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A. C. Jones,

Spark Arrester,

Patented Aug. 27, 1835.

Fig. 1

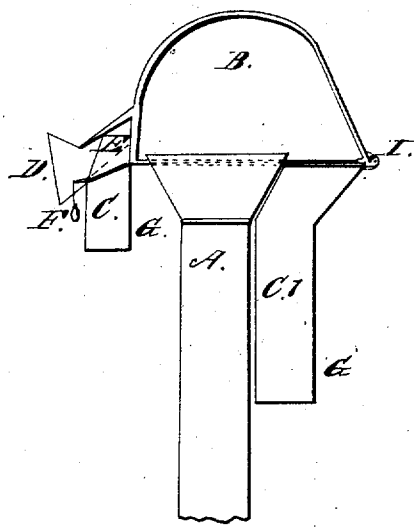


Fig. 2.

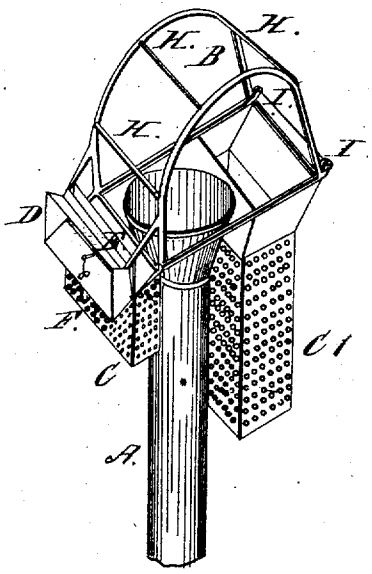
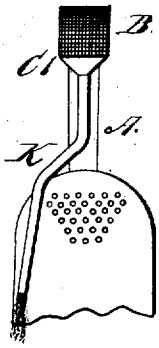


Fig. 3.



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9658X Aug. 27, 1835 281.

Alfred G. Jones of Portsmouth Virginia

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Alfred G. Jones himself of his improvement in an instrument or apparatus for arresting the sparks proceeding from the furnaces of steam engines.

To all whom it may concern.

Be it known that I Alfred G. Jones now residing at Portsmouth in the County of Norfolk and State of Virginia have invented improvements in the apparatus for arresting the sparks which proceed from the furnaces of steam engines, and that the following is a full and exact description thereof reference being had to the drawings which accompany and make a part of this specification. Fig 1. Is a longitudinal section of the apparatus taken vertically through the chimney Fig 2. Is a perspective view representing the cap and its appurtenances complete, with the exception of the wire gauze which is to be stramed over the frame, but which has been omitted in the drawing for the more perfect exhibition of the other parts. Fig 3. is a section of the of the smoke chamber of a (Locomotive engine) showing the pipe for conveying the sparks to its bottom the same Letters serve to designate similar parts. A. is the smoke pipe or chimney. B the cap or frame which is to be covered with wire gauze C,C. are receptacles for sparks and cinders. D a funnel or opening furnished with a shutter or valve E. which has a counterbalancing weight F. attached to it G. G. are sliding doors H.H.H. are supports forming a part of the frame work of the cap. I.I. Hinges to admit of the cap being thrown back to prevent the gauze from closing with

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lampblack when the engine is standing; The size of the apparatus may be varied according to circumstances but as a guide to others I will mention the dimensions of certain parts which I have found to answer well in practice. The drawing fig 1. has been made upon a scale of three sevenths of an inch to one foot the whole width being nineteen inches. The frame of the cap is made of iron measuring three sevenths of an inch by three eights of an inch; the wire gauge which I have used has fourteen meshes to one inch, and this I prefer to what is finer as no sparks capable of producing injury will pass through it. The Funnel D. I have made of tinplate, the boxes C.C. of sheet iron; I have secured the cap to the funnel of the smoke pipe in the following manner, a piece of strong sheet iron of a size proper to form the whole of the foundation or bottom part of the cap has a hole cut through it of such diameter as allows of the turning down of the flanch to fit and by which to secure it near the upper edge of the funnel of the smoke pipe by means of a hoop and rivets. The frame of the cap rests upon this sheet iron, the two being secured together by riveting; rows of small holes are punched through the sheet iron for the purpose of attaching the wire gauge thereto. The shutter B. is made self-regulating, the weight W being just heavy enough, or sufficient to keep it closed when the engine is at rest and it of course closes whenever the engine is turned backward; when running forward the shutter is open, taking the position represented by the dotted lines. To promote the combustion of the sparks small holes are punched in the receptacles C.C. sometimes only the bottoms are punched for the purpose and a sliding door or other means of opening the receptacles to clear them of ashes is provided; or instead of consuming the sparks in the box C.I. I alter its form as shown by Fig 3. and convey them by the pipe K. to the lower part of the smoke chamber.

I have thus given a thorough description of the manner of constructing the apparatus and in so doing have necessarily

Necessarily mentioned certain parts thereof of which I do not claim to be the inventor. caps of several construction covered with wire gauze having been before used for the same purpose, but I do claim as new and of my invention the open funnel marked D. in the drawing and the self regulating shutter or valve, placed therein, so balanced that it will be open and admit air, by the advance of the engine and also when it is at rest and these I claim in all the variations of form of which they are susceptible, whilst they are so constructed as to operate upon the same principals and produce similar effects. I also claim the conveying of the sparks by the pipe K to the bottom of the smoke chamber out of the influence of the Boiler flues and the making the cap with hinges for the before mentioned purpose.

Witnesses
Jn.° Cooke
J. G. Jamison

Alfred G. Jones

(Drawing)

Exd.
W.G.