(No Model.)

W. S. PITTMAN.

SPARK ARRESTER.

No. 489,263. Patented Jan. 3, 1893.

Fig. 1.

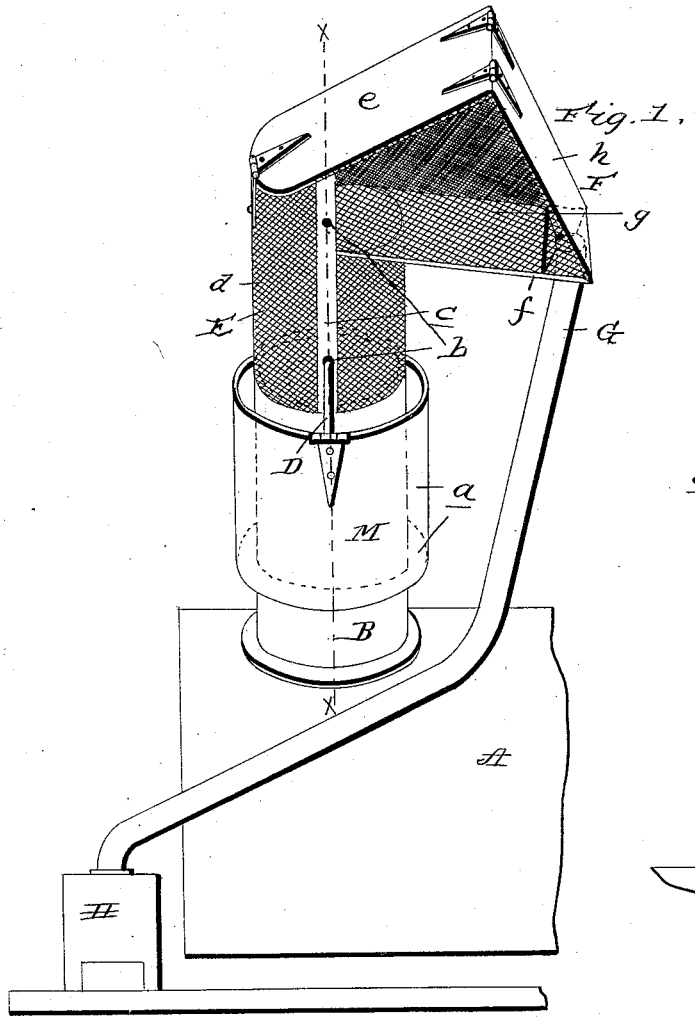
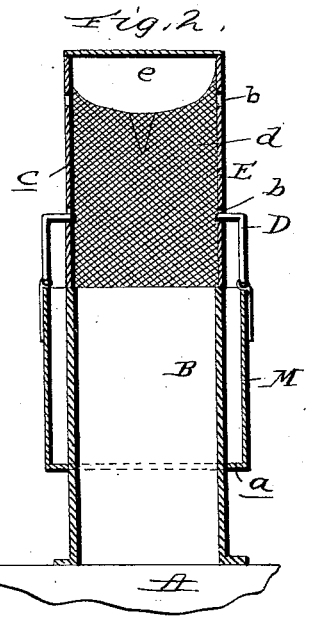


Fig. 2.



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SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 489,263, dated January 3, 1893.

Application filed April 15, 1892. Serial No. 429,375. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. PITTMAN, a citizen of the United States, residing at Pierceville, in the county of Finney and State of Kansas, have invented certain new and useful Improvements in Spark-Arresters; and I do 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.

My invention has relation to an improved spark arrester and conductor, and it has for its general object to provide a cheap and simple device adapted to effectually arrest the sparks escaping from a locomotive smoke stack without interfering with the draft of the smoke stack.

A further object of the invention is to provide a spark arrester of such construction that the length of the smoke stack may be readily increased and an upward draft secured.

With the foregoing ends in view, the novelty of my invention will be fully understood from the following description and claims when taken in connection with the annexed drawings in which:—

Figure 1, is a perspective view of a portion of a locomotive with my improvements in position upon the smoke stack thereof, and:—Fig. 2, is a detail diametrical section taken in the plane indicated by the line *x*, *x*, of Fig. 1.

