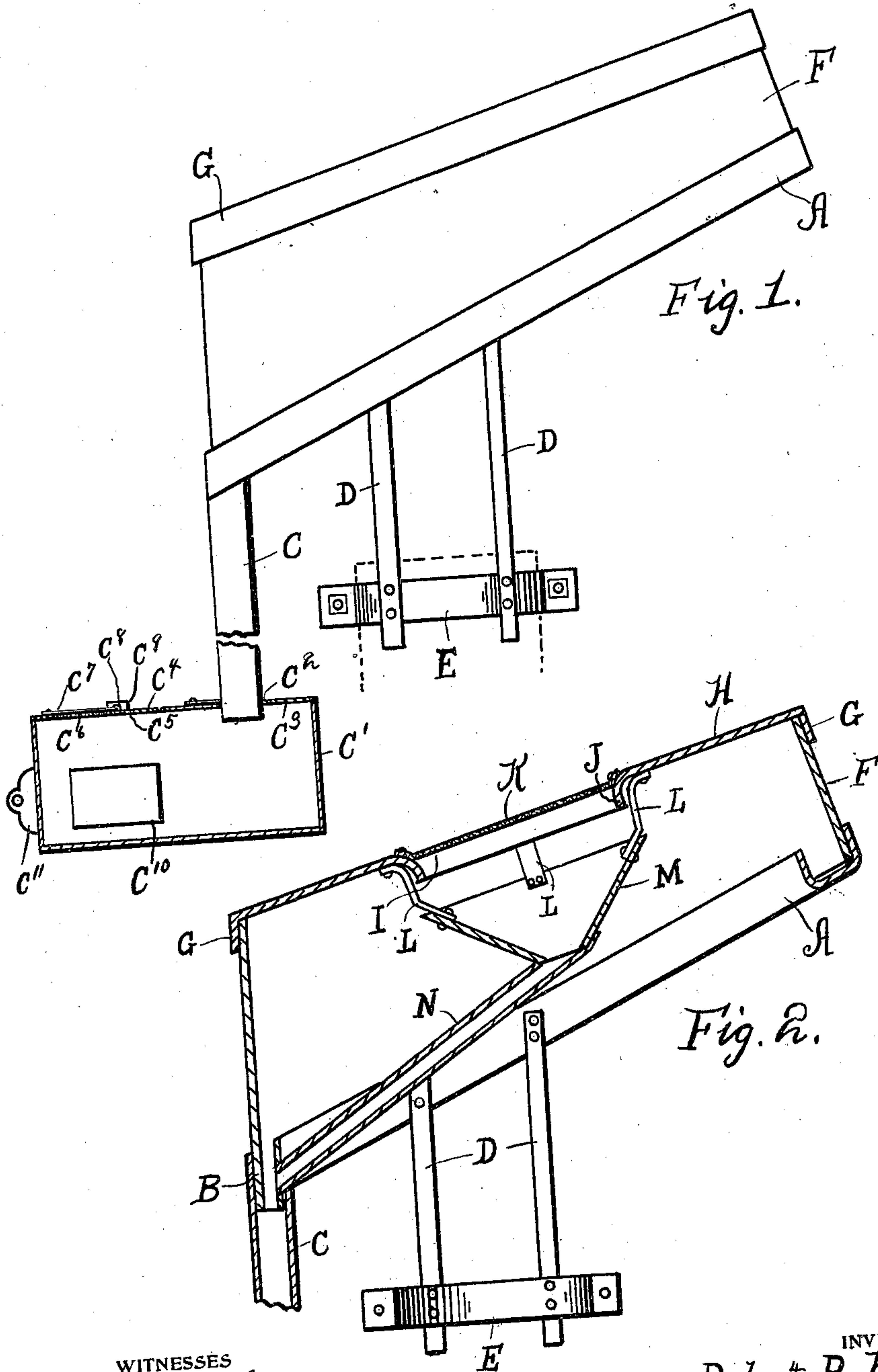


R. B. KENNINGTON.
SPARK ARRESTER.
APPLICATION FILED AUG. 12, 1908.

Patented Feb. 7, 1911.
2 SHEETS—SHEET 1.

983,726.



WITNESSES
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E. A. Haupt.

