

(No Model.)

T. W. WHEATLEY.
LIGHTNING ARRESTER.

No. 492,649.

Patented Feb. 28, 1893.

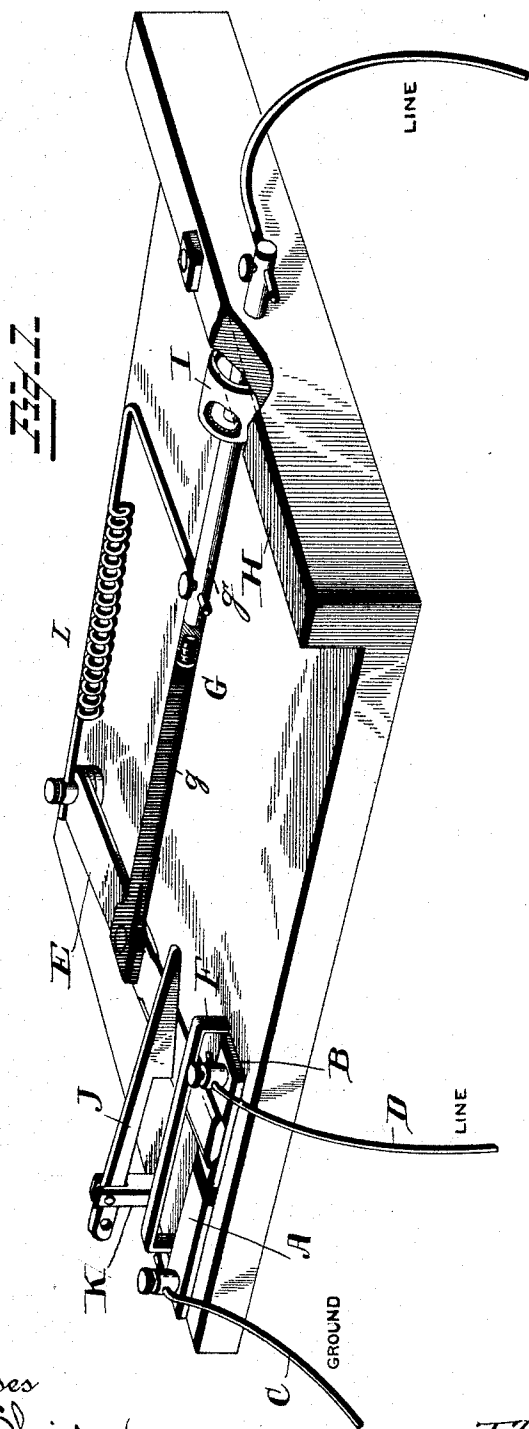


Fig. 1.

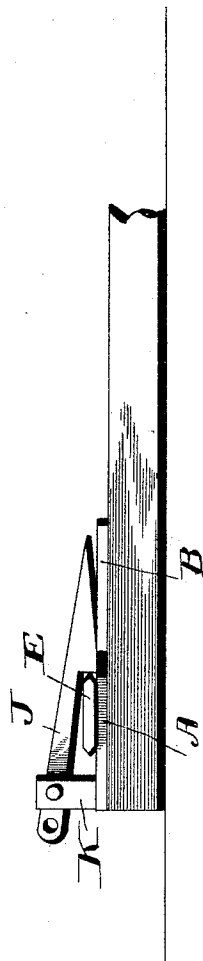


Fig. 2.

Witnesses
Albert Spiden.
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UNITED STATES PATENT OFFICE.

THOMAS W. WHEATLEY, OF WILKES-BARRÉ, PENNSYLVANIA.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 492,649, dated February 28, 1893.

Application filed November 14, 1892. Serial No. 451,968. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. WHEATLEY, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne, State of Pennsylvania, have invented certain new and useful Improvements in Lightning-Arresters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved lightning arrester designed to protect electrical instruments and persons from lightning and other abnormal discharges of electricity.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which;

Figure 1 is a perspective view of the invention showing its application, part of the explosion chamber being broken away to show its interior construction, and having part of the rod which carries said chamber broken away to show the joint between the parts comprising the said rod. Fig. 2 is a detail view of the latch for holding the switch lever in position after being operated by the explosion.

A and B represent two contact plates which are in electrical connection, respectively, with the ground and line wires C and D. These contact plates are electrically insulated from each other and the line wire is grounded by means of the switch lever E which is pivoted at one end and is adapted to have its other end move over and make electrical connection with either of the said contact plates A and B. This switch lever E is limited in its movements and held in proper relation with the contact plates A and B by suitable means, such as the keeper F. A rod G is pivotally connected with the switch lever E at a point between its ends and passes through a suitable guide as the cleat H, and is provided with an explosion chamber I which is adapted under normal conditions to lie against the said cleat H. This explosion chamber is of metal and is suitably secured to the rod G and is adapted to have its open end closed by the

cleat H. The explosive is placed in the said chamber and is ignited by the passage of the lightning or other abnormal charge of electricity, and when said explosion takes place the rod G is moved to change the relative position of the switch lever E and ground the line wire, thereby preventing injury both to life and property. To prevent the switch lever rebounding a suitable latch J is provided and engages with the switch lever after the same has made proper contact with the plate A. This latch J is adjustably connected to a short standard K and its forward or beveled end is sufficiently long to rest upon the switch lever when the same is in electrical connection with the contact plate B so that it will be in position to ride over the said lever when the same is moved to the plate A.

Under normal conditions the switch lever and rod G are in the main circuit and on the passage of an abnormal charge of electricity the explosive in the chamber I will be ignited and cause the switch lever to change its relative position and ground the line wire and cause the said charge to pass into the earth.

The rod G is composed of two sections g and g' which are suitably connected together at their meeting ends, preferably by a threaded joint as shown. The section g is of any suitable material which will constitute a non conductor for electricity and may be of wood, vulcanized rubber or similar material. The section g' is an electrical conductor and is included in the line circuit and is connected with the switch lever by means of the wire L.

The main line circuit includes the contact plate B, the switch lever E, the wire L. and the section g' . In the event of the line receiving an abnormal charge of electricity the same passing through the section g' will ignite the explosive in the chamber I and move the switch lever into electrical connection with the ground wire and ground the said charge. The explosion takes place before the current enters the wire L, hence the lever E is moved in time to ground the charge.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lightning arrester the combination with a switch lever included in the main circuit, of an explosion chamber operatively

connected with the said switch lever and likewise included in the main circuit and adapted to receive an explosive which is ignited on the passage of an abnormal charge of electric
5 fluid to change the relative position of said switch lever and ground the line wire, substantially as set forth.

2. The herein described lightning arrester comprising two contact plates A and B, the
10 former being connected with the ground wire, and the latter included in the main circuit a switch lever pivoted at one end and adapted to have its free end make electrical connection with the plates A and B, a rod G con-

nected with the switch lever and provided 15 with an explosion chamber which is adapted to lie against a suitable stop, and a latch for holding the switch lever in proper position after being actuated by the explosive in the said explosive chamber, substantially as and 20 for the purpose set forth.

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

THOMAS W. WHEATLEY.

Witnesses:

JACOB THEIS,
PHILIP A. COE.