In the said drawings similar letters designate corresponding parts throughout the several views referring to which:

A, indicates a locomotive which may be of any approved construction, and B, indicates the smoke stack thereof.

M, indicates the adjustable jacket of my improvements which is a greater diameter than the smoke stack as better shown in Fig. 1, of the drawings. This jacket M, which is designed and adapted to be adjusted vertically upon the smoke stack, is provided at its lower end with an inwardly directed lateral flange *a*, which engages the smoke stack B, and is designed by frictional contact therewith to sustain the jacket in its adjusted position.

Suitably connected to the upper edge of the jacket M, at diametrically opposite points are hooks D, which are designed to alternately engage the holes *b*, in the frame *c*, of the upright cylinder E, of the spark arrester. This cylinder E, which comprises the frame *c*, and the gauze side wall *d*, has its rear side notched or cut away at its upper end for the attachment of the receiver F, which is rigidly connected to the said cylinder in any approved manner. This receiver F, which is better illustrated in Fig. 1, of the drawings, comprises the downwardly and rearwardly inclined rear wall *h*, which is preferably formed from sheet metal, the bottom wall *f*, also preferably formed from sheet metal, the gauze side wall *g*, and the downwardly and forwardly inclined top wall or cover *e*, which cover is flexibly connected to the upper end of the wall *h*, as shown, and is detachably connected at its forward end to the cylinder E, so as to permit of its being thrown back upon the wall *h*, when it is desired to get an upward draft and allow the escape of the sparks.

Taking through and leading from the bottom *f*, of the receiver F, is a pipe or conduit G, which extends to and communicates with a receptacle H, and is designed to convey the sparks from the receiver to the said receptacle, which may be located at any convenient point.

As illustrated in Fig. 1, of the drawings, the parts of my improvements are so adjusted that the sparks will be arrested without interfering in any manner with the draft. It will be seen that the sparks striking against the cover *e*, will, by reason of the inclination of the same, be deflected back into the receiver from whence they are conducted as before described, to the receptacle H.

When it is desired to extend the length of the smoke stack and secure an upward draft, the cover *e*, is thrown backward upon the wall *h*, and the hooks D, are disengaged from the lower holes *b*, of the cylinder E, after which the jacket is moved upwardly and the hooks placed in engagement with the upper holes *b*, of said cylinder.

From the foregoing description it will be readily perceived that I have provided a spark arrester of an exceedingly cheap, simple and light construction and one adapted to be readily adjusted to effect an extension of the

smoke stack and allow an escape of the sparks when desirable.

It is obvious that in practice the cylinder E, might be hinged on one side to the upper end of the smoke stack, so that it may be thrown over laterally to permit the locomotive to enter a round house or the like, in which case it would be necessary to provide the upper end of the pipe or conduit G, with a sliding coupling section so that it might be readily disconnected from the receiver F, when the same is swung laterally with the cylinder.

Having described my invention what I claim is:—

1. In a spark arrester, substantially as described, the combination with a smoke stack, the gauze cylinder mounted upon the upper end thereof, and having the holes *b*, and also having its rear side cut away at its upper end, and the receiver fixedly connected to the upper end of the cylinder and comprising the bottom wall *f*, the rear wall *h* the side walls *g*, and the cover *e*, flexibly connected to the upper end of the wall *h*, and adapted to be detachably connected at its forward end to the cylinder; of the adjustable jacket of a greater diameter than the smoke stack mounted on said stack and having the inwardly directed annular flange at its lower end, and the hooks connected to the jacket and adapted to engage the holes of the cylinder, substantially as specified.

2. In a spark arrester and conductor, the combination of a smoke stack, the gauze cylinder mounted upon the upper end thereof and having the holes *b*, and also having its rear side cut away at its upper end, the receiver fixedly connected to the upper end of the cylinder and comprising the bottom wall *f*, the rear wall *h*, the side walls *g*, and the cover *e*, the jacket of a greater diameter than the smoke stack mounted on said stack and having the inwardly directed annular flange at its lower end, the hooks connected to the jacket and adapted to engage the holes of the cylinder, the receptacle H, and a pipe or conduit leading from the receiver to said receptacle, substantially as specified.

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

WILLIAM S. PITTMAN.

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