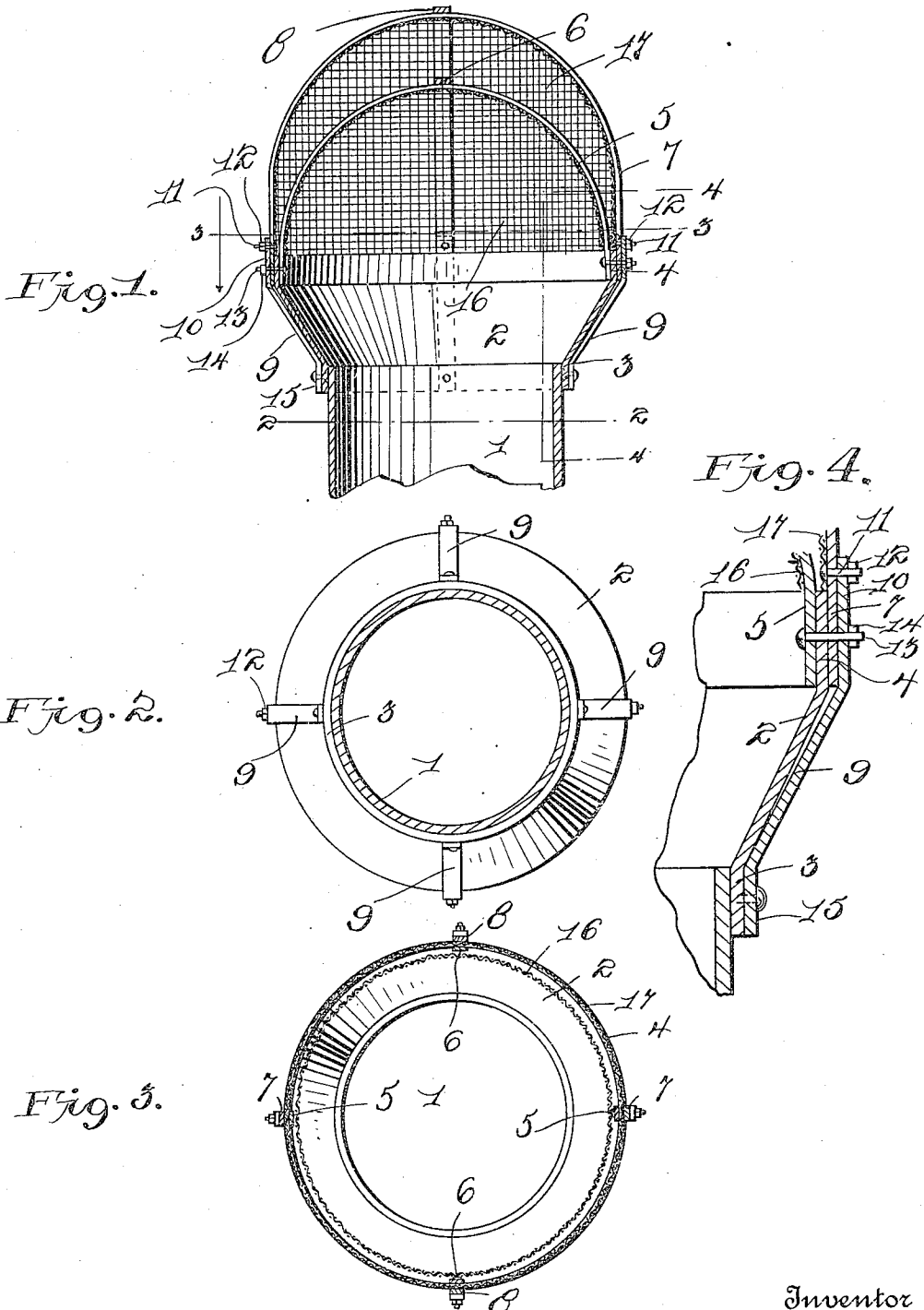


D. JOHNSON.
SPARK ARRESTER.
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949,432.

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UNITED STATES PATENT OFFICE.

DADE JOHNSON, OF LEMONVILLE, MISSOURI.

SPARK-ARRESTER.

949,432.

