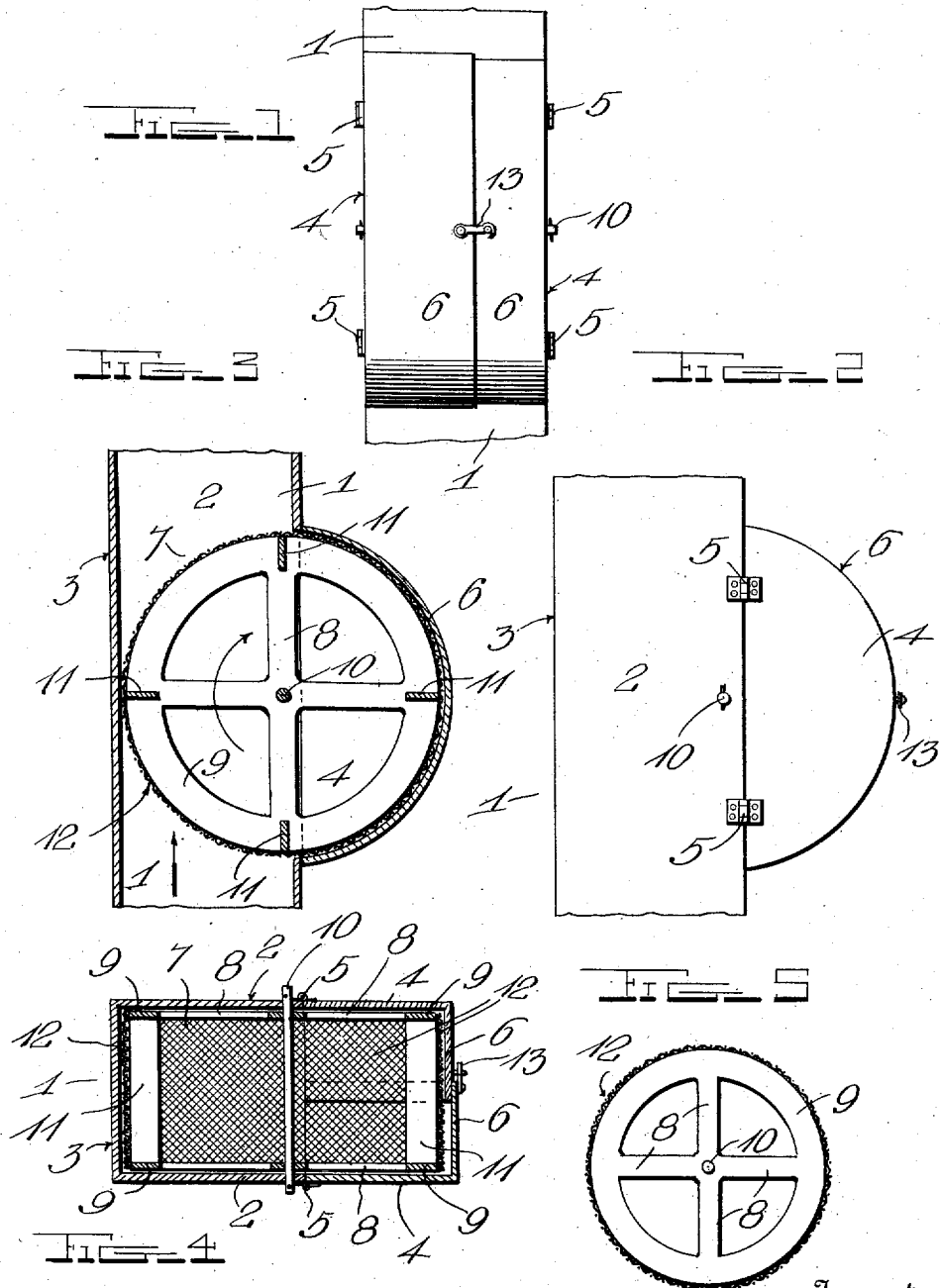


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SPARK ARRESTER.  
APPLICATION FILED MAY 12, 1910.

