

No. 712,776.

Patented Nov. 4, 1902.

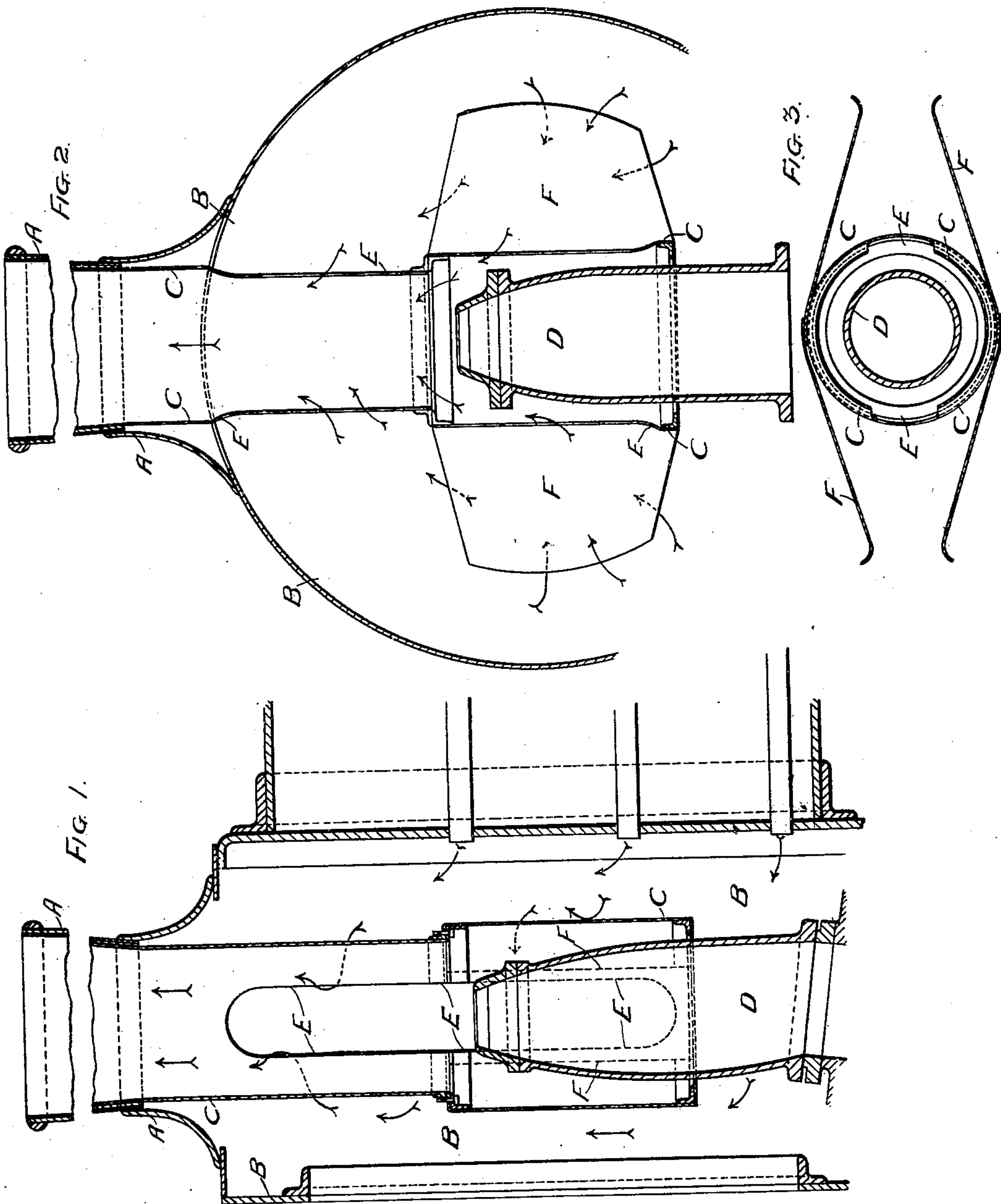
D. DRUMMOND.

