No. 868,331. PATENTED OCT. 15, 1907.

J. DOLAN.

SPARK ARRESTER.

APPLICATION FILED APR. 16, 1906.

Fig. 1.

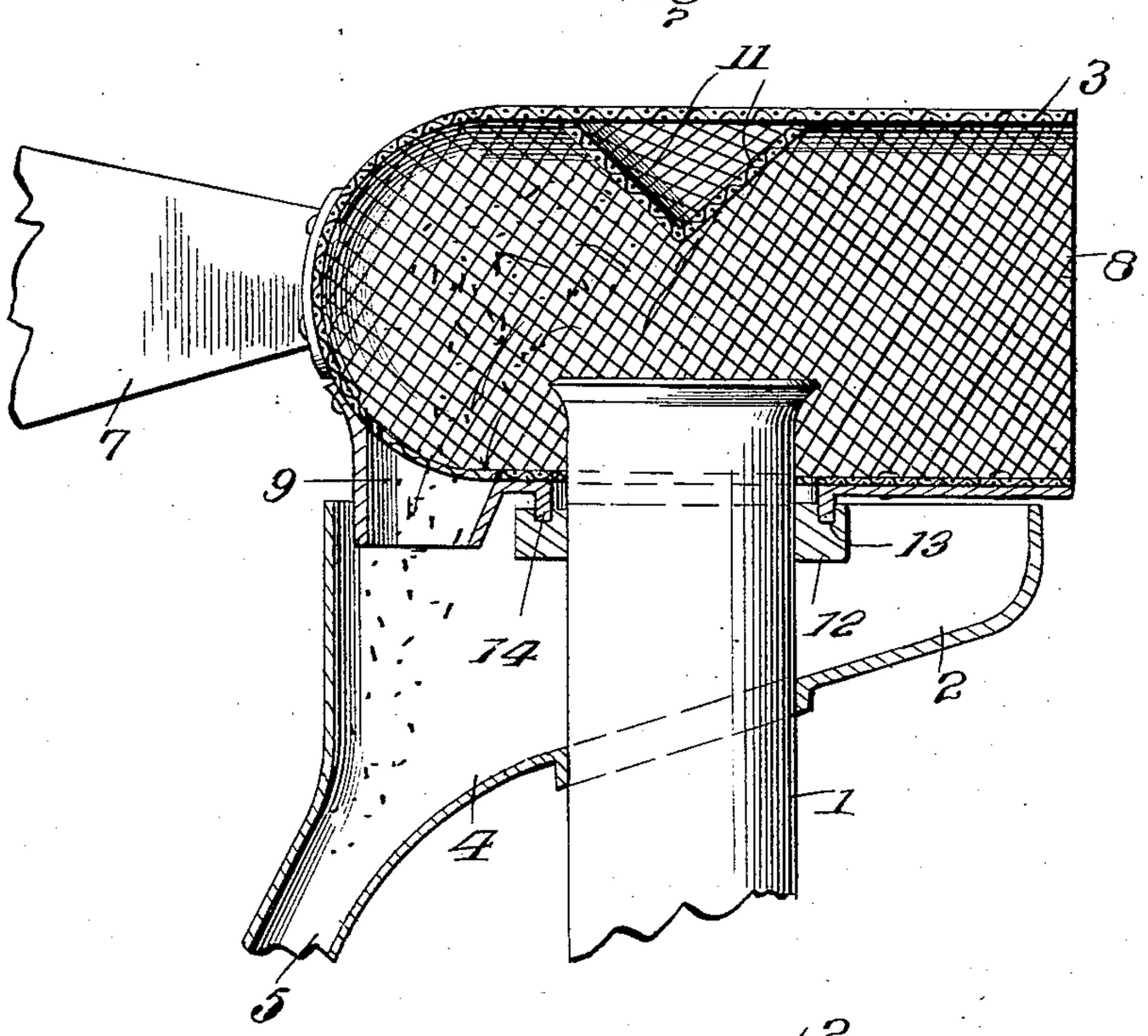
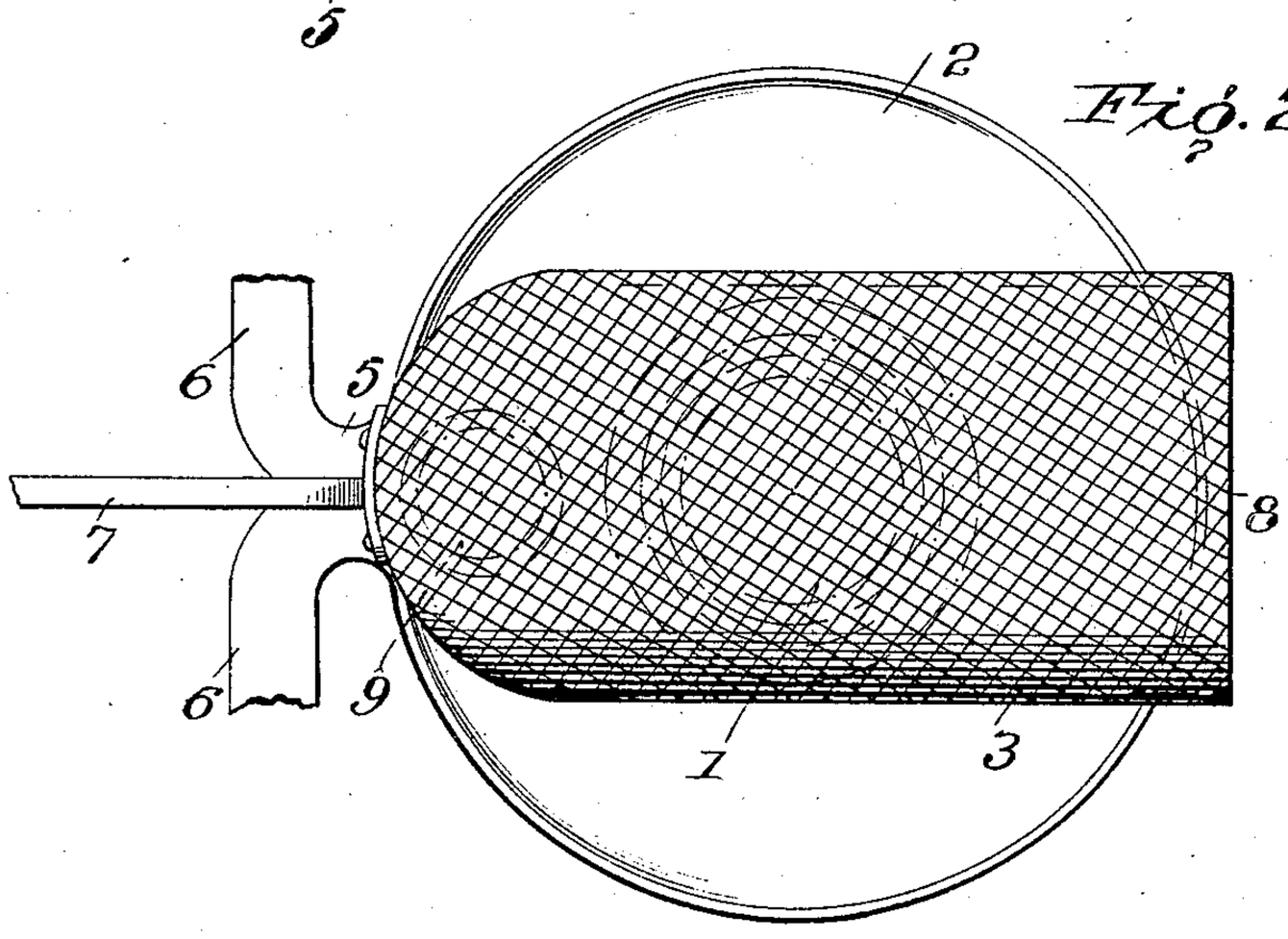


