall of porcelain provided through the medium of the registration of the terminals of the ribs 6 and 7.

The edges of the plates 2 are embedded in the porcelain of the cup-shaped disk 1 and particularly the inner corners so as to permit the contact arm 7' to ride thereover during the operation of the rotatable disk 4 and thus insure making of a good contact. It is obvious that when the parts are in position shown by Fig. 1 that the lightning coming in over the line must necessarily jump from the line plates to the ground plates and from the latter to ground.

The operator can readily ascertain from the position of the button 14 as to the arrangement of the parts within the inclosure formed by the cups heretofore described and through this medium the parts may be readily changed from either one of the two positions set forth. When the parts are in the position shown by Fig. 1 the line plates are not connected to ground as that would ground the line, but close to ground so lightning must jump to ground plate.

The improved arrester will be found exceptionally useful, and, as before indicated, may be used as a protective means with respect to wires passing through the wall of a house where a telephone apparatus is not present, and will be obvious that the arrester is well adapted for use with telegraph instruments, or for ground and electrical circuits of any other apparatus when an electrical storm is present.

To accommodate various applications modifications in the proportions, dimensions and minor details may be adopted without departing from the spirit of the invention.

What I claim is—

1. In a lightning arrester, the combination of a non-conducting body having metal plates carried thereby and provided with ribs extending inwardly thereover at diametrically opposite points and terminating at a distance from the center, the metal plates forming connecting means for wires, one of the same serving as a ground plate, and a centrally non-conducting rotatable element carrying angular arms to engage the plates and also provided with a non-conducting rib to coincide with the aforesaid ribs to provide an intersecting non-conducting wall between the plates.

2. In a lightning arrester, the combination of the non-

conducting support provided with metallic plates to which wires are attached and also with opposite intersecting radial elements between portions of the plates, and a rotatable member in the center of each support provided with means for connecting the plates and also provided with an intersecting member to coincide with said intersecting elements.

3. In a lightning arrester of the class set forth, the combination of a non-conducting supporting body having metallic plates radially disposed therein and provided with connecting wires, a portion of the plates having edge teeth and one of the same forming a ground plate, the supporting body also being provided with intersecting ribs at diametrically opposite points extending partially thereover, a rotatable element in the center of the body carrying contact arms to engage the plates and also provided with a rib to coincide with the ribs of the body, an inclosing cup-shaped cover and back for the said body, the back having a central opening therein, an inclosing tube secured in the opening of the back and means projecting through the cover for operating the rotatable elements.

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

WILLIAM J. MEYER.

Witnesses:

D. A. SCHWARTZKOPF,
E. J. BRUEGGER.