SPARK PREVENTER FOR LOCOMOTIVE OR OTHER ENGINES.

(Application filed Oct. 15, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
M. C. Brown
M. A. Brown.

Inventor:
Dugald Drummond
By Edmund Conger Brown
Attorney

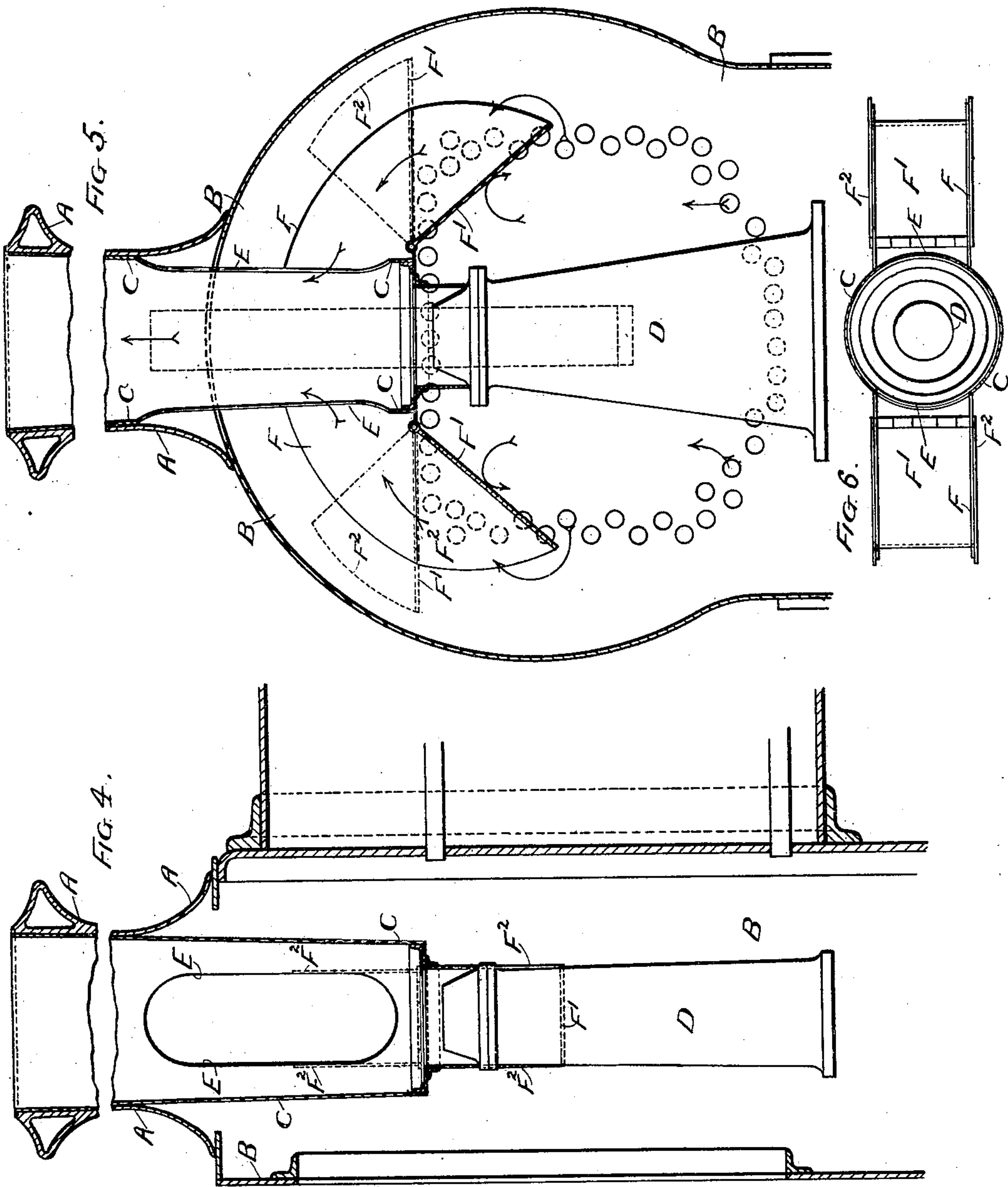
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SPARK PREVENTER FOR LOCOMOTIVE OR OTHER ENGINES.

