(No Model.)

A. Y. GRAHAM.

STOVEPIPE OR FLUE CLEANER.

No. 515,314. Patented Feb. 20, 1894.

FIG. 1.

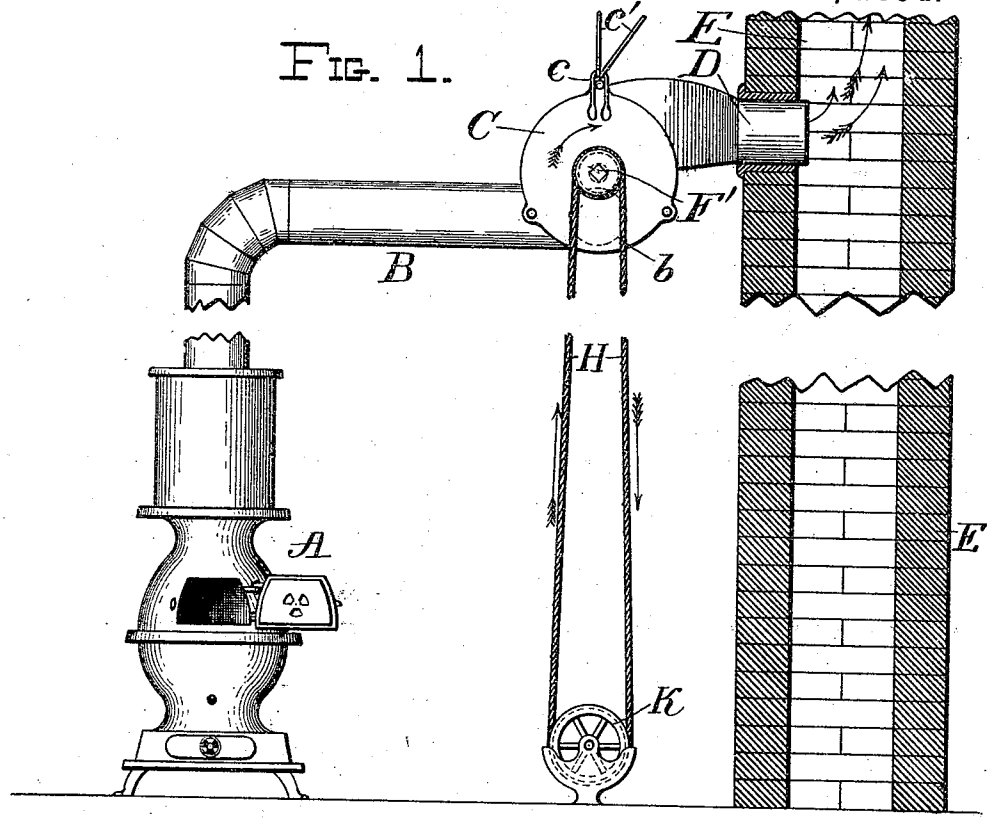


FIG. 3.

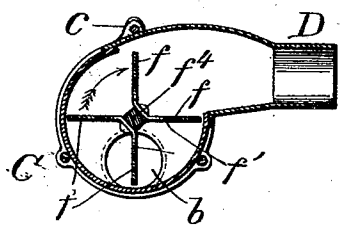


FIG. 2.

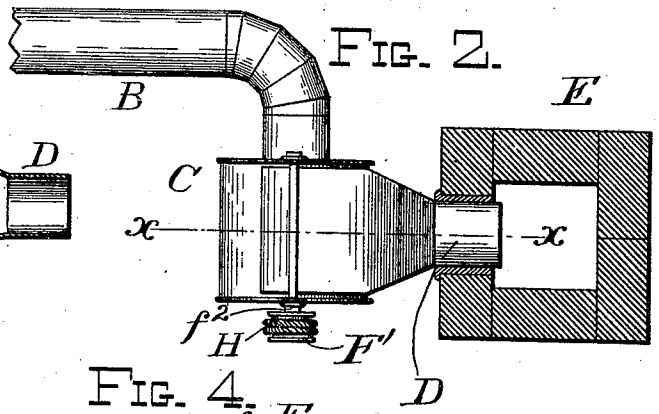
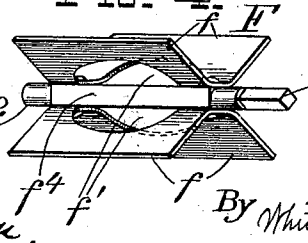


FIG. 4.



