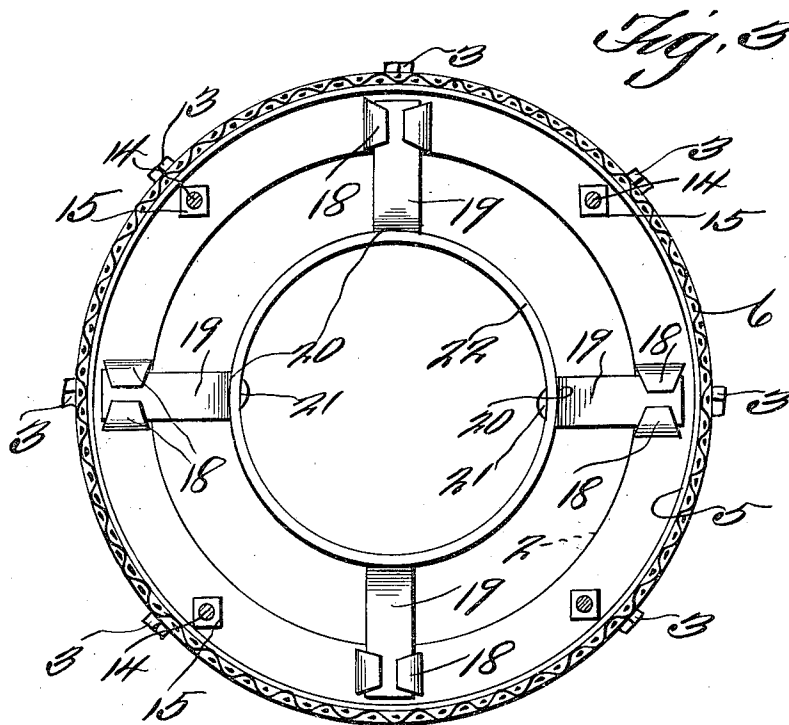
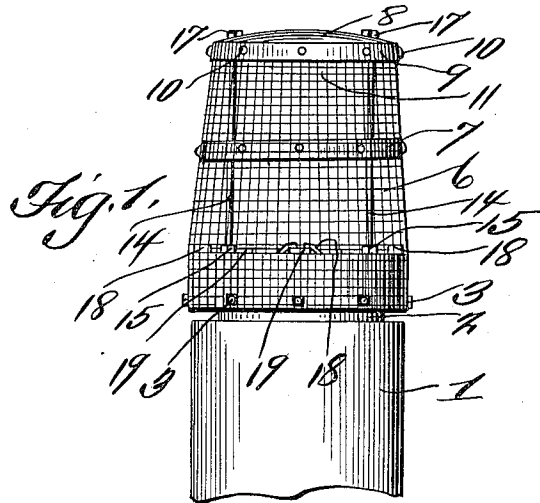


S. L. ARNOLD.
 SPARK ARRESTER.
 APPLICATION FILED OCT. 19, 1912.

1,064,592.

Patented June 10, 1913.

2 SHEETS-SHEET 1.



Witnesses
Alfred Meyer
Francis T. O'Connell

Inventor
S. L. Arnold
 By *Swift & Co.*
his Attorneys

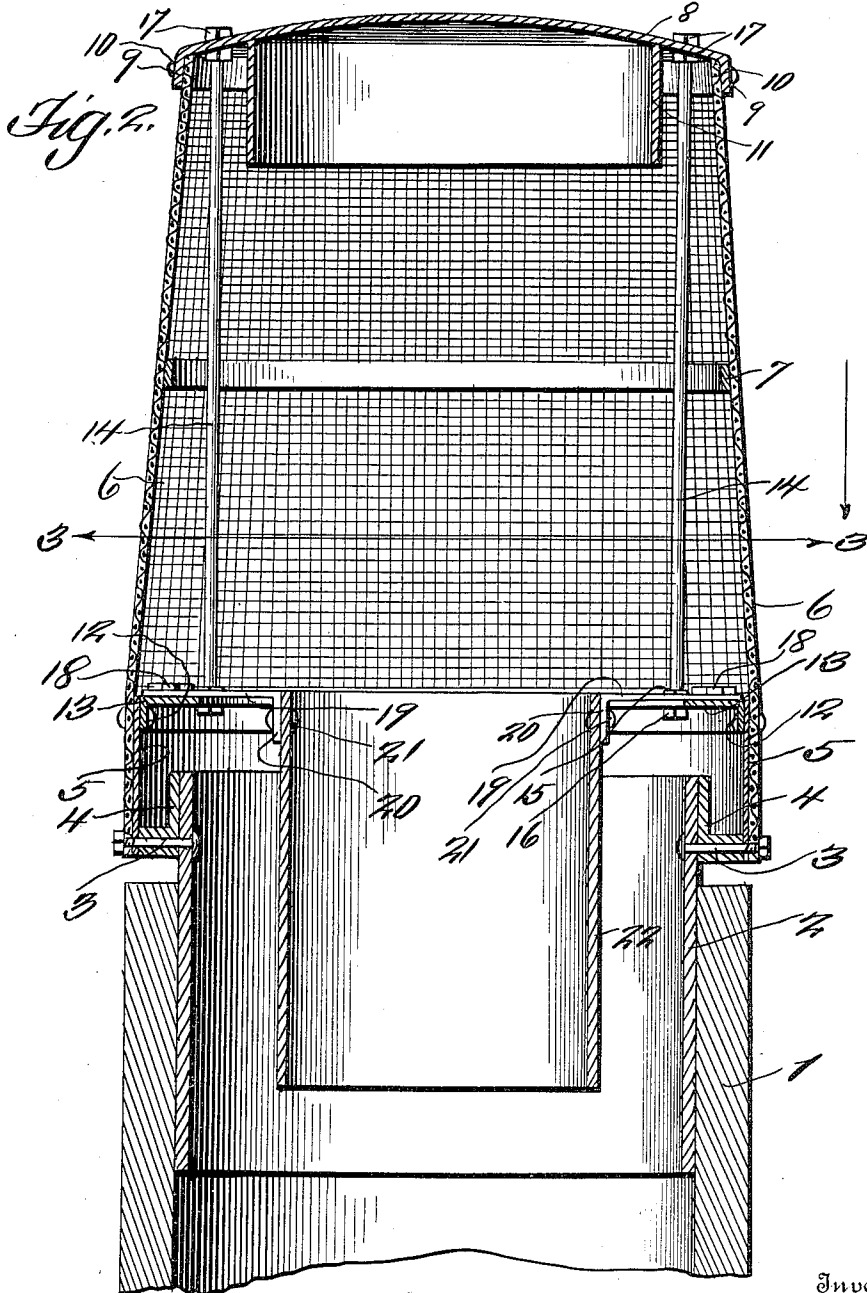
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UNITED STATES PATENT OFFICE.

