No. 704,008. Patented July 8, 1902.

D. DRUMMOND.

SPARK PREVENTER FOR LOCOMOTIVE OR OTHER ENGINES.

(Application filed Apr. 25, 1902.)

(No Model.)

FIG. 2.

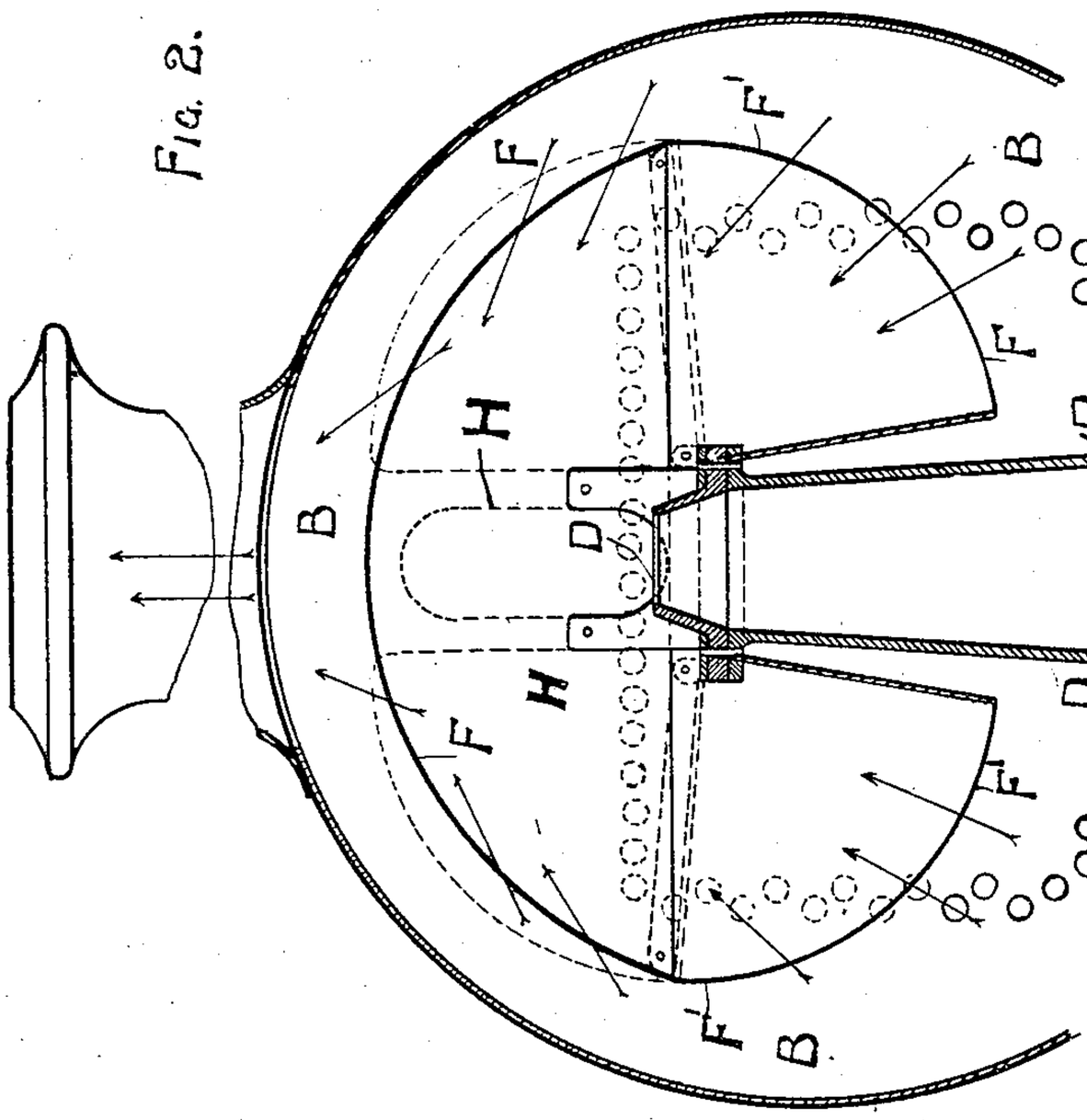


FIG. 3.