986,599.

Patented Mar. 14, 1911.



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL D. SIZER AND ARMOUR A. SIZER, OF BLUEFIELD, WEST VIRGINIA.

SPARK-ARRESTER.

986,599.

Specification of Letters Patent.

Patented Mar. 14, 1911.

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*To all whom it may concern:*

Be it known that we, SAMUEL D. SIZER and ARMOUR A. SIZER, citizens of the United States, residing at Bluefield, in the county of Mercer and State of West Virginia, have invented certain new and useful Improvements in Spark-Arresters; and we 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.

This invention relates to improvements in spark arresters.

The object of the invention is to provide an improved construction of spark arrester adapted to be applied to smoke stacks or chimney flues whereby sparks and cinders will be effectually prevented from passing out of the stack or flue.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a side view of a smoke stack constructed to receive our improved spark arrester; Fig. 2 is a similar view at right angles to Fig. 1; Fig. 3 is a central vertical sectional view of the stack and arrester arranged therein; Fig. 4 is a horizontal sectional view taken on the line with the arrester shaft; and, Fig. 5 is a side view of the arrester removed from the stack.

In the present embodiment of our invention we have shown the same applied to a smoke stack 1 at a suitable point in which the same is shaped and constructed to form a space which is rectangular in cross section or has flat sides 2 and end 3. The side of the stack opposite the end 3 of the squared chamber is open and through said open side projects the outer half of the arrester which is revolubly mounted in said space as will be hereinafter more fully described. The outer projecting half of the arrester is covered and the open side of the stack closed by means of substantially semi-circular doors 4 the inner edges of which are hingedly connected to the edges of the flattened sides of the stack by suitable hinges 5. On the outer edges of the doors 4 are formed curved right angularly projecting flanges 6 the

edges of which overlap when the doors are in a closed position thus forming a tight closure and covering for the outer portion of the arrester.

Our improved arrester is constructed in the form of a drum or cylinder 7 the opposite ends of which are in the form of radially projecting arms or bars 8 the outer ends of which are connected by annular frames or rings 9. The ends of the drum are fixedly mounted upon a supporting shaft 10 having its opposite ends revolubly mounted in bearing apertures formed in the opposite flat sides of the stack. The annular frames or rings of the ends of the drum are connected together by a series of blades or paddles 11. The sides of the drum are formed by a covering 12 of wire netting having a mesh sufficiently fine to prevent the passage of sparks or cinders which when striking said wire netting are deflected thereby back through the stack and into the smoke box of the boiler or furnace. By providing the drum with a series of blades or paddles 11 the draft passing through the stack will continuously drive or revolve the drum thus aiding in keeping the netting covering thereof clean or clear of cinders. By forming the outer portion of the arrester and chamber in the form of hinged doors said chamber or space may be readily opened to permit the insertion or removal of the drum and for the purpose of cleaning the latter. The overlapping edges of the doors or covers 4 form an air tight closure and said doors are held in closed position by a catch or fastening device 13 which may be of any suitable construction.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Having thus described our invention what we claim is:

In a spark arrester, the combination with a rectangular chamber provided with an opening in one side thereof, a plurality of semi-circular doors hinged to said chamber and adapted to close said opening, said doors having overlapping meeting edges, a drum rotatably mounted in said chamber and comprising a plurality of rings with arms secured thereto, said rings being

spaced apart from each other and having wings secured thereto, said wings being disposed transversely of said chamber, a cover of reticulated material secured to said rings, and said drum having approximately one-half of its diameter projecting through said side opening.

In testimony whereof we have hereunto

set our hands in presence of two subscribing witnesses.

SAMUEL D. SIZER.  
ARMOUR A. SIZER.

Witnesses:

W. R. CALLIL,  
F. W. FISHER.

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