Witnesses
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ALBERT Y. GRAHAM, OF FARMERSVILLE, TEXAS.

STOVEPIPE OR FLUE CLEANER.

SPECIFICATION forming part of Letters Patent No. 515,314, dated February 20, 1894.

Application filed March 20, 1893. Serial No. 466,894. (No model.)

To all whom it may concern:

Be it known that I, ALBERT Y. GRAHAM, a citizen of the United States, residing at Farmersville, in the county of Collin and State of Texas, have invented certain new and useful Improvements in Stovepipe and Flue Cleaners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to flue cleaners, and consists of certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a side elevation of a stove and stove pipe fitted with the improved device, the chimney into which the stove pipe opens being shown in section. Fig. 2 represents a plan view of the device shown in Fig. 1. Fig. 3 represents a section of the flue cleaner along the line $x\ x$ of Fig. 2. Fig. 4 represents a perspective view of the fan wheel detached.

A represents the stove, which may be of any known construction.

B represents the stove pipe, which may be arranged horizontally, vertically, or at any desired angle, and should preferably be of the ordinary construction.

C represents a cylindrical chamber which should preferably be supported in some way, as by loops c and straps c' which latter may be attached to the rafters or the ceiling, not shown.

D represents the delivery pipe from the chamber C, which delivery pipe may open either into a flue or chimney E, or directly into the open air.

Journaled in the interior of the chamber C, is a fan F preferably composed of two bent plates riveted to a central shaft, and bent upward into wings f, the centers of which wings are cut away as at f' to admit the passage of the products of combustion through the center of the said fan. In order that the plates f may be readily attached to the shaft, and rigidly held thereon, the said shaft f^2 is preferably made square along its central portion, as at f^4, and the end f^3 of said shaft is made angular so as to be turned by the pulley F′ which is slipped thereon. The rope or driving belt H passes over the pulley K.

The operation of the device is as follows:—The products of combustion from the stove A pass through the stove pipe B and enter the chamber C at b, when the smoke and lighter products rise through the opening f' in the wings f of the fan F, and pass through the delivery pipe D, as indicated by the arrows in Fig. 1. Particles of soot, and other similar solid particles are apt to be stopped in passing through the opening in the fan, and some of them are deposited in the chamber C. When it is desired to clean out the chamber C and the various pipes opening into and leading therefrom, a very rapid motion is given to the fan F by pulling on the rope H in the direction of the arrows in Fig. 1. The rapid revolution of the fan, not only throws the solid particles in the chamber C out through the escape pipe D but it creates a strong draft in the pipes B and D, drawing the particles of soot adhering to the side, out through the fan, and the pipe D. Should the fan be revolved in the reverse direction, the soot would be thrown down in the stove. The conchoidal shape of the delivery side of the chamber C as indicated in Fig. 3, expedites the draft, when the fan is turned in the direction of the arrow in the said figure. The vibrations of the rapidly revolving fan also assist in shaking loose any adhering particles of soot, &c., which may be either in the fan or in the pipes connected thereto.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a flue cleaner, the combination with a fan chamber of a fan F composed of a shaft and two plates with apertures in the center thereof, the said plates being bent along their centers as shown and riveted to said shaft, with means for revolving said fan, substantially as described.

2. An apparatus of the character described, comprising a pipe or flue B entering the flue cleaning chamber in a horizontal direction,

an enlarged chamber C provided with an aperture *b* in the lower part thereof for the pipe B, and a larger aperture in the upper portion thereof, for the escape of the gases, a conchoidal chamber D connected to the upper part of said chamber C, a fan having wings perforated near the center of said fan and journaled across said chamber C above said aperture *b*, and a belt and pulleys for driving said fan, substantially as and for the purposes described.

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

ALBERT Y. GRAHAM.

Witnesses:
H. M. WISDOM,
W. S. GRAHAM.