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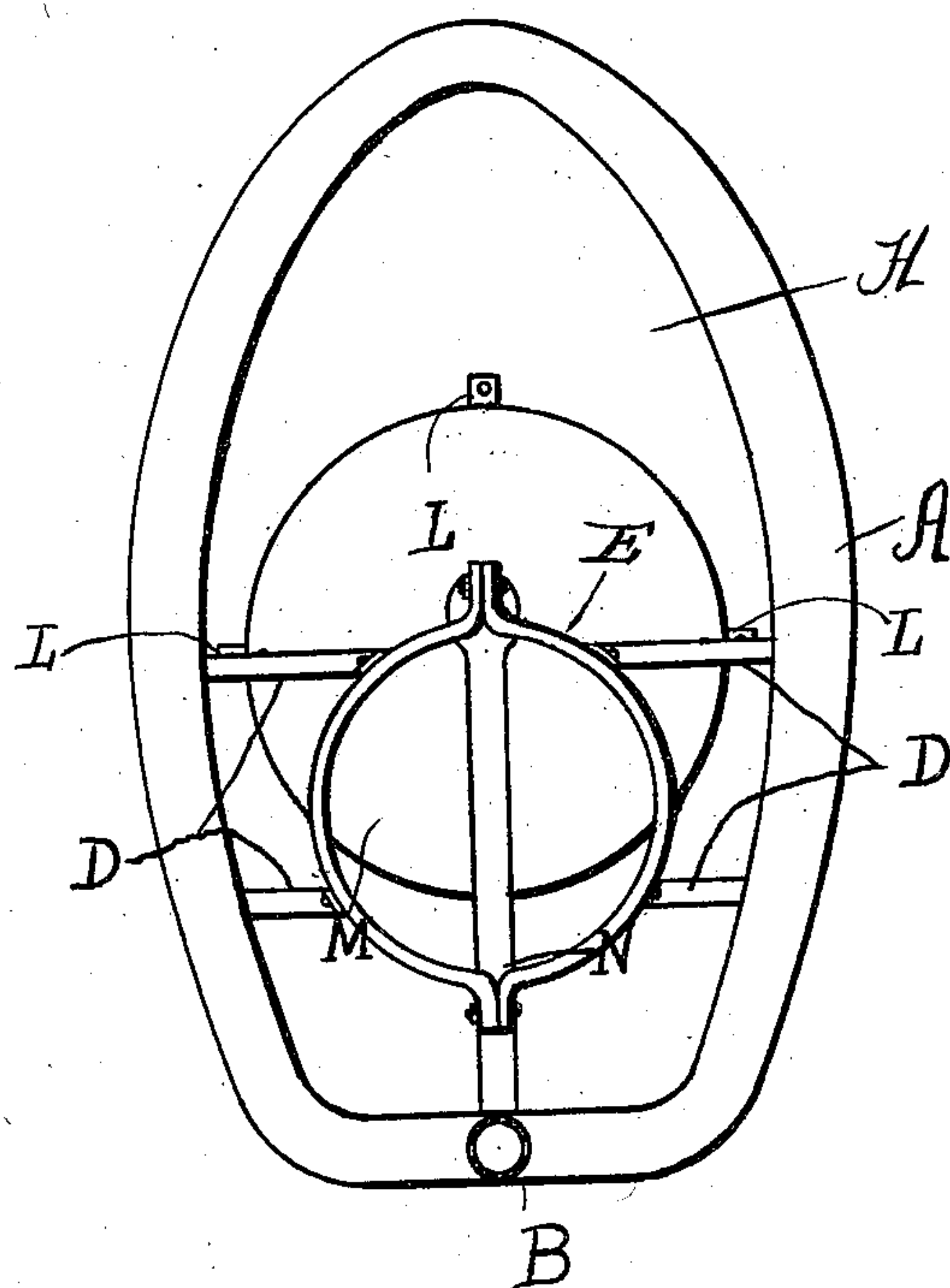
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Fig. 3.



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UNITED STATES PATENT OFFICE.

ROBERT B. KENNINGTON, OF FITZPATRICK, GEORGIA.

SPARK-ARRESTER.

983,726.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed August 12, 1908. Serial No. 448,116.

To all whom it may concern:

Be it known that I, ROBERT B. KENNINGTON, a citizen of the United States, residing at Fitzpatrick, county of Twiggs, and State of Georgia, have invented a certain new and useful Improvement in Spark-Arresters, of which the following is a specification.

