

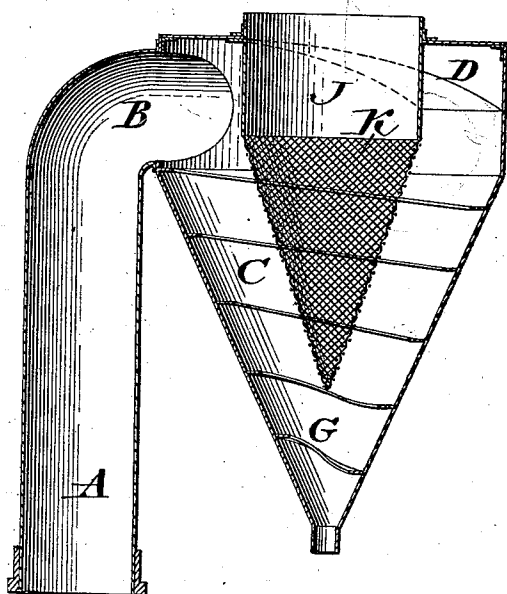
(No Model.)

T. W. PATERSON.  
SPARK CATCHER.

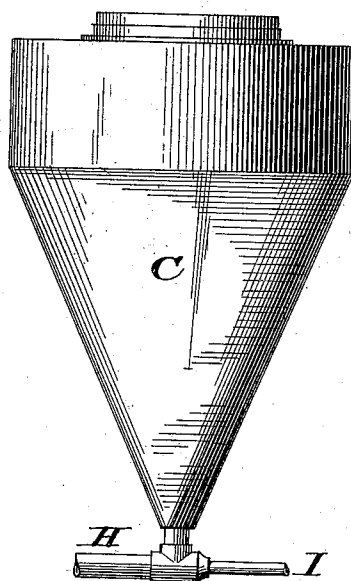
No. 601,355.

Patented Mar. 29, 1898.

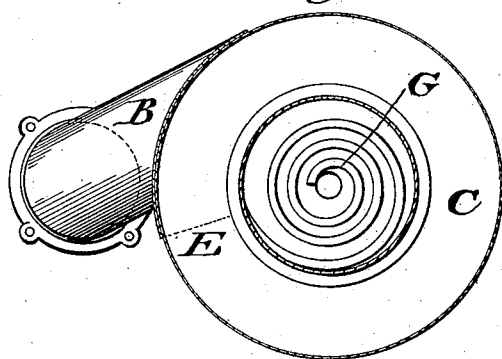
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

*R. D. Stephens.*  
*Maurice H. Law*

*Inventor:*

*Thomas Wilson Paterson*  
*per Andrew Gray*  
*attorney*

# UNITED STATES PATENT OFFICE.

THOMAS WILSON PATERSON, OF VICTORIA, CANADA.

## SPARK-CATCHER.

SPECIFICATION forming part of Letters Patent No. 601,355, dated March 29, 1898.

Application filed July 22, 1897. Serial No. 645,624. (No model.) Patented in Canada July 26, 1897, No. 56,793.

*To all whom it may concern:*

Be it known that I, THOMAS WILSON PATERSON, a British subject, residing at Victoria, Province of British Columbia, Canada, have  
5 invented a new and useful Spark-Catcher and Smoke-Burner, (for which I have received a patent in Canada, No. 56,793, dated July 26, 1897,) of which the following is a specification.

10 My invention relates to the combination of a spark-catcher and smoke-burner with the smoke-box of a locomotive-boiler or any other boiler for the purpose of arresting all sparks or embers and returning them to the ash-pan  
15 or discharging them overboard, as may be desired, at the same time consuming the smoke, thus preventing the danger of fire from the sparks of a locomotive and the annoyance and dirt caused by the smoke to the passengers and coaches. I attain these objects by  
20 the mechanism illustrated in the accompanying drawings, in which—

25 Figure 1 is a section of the apparatus. Fig. 2 is a back view of the apparatus. Fig. 3 is a plan of the apparatus.

Similar letters refer to similar parts in the views.

30 In the drawings, A is the smoke-pipe, attached on top of the smoke-box in the usual place for the smoke-stack, the top part of pipe forming an elbow B, which is attached to the top of cone C at a tangent, so that the products of combustion will be given a centrifugal motion on entering the cone.

D is a deflector with a downward inclination around to the baffle-plate E, which comes just below the lower side of the elbow B, thus giving the sparks and smoke a centrifugal and downward course.

G is a volute formed by a bar of flat iron 40 to conduct the sparks to the bottom of cone and into the pipe. H is a pipe connected to bottom of cone for carrying the sparks back into the ash-pan.

I is a smaller pipe leading into the T-pipe 45 on bottom of cone, the pipe I being connected with the exhaust of the engine, thus causing a jet of exhaust-steam to enter the pipe H and force the sparks and smoke back into the ash-pan and also giving a forced draft to the  
50 furnace, thus economizing fuel and tending to burn the smoke.

J is an extension-piece inside of cone with a wire-gauze cone K to prevent any sparks from being drawn up by the draft in extension-piece. 55

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination with a locomotive or other boiler, of pipe A, cone C, deflector D, baffle- 60 plate E, volute bar G, pipe H, exhaust-steam jet I, extension-piece J, wire-gauze cone K, substantially as and for the purpose hereinbefore set forth.

THOMAS WILSON PATERSON.

Witnesses:

MAURICE H. LAW,  
RALPH D. STEPHENS.