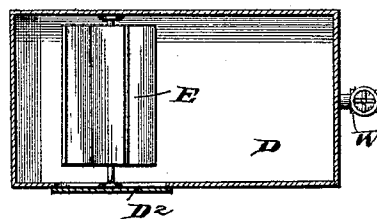
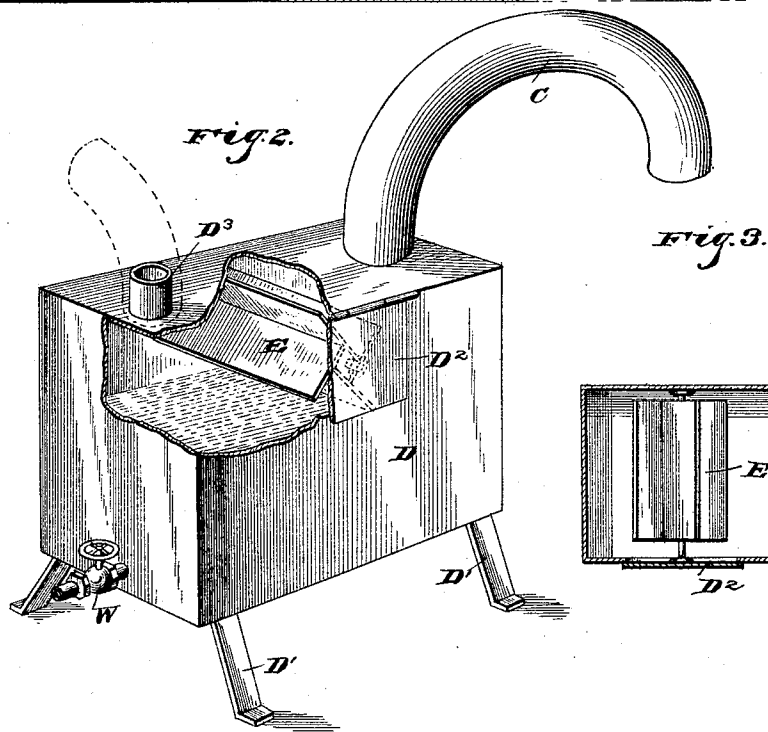
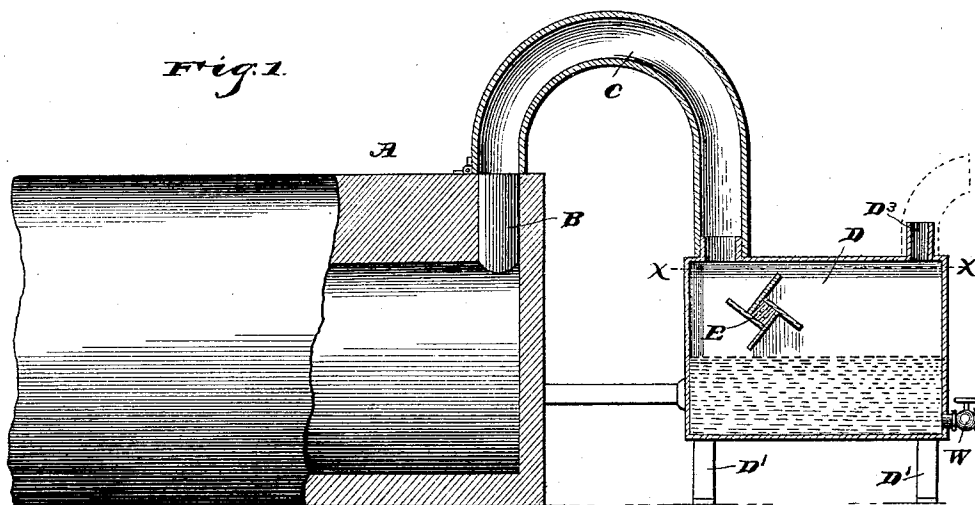


(No Model.)

J. F. LANDRETH.
SPARK ARRESTER.

No. 479,283.

Patented July 19, 1892.



Witnesses

B. S. Owen

Chas. B. Ayer

By *his* Attorneys,

Calhoun & Co.

Inventor

J. F. Landreth,

UNITED STATES PATENT OFFICE.

JOHN F. LANDRETH, OF ELLAVILLE, GEORGIA, ASSIGNOR OF ONE-HALF TO
STEPHEN A. SELLARS, OF SAME PLACE.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 479,283, dated July 19, 1892.

Application filed March 14, 1892. Serial No. 424,890. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LANDRETH, a citizen of the United States, residing at Ellaville, in the county of Schley and State of Georgia, have invented a new and useful Spark-Arrester, of which the following is a specification.

This invention relates to spark-arresters; and it consists of the construction and arrangement of the parts thereof, as will be hereinafter more fully described, and pointed out in the claim.

The object of this invention is to provide simple and effective means of arresting sparks in their passage from a furnace, which are adapted to be quickly and readily applied, easily operated, and comparatively inexpensive in manufacture.

In the drawings, Figure 1 is a longitudinal vertical section of a part of a boiler and the improved device in connection therewith. Fig. 2 is a perspective view of the attachment shown removed and the sidewall thereof broken away to show the interior of the same. Fig. 3 is a horizontal section on the line *xx*, Fig. 1.

Referring to the drawings, A designates a part of a furnace, preferably of a stationary boiler, though other boilers might have the attachment applied thereto, provided with a smoke-flue B. Connected to the said smoke-flue is a semicircular curved pipe or stack C, which may be extended from the furnace A to any suitable and required distance. The opposite end of said pipe or stack C is secured to the spark-arrester D, which consists of a closed box or frame of suitable material having supporting-legs D', a door D², and an egress pipe or stack D³ for the escape of the smoke or products of combustion after having been relieved from sparks. The door D² is adapted to be used for the purpose of ingress into the spark-arrester to clean or otherwise manipulate the same. Adjacent to the point of attachment of the stack C with the spark-arrester D and within the spark-arrester is mounted a rotating bladed wheel E, which is kept in continuous motion by the draft coming through the said pipe or stack C. A water-pipe W is also connected to the spark-arrester and supplied with a suitable

valve to furnish water to the said arrester, the valve therein controlling the quantity of water let into said arrester.

In operation the smoke passing through the curved pipe or stack C and carrying therewith sparks rotates the said bladed wheel E, as stated, and the sparks are carried or forced into the water contained within the arrester, the level of said water with relation to the said bladed wheel being such that said bladed wheel will just miss touching the surface of the water, thereby causing the live particles forming the sparks to be forced to the bottom of the arrester and allowing the smoke free of such sparks to pass from the same. The end of the pipe or stack C, attached to the furnace A, is hinged at this point and preferably removably connected to the spark-arrester D, whereby said arrester may be cleansed when desirable. The pipe supplying the water to the arrester is preferably connected with the boiler feed-pipe and to take water direct from the well or tank in the same manner as the boiler-supply is furnished. The curved pipe or stack formed and extended as set forth provides a blow-pipe which assists in forcing the sparks into the water in the arrester.

The advantages and utility of the improved device hereinbefore set forth are manifold and readily apparent to those skilled in the art.

Having thus described my invention, what is claimed as new is—

In a spark-arrester, the combination, with a furnace, of a semicircular curved pipe or stack hinged thereto and adapted to be raised and lowered in a vertical plane only, an arrester removably attached to the opposite end of said pipe or stack and consisting of a tank or box to contain water and having a bladed wheel therein revolving above the water by means of the current of the products of combustion, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN F. LANDRETH.

Witnesses:

F. A. COLLINS,
E. W. STRANGE.