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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SPARK-ARRESTER.

No. 868,331. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed April 16, 1906. Serial No. 312,029.

To all whom it may concern:

Be it known that I, JOHN DOLAN, a citizen of the United States, residing at Herington, in the county of Dickinson and State of Kansas, have invented certain new and useful Improvements in Spark-Arresters, of which the following is a specification.

The purpose of the present invention is to prevent the inconvenience, annoyance and injury to property resulting from smoke and cinders enveloping a train and passing over the same and at the sides thereof.

In accordance with this invention, a contrivance of novel formation is provided and combined with the smoke stack for receiving the smoke and gases and directing the same downward either upon the roadbed or at the sides thereof, said contrivance comprising a hood or cowl mounted so as to be self-adjusting to the direction of air currents.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 represents the upper portion of a smoke stack supplied with a contrivance constructed in accordance with the invention, the same being in section. Fig. 2 is a top plan view thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The smoke stack 1 may be of any type and is illustrative of the variety commonly provided upon locomotive engines. A receptacle 2 is fitted to the upper portion of the smoke stack and surrounds the same, being open at its top to admit of the cinders, smoke and the like discharging therein at any position of the hood or cowl 3. The bottom of the receptacle 2 is inclined to a common point of discharge 4 from which a pipe or conductor 5 leads to convey the cinders, smoke or the like either to the roadbed or at the sides thereof. The pipe or conductor 5 may be single or branched, the latter construction being indicated at 6 in Fig. 2.

The hood or cowl 3 is preferably constructed of heavy screen or foraminous material so as to receive the smoke, gases cinders and the like from the stack 1, and said cowl is arranged to turn about a vertical axis so as to adapt itself to the direction of the current of air. A vane 7 is fitted to or projects from the cowl 3 to position the same in the usual way. One end of the cowl 3 is open, as shown at 8, while the other end is closed, so to speak, by reason of the formation of the body thereof. A spout 9 leads from the rear or discharge end of the cowl and extends into the upper portion of the receptacle 2 so as to discharge thereinto, no matter what the relative position of the cowl may be in regard to the receptacle 2.

Attached to the cowl just above the stack 1, is a V-shaped deflector 11, which is designed to deflect the smoke and products of combustion passing through the chimney, in such a way that should there be practically no current of air to act upon such smoke or products of combustion, the same will be deflected and the cinders and similar foreign matter will not fall back into the smoke stack. The deflector 11 will be made of heavy screen also.

The special means employed for mounting the cowl 3 on the chimney or smoke stack 1 comprises a ring 12 which fits about and is substantially secured to the upper portion of the smoke stack 1 and which is provided in its upper side with an annular groove 13. The annular groove 13 forms an annulus 14 which is applied to the bottom of the cowl 2 and which is received in the groove 13 being freely rotatable therein.

It is contemplated that the discharge pipe or pipes for the receptacle 2 may be provided at the lower end thereof with closures to prevent escape of the material received by the receptacle until the engine has reached a certain point in its travel. By use of the closures the cinders and similar foreign matter will not be discharged as the train is traveling and this will therefore make the travel somewhat more cleanly, and agreeable.

Having thus described the invention, what is claimed as new is:

1. In a spark arrester, the combination of a receptacle comprising inclosing sides and a bottom formed with a discharge pipe leading from one side thereof, a smoke stack passing centrally through the receptacle, a ring surrounding the stack at the mouth of the receptacle, and formed with an annular groove, a rotatable hood inclosing the opening of the stack and formed with an annulus received loosely within the before mentioned annular groove in the ring, said hood being open at one end and closed at the opposite end, and a discharge spout pendent from the hood and designed to discharge into the receptacle at all positions of the said hood.

2. In a spark arrester, the combination of a receptacle comprising inclosing sides and an inclined bottom, a discharge pipe leading from the lower portion of the inclined bottom, a smoke stack passing centrally through the receptacle, a ring surrounding the stack at the mouth of the receptacle and formed with an annular groove, a rotatable hood inclosing the opening of the stack and formed with an annulus received loosely within the before mentioned annular groove in the ring, said hood being formed of foraminous material and being open at one end and closed at the opposite end, and a pendent spout projecting from the hood into the mouth of the receptacle and designed to discharge into the latter at all positions of the rotatable hood.

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

JOHN DOLAN. [L. S.]

Witnesses:
MARTIN F. DOLAN,
JOHN GALLAGHER.