

(No Model.)

W. W. TOMPKINS.

SPARK SHIELD OR PROTECTOR FOR ELECTRIC ARC LAMPS.

No. 525,929.

Patented Sept. 11, 1894.

FIG. 2.

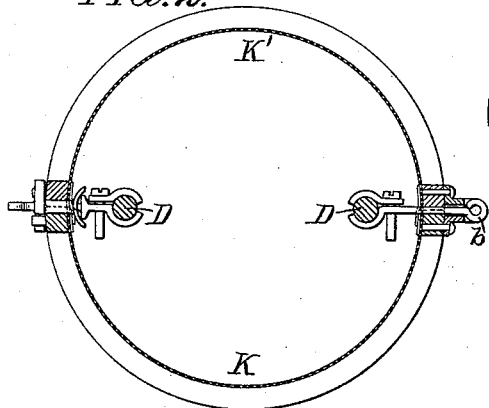


FIG. 3.

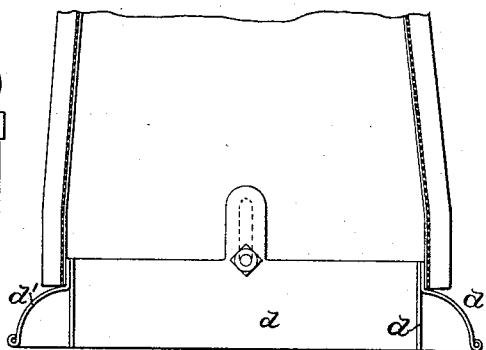
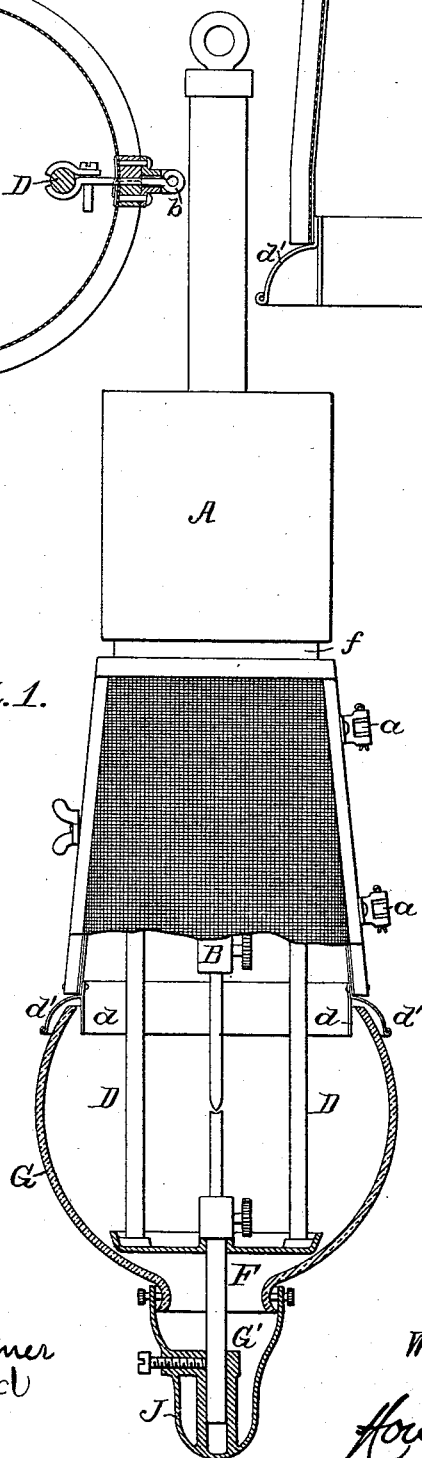


FIG. 1.



Witnesses:
Hamilton D. Turner
Frank E. Bechtold

Inventor:
William W. Tompkins,
by his Attorneys

Houson & Houson

UNITED STATES PATENT OFFICE.

WILLIAM M. TOMPKINS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO ALBERT H. MANWAREN, OF SAME PLACE.

SPARK-SHIELD OR PROTECTOR FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 525,929, dated September 11, 1894.

Application filed June 22, 1893. Serial No. 478,475. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. TOMPKINS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented
5 Improvements in Spark-Shields or Protectors for Electric-Arc Lamps, of which the following is a specification.

