

(No Model.)

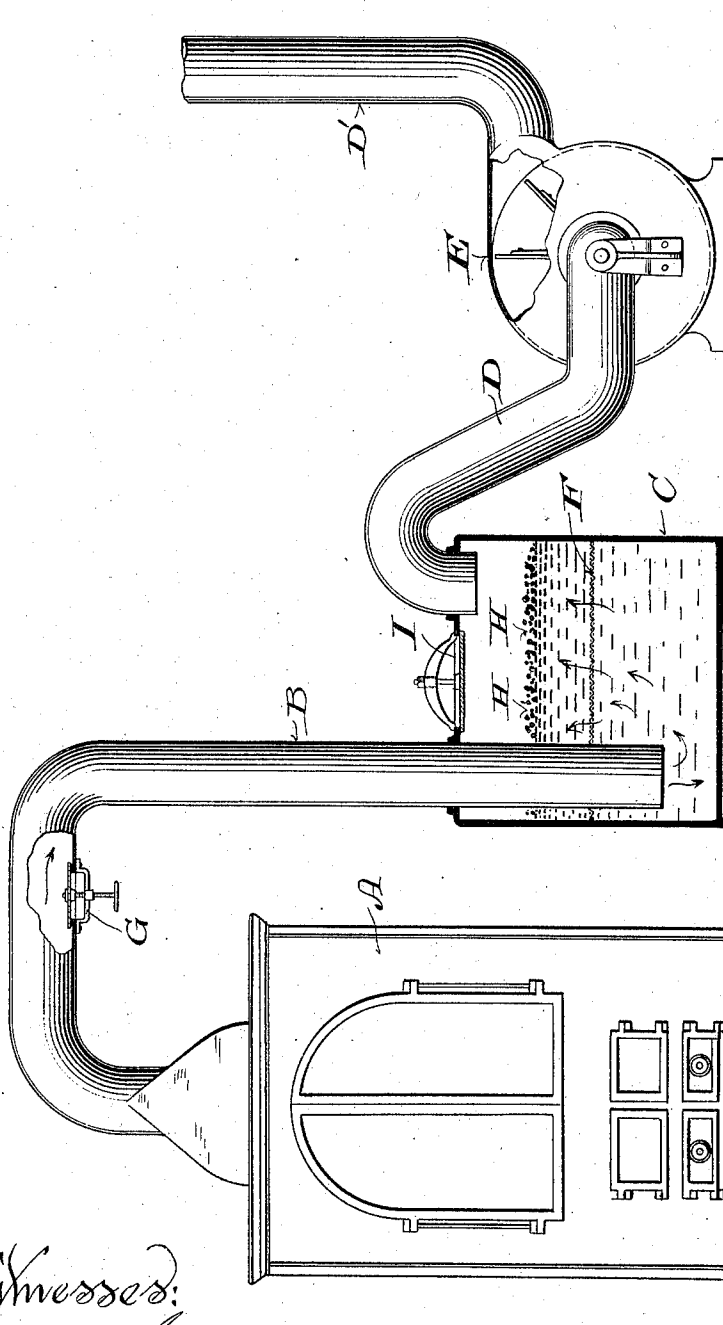
C. E. PARKS, Dec'd.

L. L. PARKS, Executrix.

PURIFYING SMOKE.

No. 575,370.

Patented Jan. 19, 1897.



Witnessed:
Geo W. Lowry
A. H. Scott

By

Inventor
Chas. E. Parks:
Deceased.
Lilla L. Parks,
Executrix:
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UNITED STATES PATENT OFFICE.

LILLA L. PARKS, EXECUTRIX OF CHARLES E. PARKS, DECEASED, OF
WATERTOWN, WISCONSIN.

PURIFYING SMOKE.

SPECIFICATION forming part of Letters Patent No. 575,370, dated January 19, 1897.

Application filed August 21, 1895. Serial No. 560,051. (No model.)

