

(No Model.)

J. O. FRAZIER.
FLUE CLEANER.

No. 530,832.

Patented Dec. 11, 1894.

Fig. 1.

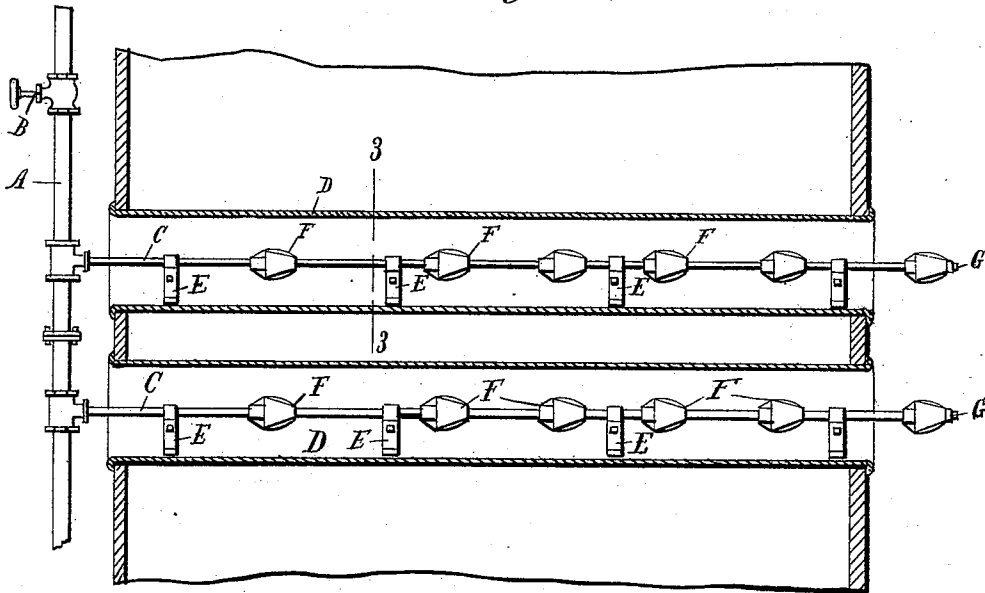


Fig. 2.

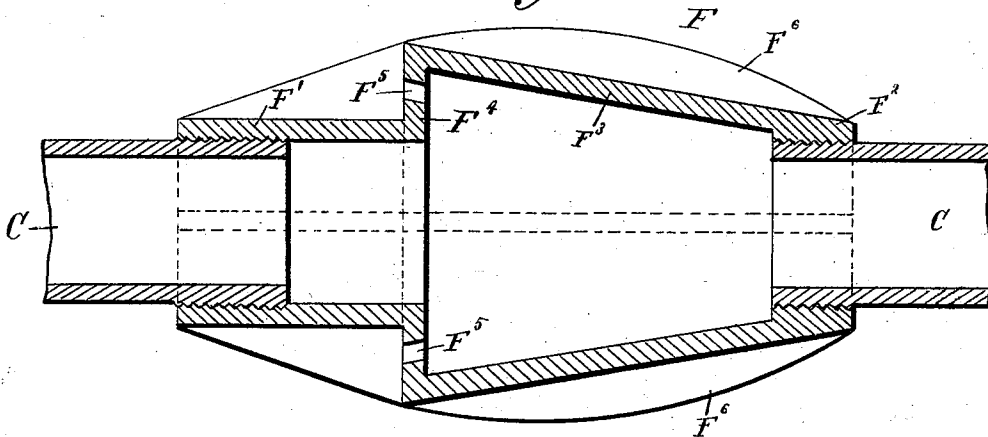
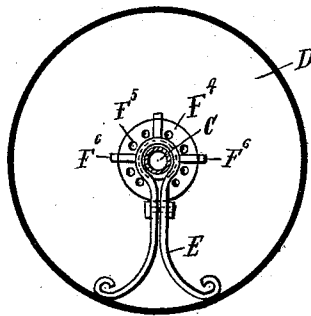


Fig. 3.