(Application filed Oct. 15, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

DUGALD DRUMMOND, OF SURBITON, ENGLAND.

SPARK-PREVENTER FOR LOCOMOTIVE OR OTHER ENGINES.

SPECIFICATION forming part of Letters Patent No. 712,776, dated November 4, 1902.

Application filed October 15, 1901. Serial No. 78,746. (No model.)

To all whom it may concern:

Be it known that I, DUGALD DRUMMOND, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at South Bank Lodge, Surbiton, Surrey, England, have invented a certain new and useful Spark-Preventer for Locomotive or other Engines, (for which application for patent has been made in Great Britain, No. 13,769, dated July 6, 1901,) of which the following is a specification.

This invention, which relates to devices for obviating the risk of damage to property by fire due to sparks carried by the blast or current of air and gases from the chimneys of locomotives and other engines, has for its object to provide an effective device whereby the live embers are trapped and prevented from issuing from the smoke-stack.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a longitudinal section, and Fig. 2 a transverse section, of the smoke-box of a locomotive to which the improved spark-preventer is applied. Fig. 3 is a plan of the spark-preventing device. Figs. 4 and 5 are views similar to Figs. 1 and 2, showing a modified form of the spark-preventer; and Fig. 6 is a part plan and part horizontal section of this particular form of the spark-preventing device.

As shown by the drawings, I fit within the chimney A of the locomotive and extending downward to near the bottom of the smoke-box B a tube C, surrounding the exhaust-pipe D. This tube C is closed at its lower end, which fits closely upon the exhaust-pipe D, but has openings E in its sides, the combined areas of which openings are equal to the combined areas of the fire-tubes, so as to reduce the disturbance of the fuel in the fire-box to a minimum. Wings F are fitted, as shown at Figs. 1, 2, and 3, along the vertical sides of each of the openings E and extend transversely of the smoke-box, these wings F being arranged to intercept the direct passage of the gases from the fire-tubes to the chimney A, whereby the live embers carried by these gases are arrested and drop to the bottom of the smoke-box, the gases alone pass-

ing, as shown by the arrows, around and between the said wings to the openings E in the tube C and thence to the atmosphere. This arrangement in no way interferes with the free flow of gases from the smoke-box, and the wings F are hinged or otherwise fitted so that they may be removed or turned out of the way when it is desired to clean the tubes.

In the modification of the invention shown at Figs. 4, 5, and 6 the bottom plate F' of the intercepting device is preferably hinged, so that it can be turned out of the way of the fire-tubes when it is desired to clean these, the bottom plate being provided with side wings F², which in conjunction with the stationary wings form the passage for the fire-gases.

Having now described the invention, what I claim, and desire to secure by Letters Patent, is—

1. A spark-preventer for locomotive and other engines, comprising, in combination with the engine-funnel, a tube fitted therein and closed at its lower end and embracing the exhaust-pipe, said tube having openings in its sides, and wings or baffles attached to said tube along the vertical sides of said openings transversely of the smoke-box, to prevent the direct passage of the fire-gases from the smoke-tubes to the chimney.

2. A spark-preventer for locomotive and other engines, comprising, in combination with the engine-funnel, a tube fitted therein and closed at its lower end and embracing the exhaust-pipe, said tube having openings in its sides, wings or baffles attached to said tube along the vertical sides of said openings transversely of the smoke-box, and a bottom plate hinged to the wings or baffles near the exhaust-pipe, said plate being provided with side wings adapted to prevent the direct passage of the fire-gases from the smoke-tubes to the chimney.

In witness whereof I have hereunto set my hand in presence of two witnesses.

DUGALD DRUMMOND.

Witnesses:

WALLACE FAIRWEATHER,
JNO. ARMSTRONG, JR.