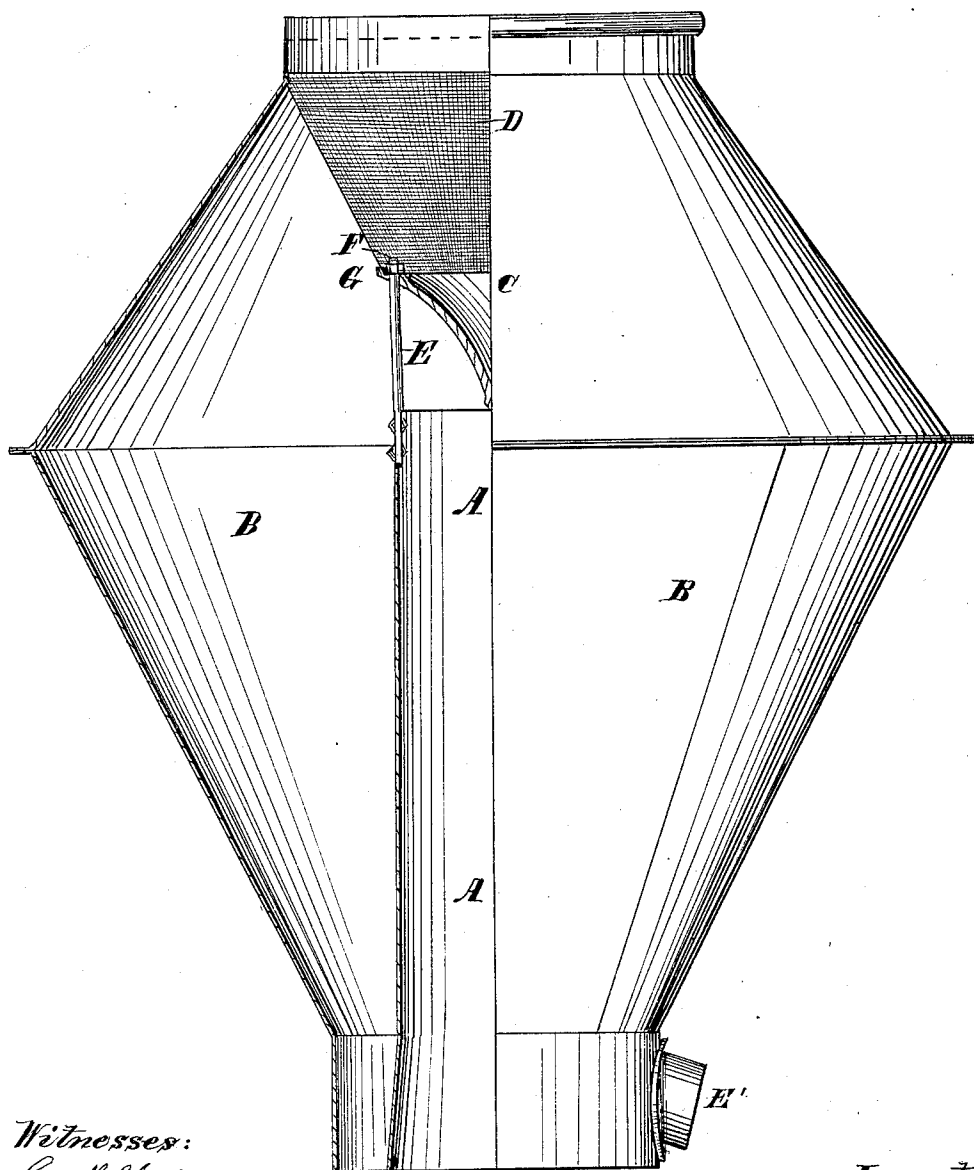


G. Holton,
Spark Arrester.
N^o 82,003. Patented Sep. 8, 1868.



Witnesses:
Geo. L. Chapin
A. Hayward

Inventor:
G. Holton

United States Patent Office.

GEORGE HOLTON, OF CHICAGO, ILLINOIS.

Letters Patent No. 82,003, dated September 8, 1868.

IMPROVEMENT IN SMOKE-STACKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE HOLTON, of Chicago, in the county of Cook, in the State of Illinois, have invented a new and useful Improvement in Smoke-Stacks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a sectional elevation of my invention.

The nature of this invention consists in the use of a wire netting, made in the form of an inverted frustum of a cone, the lower end resting on a funnel-shaped deflector, for guiding sparks outwardly in their upward flight, and its top being attached to the outside casing, by means of which the sparks are prevented from striking the netting at such angles as will speedily cause it to give way.

To enable others to fully comprehend the construction and operation of my invention, I have marked the different parts with distinct letters, and will now give a detailed description.

The smoke-stack consists of an outer casing, B, inside of which is fitted a pipe or chimney, A, extending from the neck of the stack below to a funnel-shaped deflector, C, which is held in position by means of rods, E, and nuts, F, or otherwise, as most convenient. The top of the deflector C has a flange, G, projecting upward from the main part, for the purpose of supporting the lower end of the netting, D, the deflector being hollow at the inside, and made of cast metal, but so slight as not to be cumbersome. The wire netting D is arranged in the form of a frustum of an inverted cone, and extends from the deflector C to the opening at the top of the stack, to which it is fitted closely, so as to prevent the escape of sparks.

The arrangement of the wire netting D, as shown, causes the sparks to strike the same at acute angles, which causes them to pass over the surface of the netting, by which movement they are extinguished, by being ground or pulverized, so that the larger portion is reduced to a fine dust, which cannot communicate fire, although forced through the netting and then thrown from the top of the stack. This arrangement of the wire also prevents sparks from being driven into the meshes of the netting, which would contract or fill the space through which the smoke and gases pass from the stack, and thus impede the draught through the engine-flues and furnace.

The wire netting D may, if desirable, be made in the form of an inverted cone, and the point protected by a covering of metal, from the action of sparks and particles of coal driven against it by the exhaust-steam, the object being to deflect the sparks from the netting, and cause them to strike the casing B, and then fall into the annular space below, from which place they may be removed, by means of an opening, E', at the neck of the smoke-stack.

The inside pipe A, casing B, deflecting-plate C, and a wire netting, are not new devices, but are in common use, and therefore are not claimed.

What I claim as my invention, and desire to secure by Letters Patent, is—

The inverted conical netting D, attached to the top of the double conical case B, arranged with reference to the pipe A and deflector C, the latter being held in position over the pipe A by rods E, and having a flange, G, at its top, for supporting the lower end of said netting, substantially as and for the purpose specified.

GEO. HOLTON.

Witnesses:

G. L. CHAPIN,

A. HAYWARD.