To all whom it may concern:

Be it known that CHARLES E. PARKS, deceased, late a citizen of the United States, and a resident of Watertown, in the county of Jefferson and State of Wisconsin, did invent certain new and useful Improvements in Purifying Smoke; and I, LILLA L. PARKS, executrix of the last will and testament of the said CHARLES E. PARKS, deceased, a citizen of the United States, residing in Watertown, in the county of Jefferson and State of Wisconsin, do hereby declare that the following is a full, clear, and exact description thereof.

This invention has for its object the purification of smoke as well as the saving and utilization of the heretofore waste carbonaceous products of combustion contained therein; and it consists in certain peculiarities of construction and combination of parts, as will be fully set forth hereinafter and subsequently claimed.

The drawing is a front elevation, partly in section, illustrating the said invention in connection with a force-draft apparatus designed to create a partial vacuum in a fluid-tank.

Referring to the drawing, A represents a furnace or other fuel-consuming device, and B a section of smoke-flue that leads from the furnace into a closed tank C, partially filled with water or other suitable fluid, said section of smoke-flue being of such length as to terminate a certain distance below the level of the fluid. Leading from the tank C, above the level of the fluid, is another section D D' of the smoke-flue, the smoke being delivered from the end D' of the latter section of flue to the open air.

In order to obtain the best possible results, means may be employed to increase the draft from the furnace, and as the preferred form of such means there is shown a power-fan E, interposed between the portions D and D' of the last section of the smoke-flue. In the purification of smoke from soft coal and other substances containing a large percentage of carbon it has been found that the smoke does not mix quickly with the water or other fluid in the tank C, and to overcome this difficulty it is necessary that some means be employed to retard the carbonaceous particles in the smoke to such an extent as to give them time to mix

with the water or other fluid in the tank without material interference with the draft, and to this end one or more screens are arranged in the tank C between the smoke-inlet and the surface of the fluid as the preferred means for obtaining the desired result.

The operation of the apparatus named will be readily understood from the foregoing description, taken in connection with the accompanying drawing.

It will be seen that the fan E creates a partial vacuum in the tank C, while the products of combustion are drawn through the flue-section B into the tank C below the screen F, the latter being of itself below the fluid-level. Sparks and cinders in the smoke are caught in the fluid in the tank, the sooty or carbonaceous particles are retarded by the screen F, and the remaining elements of the smoke pass through the screen and fluid to fill the partial vacuum in the tank, and are consequently drawn into the flue-section D and forced out of the latter by the action of the forced draft. As it happens from time to time that this forced draft is too strong for economical combustion the flue-section B is shown provided with a valve G for the admission of outside air to counteract this objection when necessary.

It has been found in practice that the sooty or carbonaceous products of combustion after being retarded by the screen or screens F become mixed with the water or other fluid in the tank C into a pasty mass that works its way through said screen or screens and forms into balls H H, that float on the surface of said fluid, as shown, and the material thus accumulated is removed from time to time through the hand-hole I of the tank and worked up into a merchantable commodity, forming an excellent base for electric-light carbons as well as a good substitute for lampblack.

Having thus described the invention of the said CHARLES E. PARKS, deceased, I declare that what I claim as new, and desire to secure by Letters Patent, is—

In an apparatus for purifying smoke, the combination with a fuel-consuming device, a closed fluid-tank provided with a horizontal screen, and a suction-fan, of a smoke-flue, formed in three sections, of everywhere equal

diameter, the first section extending from the fuel-consuming device to and within the fluid-tank below said screen, the second section extending from said fluid-tank to one side of the casing of said suction-fan, and the third
5 section extending from the other side of the casing of said suction-fan and leading to the open air, and the first section having a valve for the admission of outside air thereto, substantially as set forth.
10 In testimony that I claim the foregoing as

the invention of the said CHARLES E. PARKS, deceased, I have hereunto set my hand, at Wauwatertown, in the county of Jefferson and State of Wisconsin, in the presence of two witnesses. 15

LILLA L. PARKS,
Executrix of the estate of Charles E. Parks,
deceased.

Witnesses:

JOHN G. CONWAY,
ELLA BRICKELL.