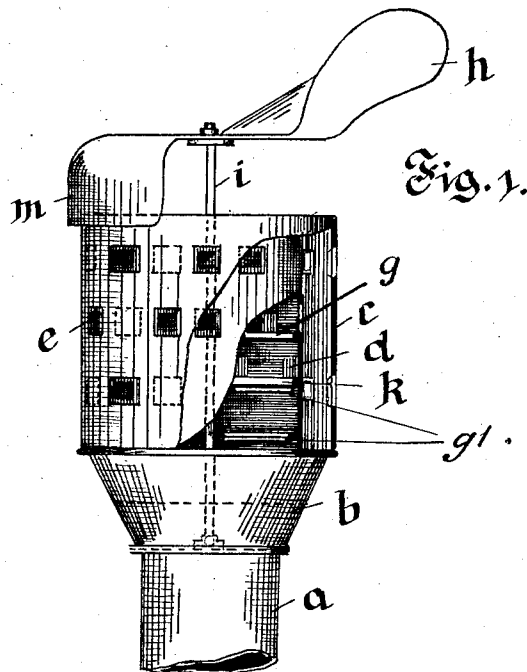
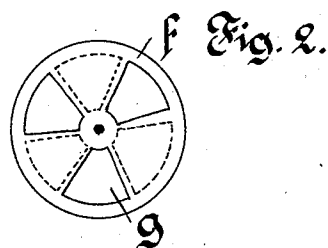
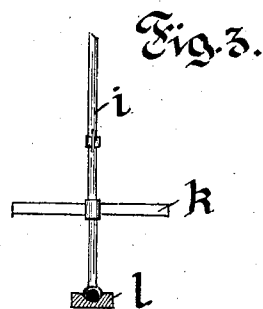


No. 857,693.

PATENTED JUNE 25, 1907.

R. WAGENSCHIEFFER.
SPARK AND SOOT ARRESTER.
APPLICATION FILED DEC. 15, 1906.



Witnesses
A. Hadden
S. Lord

Inventor
Robert Wagenschieffer
by his Attorney *A. Hadden*

UNITED STATES PATENT OFFICE.

ROBERT WAGENSCHIEFFER, OF HANOVER-LINDEN, GERMANY.

SPARK AND SOOT ARRESTER.

No. 857,693.

Specification of Letters Patent.

Patented June 25, 1907.

Application filed December 15, 1906. Serial No. 348,002.

To all whom it may concern:

Be it known that I, ROBERT WAGENSCHIEFFER, a subject of the German Emperor, residing at Hanover-Linden, Germany, have
5 invented certain new and useful Improvements in Spark and Soot Arresters, of which the following is a specification.

This invention relates to an improved spark and soot arrester adapted to effectively separate particles of soot and grit from
10 the column of smoke ascending through a chimney, funnel or up-take, without in any way interfering with the draft in the latter.

The invention is illustrated by means of an
15 example in the annexed drawing, in which

Figure 1 is a side view of the spark arrester, with certain parts thereof broken away, Figs. 2 and 3 are detail views.

The tubular part *a* fits into the chimney or
20 the like, and supports, by means of the conical base *b*, the body of the spark arrester, the said body consisting of the two concentric cylinders *c* and *d*. The outer cylinder *c* is fixed to the base *b* and the inner cylinder *d*
25 rests loosely upon the said base. The cylinders are provided with apertures *e*, and by rotating the inner cylinder the relative position of the apertures therein with regard to the apertures in the outer cylinder can be adjusted at will. The inner cylinder *d* is divided into compartments by horizontal disks
30 *f* (Fig. 2) arranged at suitable intervals one above the other and having segmental apertures *g*, the positions of the latter being such
35 that the apertures in successive disks do not coincide with each other. From the edges of each aperture *g* flanges or narrow strips *g'* of metal attached to the respective disk *f*, extend downward to form baffles which retain
40 sparks, soot and grit ascending with the smoke from the chimney. The number of disks *f* provided depends on the nature of the requirements. The soot retained is swept from the disks *f* by the arms *k* (Figs. 1 and 3)
45 fixed to the spindle *i* of the cowl *h*, the said spindle being stepped in a ball-bearing *l*, which may be of glass or other material. The screen *m* integral with the cowl protects the upper orifice of the spark arrester body,
50 and prevents the production of eddy-cur-

rents of air in the latter, the wind being caused by the arrangement of the said screen, to assist the natural draft of the chimney. A current of air is also produced between the
55 cylinders *c* and *d* and tends to improve the natural draft and maintain it at a constant value.

The construction illustrated by way of example is more particularly suitable for the
60 chimneys of private residences.

In a factory the spark arrester is preferably placed in a flue, and in a locomotive it may be placed in the smoke-box.

What I claim as my invention and desire to secure by Letters Patent of the United
65 States is:—

1. A spark and soot arrester comprising an outer perforated open-ended, cylindrical casing, an inner perforated and rotatable open-ended, cylindrical casing concentric
70 therewith and a series of superposed plates within said interior casing provided with apertures located as to be non-coincident in successive plates.

2. A spark and soot arrester comprising an
75 outer perforated open-ended, cylindrical casing, an inner perforated and rotatable open-ended, cylindrical casing concentric therewith and a series of superposed plates within said interior casing provided with apertures
80 located as to be non-coincident in successive plates together with flanges depending from the edges of said apertures.

3. A spark and soot arrester comprising an
85 outer perforated open-ended casing, an inner perforated and rotatable open-ended casing, a series of superposed plates within said interior casing provided with apertures located as to be non-coincident in successive plates, flanges depending from the edges of said aper-
90 tures, a rotatable cowl located above said casings and means co-acting with said cowl for removing accumulations from the upper surfaces of the plates aforesaid.

4. A spark and soot arrester comprising an
95 outer perforated open-ended casing, an inner perforated and rotatable open-ended casing, a series of superposed plates within said interior casing provided with apertures located as to be non-coincident in successive
100

plates, flanges depending from the edges of
said apertures, a rotatable cowl located above
said casings, means co-acting with said cowl
for removing accumulations from the upper
5 surfaces of the plates aforesaid, and a screen
on the cowl adapted to protect the upper
edge of said casings

In witness whereof I have signed this specification in the presence of two witnesses.

ROBERT WAGENSCHIEFFER.

Witnesses:

MARTA L. THOMPSON,
HEDVIG LEIMER.