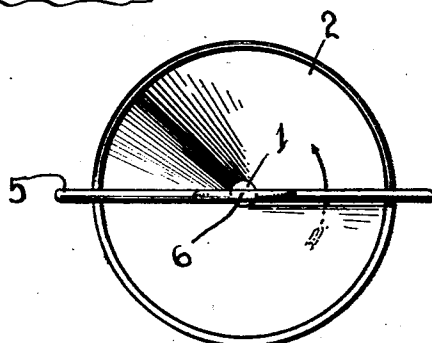
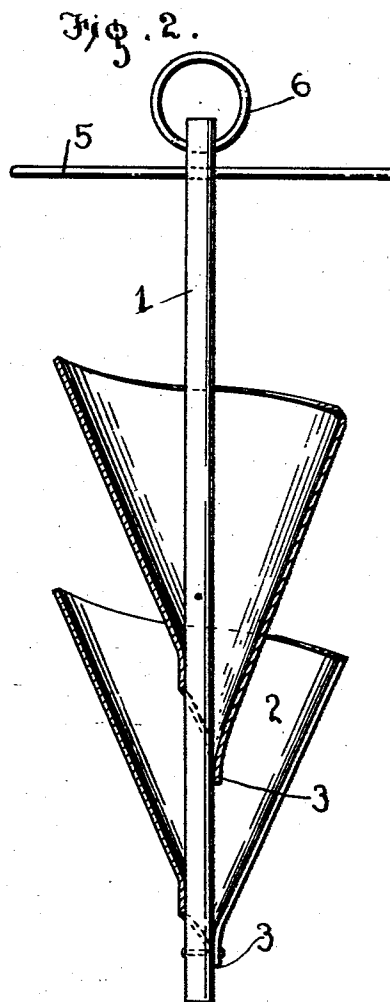
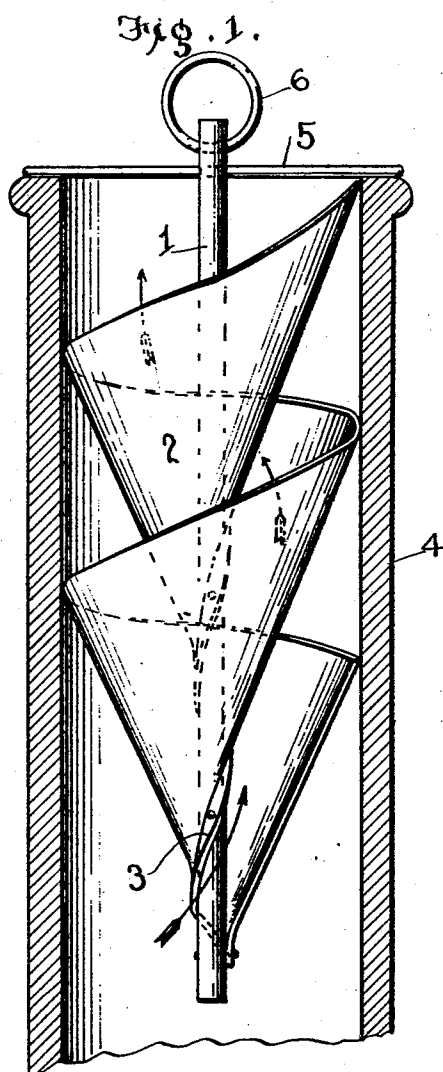


A. B. DOERING.
 FLAME AND SPARK ARRESTER.
 APPLICATION FILED MAY 23, 1912.

1,065,118.

Patented June 17, 1913.



Witnesses
 L. B. James
 C. E. Hunt

Inventor
 A. B. Doering
 by *A. B. Doering*
 Attorneys

UNITED STATES PATENT OFFICE.

ALBERT B. DOERING, OF WOODSTOCK, MINNESOTA.

FLAME AND SPARK ARRESTER.

1,065,118.

Specification of Letters Patent.

Patented June 17, 1913.

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To all whom it may concern:

Be it known that I, ALBERT B. DOERING, a citizen of the United States, residing at Woodstock, in the county of Pipestone and State of Minnesota, have invented certain new and useful Improvements in Flame and 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.

This invention relates to improvements in flame and spark arresters for smoke stacks.

One object of the invention is to provide an improved spark arrester which may be readily applied to or removed from a smoke stack.

Another object is to provide a flame and spark arrester which will be simple, strong, durable and inexpensive in construction and which will effectually prevent the flame and live sparks from passing out of the stack without interfering with the draft through the same.

A further and important object of the invention is in the provision of a device of the character described whereby the arrester can be conveniently turned or reciprocated within the stack without removal therefrom for depositing the cinders or ashes that may accumulate upon the arrester to the lower portion of said stack or below said arrester.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings; Figure 1 is a vertical sectional view through a stack showing the invention applied thereto; Fig. 2 is a side view partly in section of the arrester removed from the stack; Fig. 3 is a top plan view of the arrester.

By reference to the accompanying drawing it will be seen that my improved spark arrester comprises a centrally disposed shaft 1 to which is secured a spirally arranged blade or plate 2, said plate or blade being provided on its inner edge with an attaching flange 3 which is riveted or otherwise firmly secured to the shaft as shown. The

plate or blade is of such width and has its coils arranged at such an angle that the upper edge of the plate will closely engage the sides of the stack 4 with which the arrester is engaged.

Arranged through the shaft 1 near its upper end is a cross bar 5 which is arranged across and has its ends engaged with the upper end of the stack thereby forming a support by means of which the arrester is suspended or held in position in the stack. In the upper end of the shaft above the supporting bar 5 is arranged a ring 6 by means of which the arrester may be readily engaged with and drawn from the stack. The cross bar 5 not only supports the arrester but by its movable and frictional contact upon the upper edge of the stack the same is adapted to be cleansed of all soot or other accumulations that may be deposited upon the same when the arrester is turned for the purpose previously described.

By constructing the arrester as herein shown and described and suspending the same in the stack a spiral or tortuous passage is provided through which the flame and products of combustion must pass before leaving the stack. In thus passing through the spiral or tortuous passage formed by the blade 2 of the arrester the flame and live sparks are extinguished and are thus prevented from doing any damage after leaving the stack.

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 my invention, what I claim is;

A flame and spark arrester for smoke stacks comprising a supporting shaft, a plate arranged spirally around said shaft and provided with an inner flange, means for securing the flange to the shaft, said spirally wound plate having its outer edge adapted for engagement with the inner surface of the stack, a supporting rod arranged in the upper projecting end of the shaft and adapted for movable engagement with the upper edge of the stack, whereby the ar-

rester is adapted to be turned and suspended
in the latter, and a ring arranged in said
upper end of the shaft above the rod, where-
by the arrester may be conveniently inserted
5 or removed from the stack and turned and
reciprocated therein without being removed.
In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

ALBERT B. DOERING.

Witnesses:

JAMES JACKSON,
GEORGE L. VOLTERMAN.