The object of my invention is to provide an arc lamp with a hood or protector which will
10 effectually prevent the escape of carbon sparks or drops of molten metal from the lamp, and will also act as a storm guard for protecting the carbons in inclement weather. This object I attain in the manner hereinafter
15 set forth, reference being had to the accompanying drawings, in which—

Figure 1, is a view partly in section and partly in elevation illustrating my improved hood or protector applied to a common form
20 of arc lamp. Fig. 2, is a sectional plan view of the same on a larger scale; and Fig. 3, is an enlarged view illustrating a special feature of construction.

In Fig. 1 A represents the regulator casing
25 of an ordinary arc lamp; B, the upper carbon holder; F, the lower carbon holder; D D, the depending rods which carry the latter, and G the usual glass globe which incloses the carbons at the point where the arc is formed.

Much inconvenience is caused and quite a
30 number of fires have resulted because of the escape from the globe of small particles of incandescent carbon or drops of molten metal caused by the melting of the copper envelope
35 with which an electric light carbon is usually provided, and in order to overcome this objection I provide the globe G, both above and below, with a hood or cap which will serve to prevent either the dropping or the flying
40 off of heated or incandescent particles.

The bottom cap J is in the form of a cup which receives the flaring rim at the bottom of the globe and has a tube G' for the reception of the lower carbon holder, to which it is
45 properly secured.

The upper hood consists of two parts K K' hinged at a to lugs b secured to and projecting outwardly from one of the depending rods D of the lamp, the two portions of the hood
50 slightly overlapping at their meeting ends, as shown in Fig. 2, so as to prevent the for-

mation at that point of any crack or opening through which particles can escape. The other rod D has a projecting lug which carries any suitable form of latch or retainer for
55 holding the two parts of the hood together.

Each part of the hood as shown in the drawings consists of a frame work carrying a sheet of wire gauze, but the hood may be wholly imperforate if desired, and may be
60 made of any available metal, enameled or otherwise provided with an insulating coating. It is advisable in some cases to provide the hood at the top with a ring f of leather, rubber, or other equivalent material to form
65 a close joint between the hood and the bottom of the regulator casing, and prevent any electrical contact of the two. Of course, it will be understood that when the hood is provided with wire gauze or perforated metal,
70 the meshes or openings of the latter will, in all cases, be fine enough to prevent the escape of any particles from the lamp. Each of the two parts of the hood terminates at its lower end in flanges d d', thus forming a
75 groove into which the upper edge of the globe G projects, the flange d' extending down on the outside of the globe, and the inner flange d projecting downwardly below the top of the globe so that the escape of sparks
80 or drops of molten metal over the top of the globe is effectually prevented.

The groove formed between the flanges d d' for the reception of the upper edge of the globe G is both wide and deep so that it will
85 accommodate all of the variations in shape and size which the upper edges of the globes, in practice, assume, the two flanges, however, effectually preventing the escape of particles from within the globe, even though the upper
90 edge of the globe does not fit snugly to either flange, whereas when but a single internal or external flange is used, it must fit snugly against the globe in order to prevent the escape of sparks, and such snug fit, owing to
95 to the before mentioned variations in shape and size of the upper portions of the globes, is not likely to be secured in practice.

In cases where the globe G is not movable vertically for the purpose of gaining access to
100 the carbons, the inner flange d of one or both halves of the hood may be adjustable verti-

cally thereon in order to clear the upper edge of the globe and thus permit the hood, or one-half of the same, to swing open in order to gain access to the carbons. Such construction is illustrated in Fig. 3.

My improved hood not only effectually prevents the escape of incandescent particles from the lamp, but, especially when it is constructed of imperforate material, it also serves to protect the carbons and the arc from the effects of rain, snow, sleet or high winds.

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

1. The combination of an electric arc lamp with a protecting guard or hood located above the globe of the lamp and having both internal and external flanges extending downward below the top of the globe respectively on the inner and outer sides of the same, these flanges forming a wide and deep groove into which the upper edge of the globe projects,

whereby the desired protection is afforded without the necessity of a close fit of either flange to the top of the globe, substantially as specified.

2. The combination of an electric arc lamp, with a vertically divided hood located above the globe of the lamp, and consisting of opposite sections hinged together, said hood having at the lower end internal and external flanges forming a groove into which the upper edge of the globe projects, the inner flange being adjustable vertically in order to clear the upper edge of the globe, substantially as specified.

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

WM. M. TOMPKINS.

Witnesses:

FRANK E. BECHTOLD,
JOSEPH H. KLEIN.