WITNESSES:

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JULIUS OMAR FRAZIER, OF McCall, LOUISIANA, ASSIGNOR OF ONE-HALF
TO LEZIN A. BECNEL, OF SAME PLACE.

FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 530,832, dated December 11, 1894.

Application filed July 31, 1894. Serial No. 519,129. (No model.)

To all whom it may concern:

Be it known that I, JULIUS OMAR FRAZIER, of McCall, in the parish of Ascension and State of Louisiana, have invented a new and Improved Flue-Cleaner, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved flue cleaner, which is comparatively simple and durable in construction, readily applied, and arranged to quickly and efficiently remove all soot and other impurities in the flues by the aid of jets of steam or other fluid.

The invention consists in certain parts and details, and combinations of the same, as will be hereinafter fully described and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied to a boiler, the latter being shown in section. Fig. 2 is an enlarged sectional side elevation of one of the nozzles; and Fig. 3 is an enlarged cross section of the improvement, on the line 3—3 of Fig. 1.

The improved flue cleaner is provided with a supply pipe A, connected with a suitable source of steam or other fluid under pressure, the said pipe being provided with a valve B, for controlling the fluid in the pipe. From the pipe A lead a series of branch pipes C, adapted to extend centrally through the flues D of the boiler, each of the said pipes C being provided with a number of bearings E, adapted to rest in the flue D, so as to support the pipes C centrally therein. Each bearing E is preferably made of band iron doubled up to form an eye for the pipe, and having legs connected with each other by a bolt, the lower ends of the legs being spread apart and curved over, as plainly indicated in Fig. 3.

On each of the pipes C, and between the bearings E, are arranged nozzles F, one of which is shown in detail in Fig. 2. Each nozzle F is provided with threaded hubs F' and F'', in which screw the ends of the sections comprising the pipe C, and the said nozzle is formed with a body portion F'', made in the

shape of the frustum of a cone, with the base F⁴ formed with inclined outlet apertures F⁵, to permit the steam or other fluid to escape from the nozzle into the flue. As the openings F⁵ are inclined upwardly, the jets of steam or other fluid are projected upwardly and forwardly, to strike the inner wall of the flue at an angle, so as to readily remove any soot or other impurities and wash the same outward by the force of the jets. Each nozzle F is also provided with suitable longitudinally extending strengthening ribs F⁶.

The device is used as follows: The operator introduces first, the pipe C into the flues D, in which they are supported by the bearings E, one outer end of each pipe being connected with the supply pipe A, and the other outer end being closed up by a plug G. The operator then opens the valve B, so that steam or other fluid under pressure can pass through the pipe A, into the several branch pipes C and into the nozzles F, from which the steam escapes in jets through the apertures F⁵. The steam thus escaping, loosens the soot on the inner walls of the flues, and at the same time forces it outwardly toward the pipe A, so that the flues are thoroughly cleaned of all impurities.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A flue cleaner, comprising a pipe connected with a fluid supply, and a length to extend from end to end of the flue and a series of nozzles on the said pipe, and each having jet apertures to permit the fluid to pass in jets out of the nozzles into the flue to be cleaned, substantially as shown and described.

2. A flue cleaner, comprising a pipe adapted to rest in the flue to be cleaned, and a length to extend from end to end of the flue bearings for supporting the said pipe in the said flue, and a series of spaced nozzles held on the said pipe and having jet apertures for the escape of steam or other fluid, substantially as shown and described.

3. A boiler flue cleaner, comprising a vertical supply pipe A, a series of horizontal pipes of a length to extend from end to end

of the flues, a series of brackets E on each pipe to center and support them in the flues, and a series of the nozzles F on each pipe between the brackets and having discharge 5 apertures F⁵ in one end, substantially as shown and described.

4. The flue cleaning nozzle F formed with a truncated hollow body F³ having threaded pipe connection F' F² at its opposite ends, a

series of inclined apertures F⁵ in the larger 10 end of the nozzle beyond the pipe connection F' and a plurality of longitudinal convex ribs F⁶ extending from end to end of the nozzle.

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Witnesses:

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