No. 841,393. PATENTED JAN. 15, 1907.

A. M. HARRIS.

SPARK ARRESTER.

APPLICATION FILED OCT. 6, 1906.

Fig. 1.

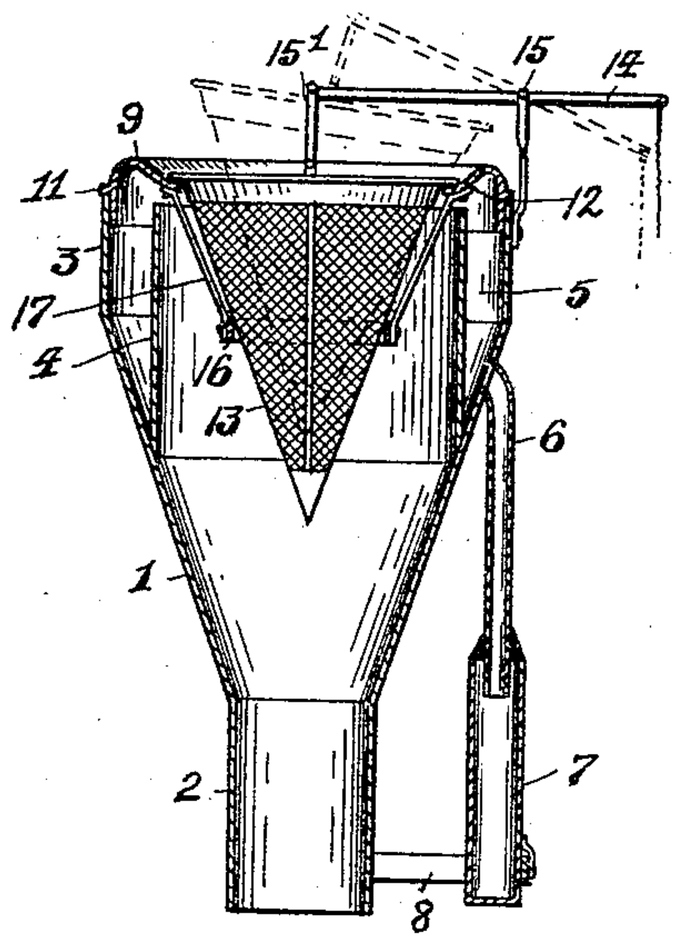


Fig. 2.

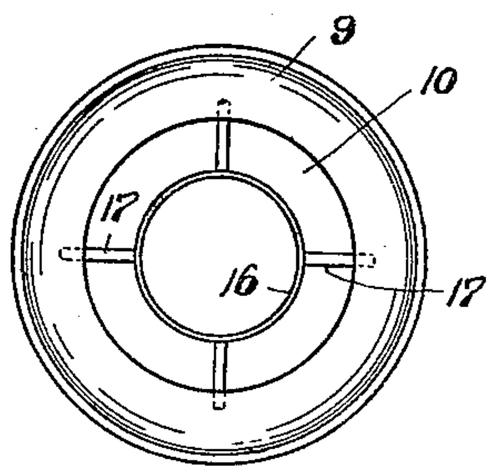
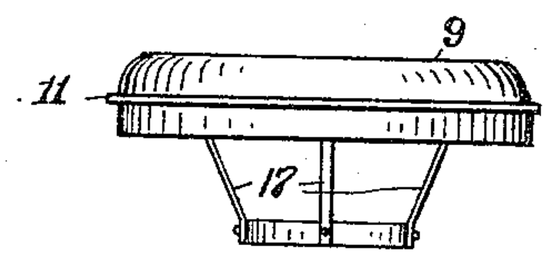


Fig. 3.



Witnesses:
George Oltsch
G. M. Cole.

Albert M. Harris
Inventor
By Theodore Dalton
Atty.

UNITED STATES PATENT OFFICE.

ALBERT M. HARRIS, OF SOUTH BEND, INDIANA.

SPARK-ARRESTER.

No. 841,393. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed October 6, 1906. Serial No. 337,746.

To all whom it may concern:

Be it known that I, ALBERT M. HARRIS, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Spark-Arresters, of which the following is a specification.

This invention relates to spark-arresters, the object being to provide a device of this character with a spark-deflecting cone designed to be raised easily from its seat and quickly, properly, and efficiently seated in its operative position.

With the above and other objects in view the present invention consists in the combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes may be made in the form, proportion, size, and minor details without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 illustrates a vertical sectional view of an inverted truncated cone-shaped shell, showing my improved cone-shaped deflector in operative position, the dotted lines indicating the deflector when raised from the seat. Fig. 2 is a top plan view of the cap of the shell, including an attachment to assist in supporting the deflector; and Fig. 3 is an elevation of the structure illustrated in Fig. 2.

Referring now more particularly to the accompanying drawings, the reference character 1 indicates a shell, which may be of any desired shape, but is shown in the form of an inverted truncated cone provided at its lower end with a neck 2, whereby the shell may be readily attached to the smoke-stack of a locomotive in the usual manner. The upper end of the shell is also provided with a neck 3, arranged concentrically with which is a wall 4, forming an annular chamber 5 between the neck and walls. It will be seen that the wall 4 extends below the collar 3, although this feature in itself is immaterial, as is also the illustrated form of shell. A spark-conveying tube 6 leads from the annular chamber 5 downwardly into a spark-receptacle 7, detachably supported in any suitable manner, but preferably by a connection 8. Of course, the receiver is mounted to be removed for cleaning or other purposes.

The top 9 of the shell is provided with the usual draft-opening 10 and has its outer periphery preferably fitted within the neck 3 of the latter and provided with an external annular rib 11 for engagement with the top of the collar 3 to support the top 9 of the cap firmly in position. The inner peripheral edge of the top 9 flares inwardly to its circular flue-opening 10 to form a seat 12 for the support of the upper end of the truncated cone-deflector 13, which latter is formed intermediate its ends, preferably of reticulated material, as shown. This cone-shaped deflector may be seated solely upon the peripheral edge of the flue-opening forming the shoulder 12 and lifted therefrom by a suitable lever 14, fulcrumed near its outer end to the support 15, secured to the shell 1, and to which the deflector is connected by means of the link connection 15′. However, this manner of seating the deflector while secure is not as secure as it might be, and I therefore provide further means of supporting the deflector and particularly for guiding and holding it in true position with respect to the shell.

To guide and support the deflector 13 in true position with respect to the shell and the flue-opening of the top of the latter, I provide an annular ring 16 of smaller cross-sectional diameter than the cross-sectional diameter of the flue-opening 10 and support this annular guiding member or ring 16 directly beneath the flue-opening 10 by means of suitable converging connections 17, secured in any suitable manner to the top 9 and the ring 16. The pointed end of the deflector 13 is not raised above the annular ring 16 when the deflector is lifted from its seat, as clearly shown in dotted lines in Fig. 1.

It will now be understood that if the deflector is raised from its seat for cleaning or other purposes it may be readily positioned upon releasing the lever 14, the inverted cone or deflector 13 being guided to proper position by the ring 16, which latter serves, further, to embrace the deflector intermediate its ends to aid the seat 12, supporting the same. It will thus be seen that the ring 16 has a dual function.

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

A spark-arrester comprising a shell, a top member provided with a flue-opening, an an-

nular guiding member of less diameter than the diameter of the flue-opening, an inverted-cone-shaped deflector guided to operative position by the guide member and seated upon the top member, and means for lifting the deflector from its operative position.

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

ALBERT M. HARRIS.

Witnesses:
GEORGE OLTSCH,
G. M. COLE.