

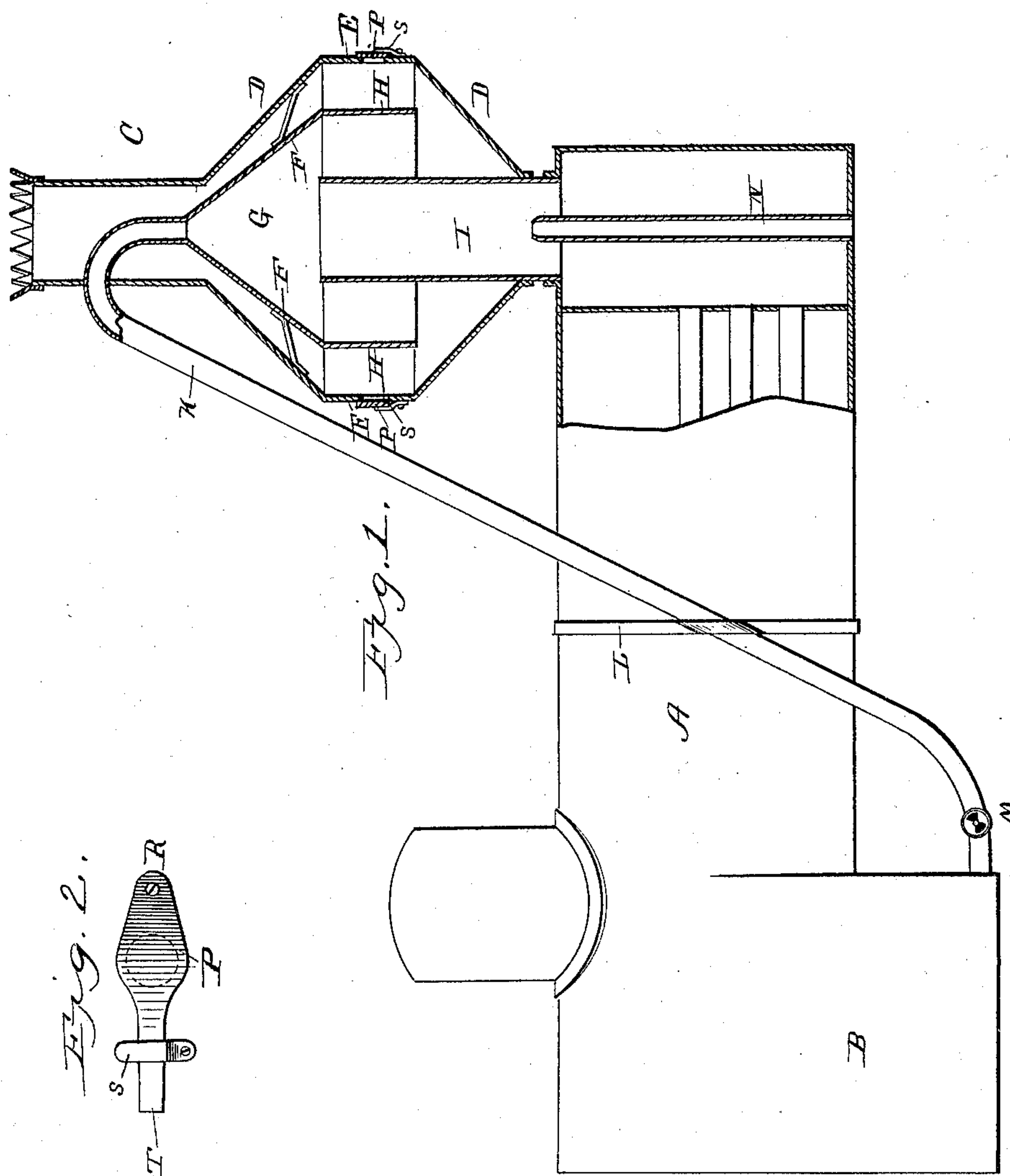
(No Model.)

J. H. SWARTZBAUGH.

SPARK ARRESTER.

No. 366,135.

Patented July 5, 1887.



WITNESSES
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JOHN H. SWARTZBAUGH, OF TIFFIN, OHIO.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 366,135, dated July 5, 1887.

Application filed October 7, 1886. Serial No. 215,538. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SWARTZBAUGH, a citizen of the United States, residing at Tiffin, in the State of Ohio, have invented certain new and useful Improvements in Spark-Arresters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of spark-arresters in which a deflecting device provided with a pipe leading to a point of escape is located in the smoke-stack; and it consists, essentially, of a bell located in an enlarged portion of the stack, so as to receive the upper end of a pipe in which extends the exhaust-flue, and provided with a pipe leading to the fire-box and having a damper therein.

The invention also consists in certain combinations and constructions, hereinafter set forth.

In the drawings, Figure 1 represents a vertical section of the improved spark-arrester as applied to a boiler, and Fig. 2 a detail showing the door to one of the hand-holes.

A represents the boiler, B the fire-box, C the smoke-stack, which is provided with a double conical enlargement, D D, the two sections of which are joined by a band, E. Within the enlargement D is suspended, by suitable brace-rods or hangers, F, an imperforate bell, G, provided at its lower edge with an annular continuation, H, into which projects the upper end of a pipe, I, forming the lower end of the stack. To the upper end of the bell is connected a pipe, K, which passes through the stack, and by easy curves extends to the fire-box, being supported by suitable means, such as a band, L, on the boiler, and provided with a damper, M, near the fire-box. The exhaust-pipe N extends into the lower end of the pipe I.

In the band E are hand-holes for access to the interior of the enlargement to repair damages or remove soot or other accumulations. These hand-holes are covered by doors P, which are curved sufficiently to conform to the ring E, and have projections, one, R, serving

as a means of hinging the door to the ring E, and the other, T, as a latch, with which a catch, S, engages and holds the door in place. The exhaust and draft force the smoke and cinders or sparks into the bell, the sparks or cinders passing into the pipe K and to the fire-box, while the smoke will return, and, passing to the sides of the pipe I, will travel around the edges of the bell and escape through the mouth of the stack. By a suitable manipulation of the damper M, I am able to regulate the draft as desired.

I prefer to provide the smoke-stack with a crown-piece, as shown, as I find that it improves the draft.

I do not confine myself to the precise construction and arrangements of the parts shown, as they may be varied without departing from the spirit of my invention.

I have found that by enlarging the stack near the boiler I greatly improve the operation of the stack and increase its strength and stability.

I claim—

1. The combination, with the stack provided with an enlargement, of an imperforate bell suspended therein, a pipe leading from the bell to the fire-box of the boiler, and a damper in the said pipe, substantially as described.

2. The combination, with the stack enlarged near the boiler, of the hand-holes in the enlargement, and the hinged doors provided with catches and curved and covering the hand-holes, substantially as described.

3. The combination, with the stack enlarged near the boiler, of the imperforate bell suspended therein, the pipe I, entering the lower end of the bell, the pipe K, provided with the damper M, and the exhaust-pipe, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. SWARTZBAUGH.

Witnesses:

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GEO. R. HUSS.