My invention relates to new and useful improvements in spark arresters, and has for its object to provide an exceedingly simple and effective device of this character which may be readily applicable to the smoke stacks of locomotives as well as stationary engines for the purpose of preventing the escape of cinders and particles of fuel which are carried by the draft through the smoke stack, and which are apt to cause disastrous fires if permitted to escape in an ignited condition, and which under all circumstances are obnoxious and detrimental.

A further object of my invention is to provide a device of this character which will be inexpensive in construction.

A still further object of my invention is to provide a spark arrester, which may be readily and easily applied to the smoke stack of a locomotive, or furnace.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation of a spark arrester constructed in accordance with my invention, the spark hopper being shown in section. Fig. 2, a vertical sectional view of the same, the spark hopper being removed. Fig. 3, a bottom view thereof.

In carrying out my invention as here embodied, A represents a gathering trough which may be constructed of sheet metal, said trough being in an inclined position so that the sparks and cinders entering said trough will slide in a downward and rearward direction into the transversely disposed rear portion B of the trough which is connected at its lowest portion to the upper end of the discharge tube C. The lower end of the discharge tube enters the spark

hopper C' through the opening C² formed in one of the lids C³. In the opposite lid C⁴ is formed an opening C⁵ over which is placed a wire netting C⁶. This opening will allow any draft which might happen to pass down the discharge tube C to pass out of the hopper but the wire netting C⁶ will prevent the sparks from passing from the hopper. Each of the lids are provided with a hook C⁷ the free end of which enters the opening C⁸ formed in the lug C⁹, said lug being formed with the side of the hopper.

In one of the sides of the hopper is formed an opening C¹⁰ which is closed by a slide C¹¹, by removing this slide a shovel may be placed through the opening C¹⁰ so that the hopper may be cleaned.

The trough A is provided with supporting brackets D, the lower ends of which are riveted or otherwise secured upon a clamping ring E composed of detachably connected sections or segments which may be firmly clamped or otherwise secured upon the chimney or smoke stack for the purpose of securing the spark arrester in position thereon. Secured upon the outer wall of the trough A is an upwardly extending wall F, preferably made of sheet metal, the upper edge of which is secured upon the downturned flange G of a top piece or cap H.

The cap H combines with the wall F and trough A to form a hood which is supported in an inclined position over the discharge end of the smoke stack or funnel. The cap H has a centrally situated opening I formed therein, the edges of the cap at this point being thrown downward to form the flange J, and over this is placed a closure of wire netting or other suitable material K. This opening I forms an outlet for the smoke leaving the smoke stack of the engine, but the wire netting closure prevents sparks, cinders, or fuel leaving the arrester.

Secured upon the under side of the cap H, by means of the brackets L, beneath the opening I is a downwardly extending deflector M preferably constructed of sheet metal, and of inverted conical or other suitable shape and dimensions. The point of extremity or apex of said deflector is connected by a tube N which leads to the transversely disposed rear portion B. Thus it will be seen that the sparks which are thrown out by the engine will pass upward with the draft until they come in contact with the wire netting closure K, when they

will at once wheel back into the deflector M, pass downward through the tube N into the portion B, then into the discharge tube C, by which they will be carried to the road bed of the track or to a suitable receptacle.

In practice the sparks, cinders and other particles of combustion escaping through the smoke stack or funnel will be guided by the deflector M in a downward direction and the finer particles with the gases of combustion will pass upward through the opening I, but said finer particles will be again thrown back by a closure K into the deflector M, the gas escaping through the closure which is of wire netting into the air. The coarser particles will gravitate into the trough A and owing to the incline of said trough, and to the formation of the transverse portion thereof, said coarser particles will naturally seek an exit through the discharge tube C, whereby in the case of a locomotive smoke stack the particles may be conducted to the track or the fire boxes or suitable receptacles carried by the locomotive.

When the invention is applied to the ordinary smoke stack of the stationary engine the refuse may be carried to the ground beside the engine or to a suitable receptacle.

Of course I do not wish to be limited to the exact details of construction here shown as these may be varied within certain limits without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

A spark arrester comprising attaching means, a body portion having closed sides, an annular internal trough on the lower edge of said spark arrester, a closure having a screened opening arranged on the top of said spark arrester, an inverted conical cup disposed beneath said closure and well within the body portion, the lower edge of said spark arrester being disposed behind and in proximity to the mouth of the stack at its rear and being inclined upwardly and forwardly to expose the mouth of the stack to draft.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

ROBERT B. KENNINGTON.

Witnesses:

W. C. FAULK,
J. H. CRANFORD.