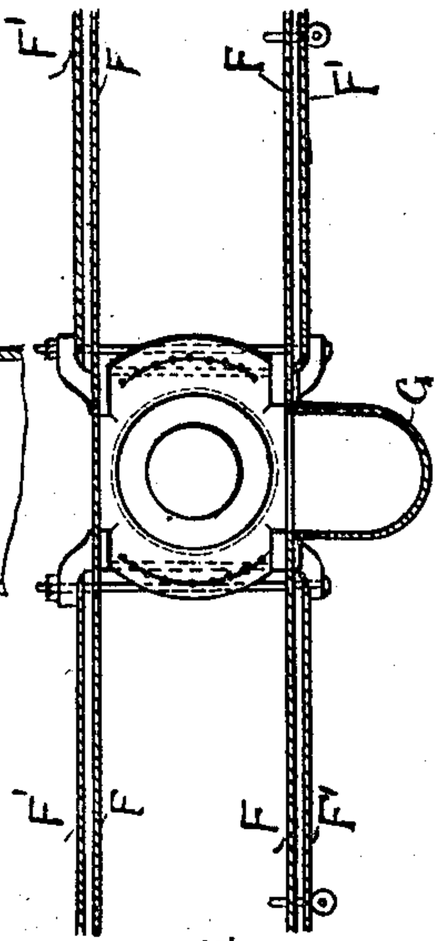
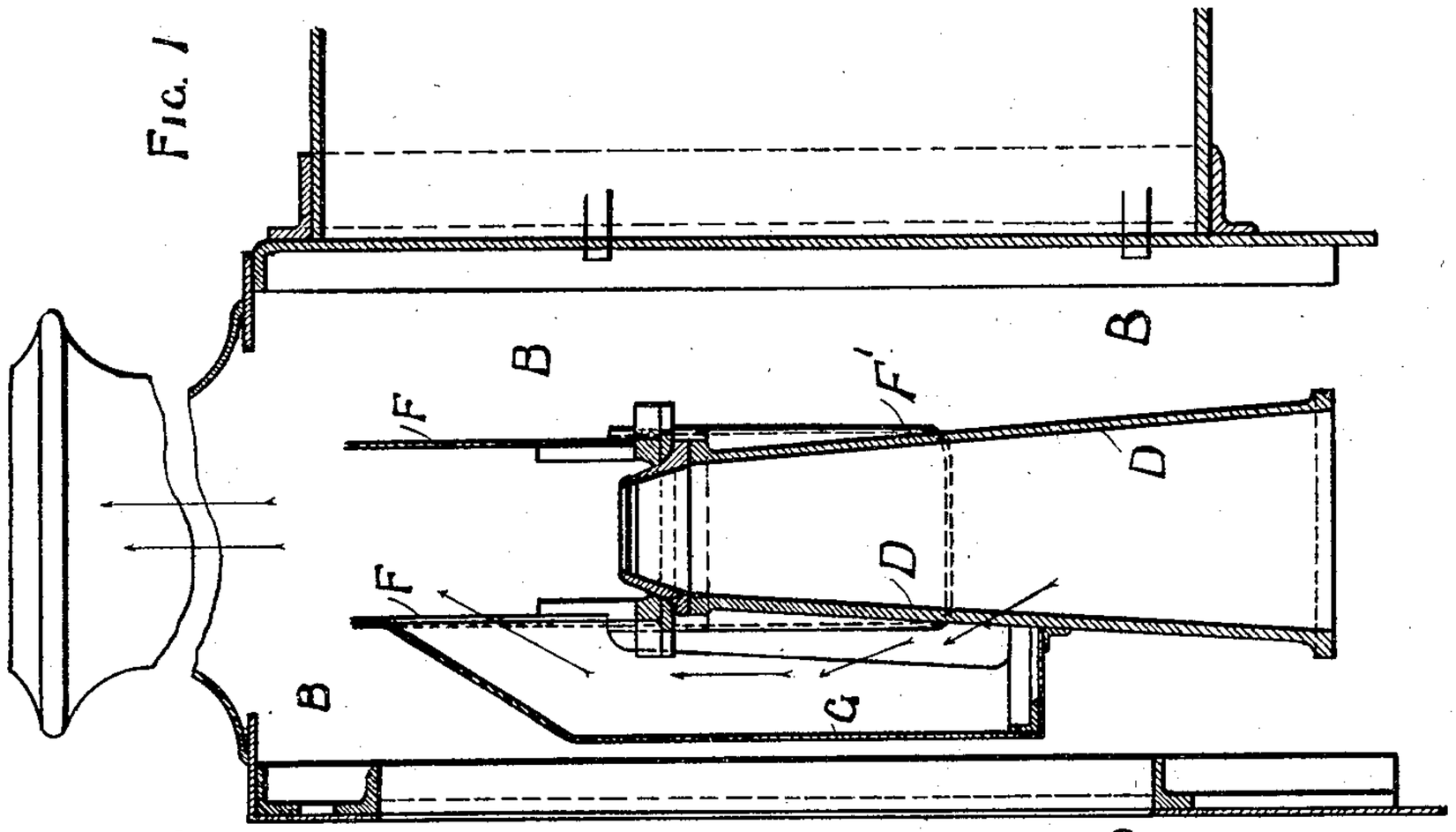