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To all whom it may concern:

Be it known that I, DADE JOHNSON, a citizen of the United States, residing at Lemonville, in the county of Putnam and State of Missouri, have invented certain new and useful Improvements in Spark-Arresters, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to spark arresters for chimneys, smoke stacks, etc., and the principal object of the same is to provide a device of the character described which may be readily attached to a chimney, smoke stack or the like and which is provided with a novel arrangement of screens which permits the smoke to escape but which will prevent cinders escaping.

In carrying out the objects of the invention generally stated above it will be understood, of course, that the essential features of the same are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein:—

Figure 1 is a fragmentary vertical sectional view of a smoke stack showing the improved spark arrester applied thereto. Fig. 2 is a horizontal sectional view taken on the line 2—2, Fig. 1, looking up. Fig. 3 is a similar sectional view taken on the line 3—3, looking down. Fig. 4 is a fragmentary vertical sectional view taken on the line 4—4, Fig. 1.

Referring to said drawings by numerals, 1 designates a smoke stack, and 2 designates an outwardly flaring thimble which has a flange collar 3 at its lower end adapted to be fitted over the outer end of said stack. Said thimble also has a top flange collar 4, to the inner surface of which the ends of the upwardly projecting outwardly bowed arms 5—6 are connected, said arms being arranged in crossing relation. The outer surface of said collar flange 4 has the ends of a pair of arms 7—8 fastened thereto, said arms being similar to the arms 5—6 which they surround in spaced relation.

Brace arms 9 are employed for strengthening purposes said arms having their upper flattened end 10 projecting above the upper edge of the collar flange 4 and rigidly but detachably fastened to the arms 7—8 by the bolts 11 and nut 12, and their intermediate portion being rigidly but detachably fastened to the collar flange 4, the lower por-

tion of said arms 7—8, and the arms 4—5, by the bolts and nuts 13—14. The lower ends of said arms are also flattened as indicated at 15 and are riveted or otherwise rigidly fastened to the collar flange 3.

A screen 16 is carried by the arms 5—6 and another screen 17 is carried by the arms 7—8, the screen 17 being preferably of finer mesh than the screen 16. Said screens are held in semi-spherical shape by their arms, with their edges in contact with the outer edge of the collar flange 4.

As is shown more clearly in Fig. 1, the screens are held in spaced relation, and being of different mesh, it will be seen that if any sparks or cinders should escape through the inner screen 16 they will be prevented from escaping by the outer, finer, screen 17, and thereby retained in the space or chamber between said screens. As will be obvious, the sparks and cinders which do not escape through the screen 16 will drop back into the stack.

The improved spark arrester is a simple yet exceedingly strong structure as it will be seen that the thimble is securely braced by the arm 9, and the screen supporting arms 4—5, 7—8, are securely fastened to said thimble and said arms 9, the fasteners employed being nuts and bolts so that the parts of the invention may be readily separated when necessary or desirable.

The spark arrester has been shown connected to a cylindrical stack such as are in common use on locomotives, threshing machines and other portable motors, but it will be understood, of course, that the same is capable of use in connection with other types of stacks as well as chimneys.

What I claim as my invention is:—

1. A spark arrester comprising an outwardly flaring thimble adapted for attachment to a smoke flue, a pair of semi-spherical screen supporting arms projecting from the inner surface of the outer end of said thimble, said arms being arranged in crossing relation, a second pair of semi-spherical screen supporting arms projecting from the outer surface of the upper end of said thimble, said arms being also arranged in crossing relation and surrounding the first mentioned arms in spaced relation, a screen for each pair of arms, and common fastening means for rigidly but detachably fastening said pairs of arms to said thimble.

2. A spark arrester, comprising a thim-

ble, inner and outer screen supporting arms
projecting from the upper end of said thim-
ble, said inner and outer arms being semi-
spherical and arranged in spaced relation,
5 a screen for each pair of arms, bracing strips
having one end permanently connected to
the lower portion of said thimble, and de-
tachable fasteners for holding the other end
of said strips in rigid but detachable en-

gagement with the end of said arms and the 10
upper portion of said thimble.

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

DADE JOHNSON.

Witnesses:

ELIAS PETERMAN,
THOM SHELTON.