SUSAN LOUISE ARNOLD, OF OTTAWA, ILLINOIS.

SPARK-ARRESTER.

1,064,592.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed October 19, 1912. Serial No. 726,720.

To all whom it may concern:

Be it known that I, SUSAN L. ARNOLD, a citizen of the United States, residing at Ottawa, in the county of LaSalle and State of Illinois, have invented a new and useful Spark-Arrester; and I do hereby 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 a new and useful spark arrester.

As one of the objects of the invention, it is the aim to provide an improved device of this nature, in which various essential and desirable features of construction are involved.

One of the features of construction is the provision of a cylinder adapted to enter a smoke stack and provide it with an annular flange, upwardly from which a mesh work inclosure rises.

Another feature of the construction is an annular band secured to said flange, and supporting a second flange member, which in turn supports an inner cylinder, spaced apart from the first named cylinder.

There are disclosed in the drawings certain features of construction, but in practical fields these features may necessitate alterations, to which the patentee is entitled, provided the alterations fall within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a view in elevation showing the improved spark arrester as applied to a smoke stack. Fig. 2 is a vertical sectional view. Fig. 3 is a cross sectional view on line 3—3 of Fig. 2.

Referring to the drawings 1 designates the smoke stack, chimney or the like, to which the spark arrester is applied. The spark arrester comprises a cylinder 2 adapted to fit within the smoke stack, as shown in Fig. 3. Secured to the cylinder, as by bolts or otherwise as shown at 3 is an annular member 4 angular in cross section. This annular member 4 constitutes a supporting connection between the cylinder 2, and the structure of spark arrester above the cylinder 2, as will be obvious from the drawing. Also secured in position by said bolts 3 and to the annular member 4 is an annular band

5, to which the cylinder of mesh work 6 is also secured by said bolts. This mesh work 6 forms an inclosure, there being an annular band 7, adapted for reinforcing the same. A cover plate 8 having an annular flange 9 is secured to the mesh work inclosure as at 10, in any suitable manner. The cover plate 8 is provided with an inner downwardly depending flange 11, which assists in deflecting the sparks and the like back into the smoke stack. The annular member 4 not only constitutes a supporting connection between the cylinder 2 and the other portion of the spark arrester, but also acts as a trough to catch some of the cinders, that are not carried back into the smoke-stack. Secured to the annular band 5 as at 12 is an annular ring 13, which is angular in cross section. Extending through the annular ring 13 are rods 14, secured in position by the nuts 15 and 16. The upper ends of the rods 14 pass through the cover member, and are secured in place by the nuts 17. These rods 14 constitute stay rods, so as to reinforce and hold the mesh work inclosure in shape. The annular ring 13 is provided with a plurality of overturned ears or clamps 18, arranged in pairs, and received by each pair is a tongue 19. These tongues 19 have their angular ends 20 secured in any suitable manner as at 21 to an inner cylinder 22. It has been found that the majority of cinders, sparks and the like pass centrally through a smoke stack, as the products of combustion are escaping. Therefore, as the products of combustion pass through the smoke stack, the majority of the cinders pass through the central cylinder 22, the smoke passing through the mesh work of the inclosure. The inner cylinder 22 constitutes means to direct the greater volume of smoke and cinders against the central portion of the cover plate. The sparks and cinders, upon striking the cover plate, are deflected back into the smoke stack, the flange 11 acting as means to attain this result; the sparks and cinders finally reach the fire where they are consumed.

The invention having been set forth, what is claimed as new and useful is:—

In a spark arrester, a cylinder adapted to enter a smoke stack, an annular member secured to said cylinder, an annular band secured to said member, a mesh work inclosure secured to the annular band and

provided with a cover plate, an annular ring
secured to the annular band and provided
with overturned ear clamps arranged in
pairs, an inner cylinder spaced apart from
6 the first cylinder and having arms to engage
each pair of ear clamps for supporting the
inner cylinder, the mesh work inclosure hav-
ing a reinforcing band, the cover plate hav-
ing an inner annular flange, and stay rods
10 connecting the cover plate and the annular

ring for reinforcing the mesh work inclo-
sure.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

SUSAN LOUISE ARNOLD.

Witnesses:

GERTRUDE M. IRWIN,
MARY E. NOYES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