FIG. 1



Witnesses:
Peter A. Ross
H. L. Bennett

Inventor:
Dugald Drummond
By Edmond Cengar Brown
Attorney.

UNITED STATES PATENT OFFICE.

DUGALD DRUMMOND, OF SURBITON, ENGLAND.

SPARK-PREVENTER FOR LOCOMOTIVE OR OTHER ENGINES.

SPECIFICATION forming part of Letters Patent No. 704,008, dated July 8, 1902.

Application filed April 25, 1902. Serial No. 104,610. (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, county of Surrey, England, have invented a certain new and useful Spark-Preventer for Locomotive or other Engines, 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 locomotive or 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 and thereby economize fuel.

In the accompanying drawings, which illustrate the invention, Figure 1 is a vertical longitudinal section through the smoke-box of a locomotive-engine to which the improved spark-preventer is fitted. Fig. 2 is a transverse vertical section of Fig. 1, and Fig. 3 is a plan of the spark-preventing device.

As shown by the drawings, I fit within the smoke-box B of the locomotive a pair of fan or other shaped wings F, extending transversely of the smoke-box and opposed to the direction of the gases issuing from the fire-tubes, these wings F being attached to opposite sides of and extending upward from the upper portion of the exhaust-pipe D. Between the fan-shaped wings F at their lower edges and near the point of their attachment to the exhaust-pipe I pivot a plate F′, which constitutes a bottom for these wings, this plate F′ being provided with upturned sides or flanges of such dimensions that when the pivoted bottom is in its normal position, depending in an approximately vertical line from its point of support, the wings F are continuous, owing to these upturned flanges, and a channel or passage for the gases is provided, to which channel access can only be had from the edges of the wings F. Attached to that wing situated at the forward side of the exhaust-pipe and covering an orifice H in that wing is a tubular casing or pipe G, open at its upper end and having orifices in its sides, through which a portion of the gases pass upward to the space between the wings F.

By means of the above-described arrangement live embers issuing from the fire-tubes are driven against one or other of the baffling-wings or against the tubular casing and are effectually trapped and the gases only escape from the chimney.

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 exhaust-pipe a pair of wings fitted on the upper end thereof and extending transversely of the smoke-box, plates pivoted between these wings on either side of said pipe having upturned flanges and a tubular casing communicating with the smoke-box and with the space between the wings, substantially as described.

2. A spark-preventer for locomotive and other engines comprising in combination with the exhaust-pipe a pair of wings fitted on the upper end thereof and extending transversely of the smoke-box and plates having upturned flanges pivoted between these wings on either side of said pipe, substantially as described.

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

DUGALD DRUMMOND.

Witnesses:

WALLACE FAIRWEATHER,

JNO. ARMSTRONG, Junr.