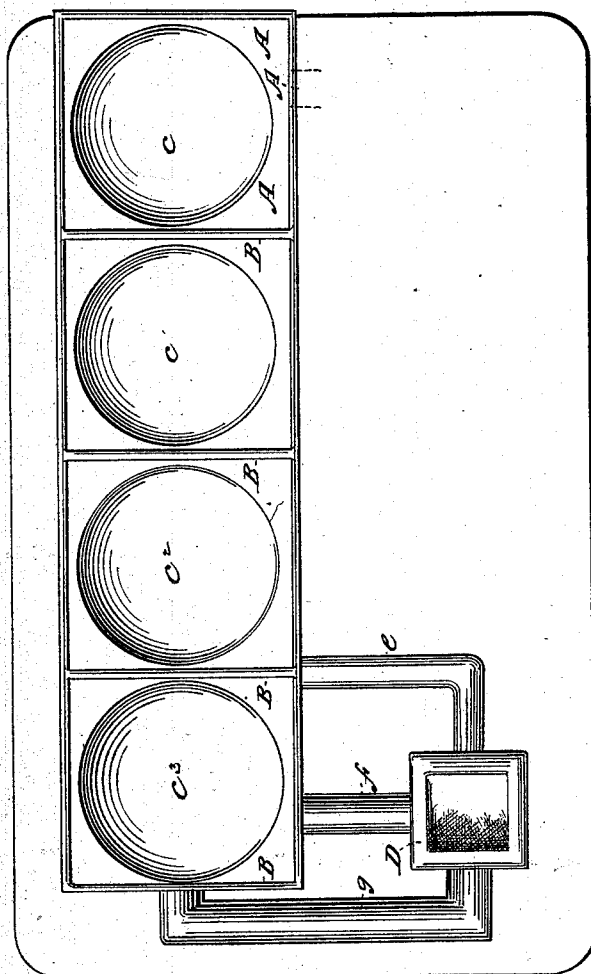


N. FOUCHE.  
Chimney Flue.

No. 108,014.

Patented Oct. 4, 1870.



WITNESSES:

*D. Perdue*  
*Paul C. Bousquet*

INVENTOR:

*Nelson Fouche*  
*by Adolphe Rock*  
*att'y*

# United States Patent Office.

NELSON FOUCHÉ, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 108,014, dated October 4, 1870.

## IMPROVEMENT IN FLUES.

The Schedule referred to in these Letters Patent and making part of the same

### To all whom it may concern:

Be it known that I, NELSON FOUCHÉ, of the city of New Orleans, and parish of Orleans, in the State of Louisiana, have invented a new and improved Arrangement in Construction of Flues; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this application.

My invention consists in a novel arrangement of chimney-flues, whereby the draft is augmented, so that green fuel may be made to burn as well as dry.

The drawing represents ground plan of a furnace, for the sake of illustration such a one as would be desirable for sugar-boiling pans being selected, showing my mode of constructing and arranging the flues, whereby the draft is intensified, and thus better burning of fuel being obtained, its quantity to be consumed for a given amount of work is lessened.

In the drawing—

The fire-place being at A, B is the main channel or flue, along which the evaporation-pans  $c$   $c^1$   $c^2$   $c^3$  are usually placed.

D is the smoke-stack, and

$e$ ,  $f$ , and  $g$  are the branch-flues or channels, leading, as shown, from the main flue B to the chimney D.

The number of these channels,  $e$   $f$   $g$ , may be multiplied or lessened at will, according to the character of fuel to be used, the work to be performed, and other considerations.

These channels are arranged and constructed in the following manner:

The channel  $e$ , being the nearest to the fire-place A, is of the smallest cross-sectional area of all. The channel  $g$ , the furthest from the said fire-box, is of the largest cross-sectional area of the three, while the

middle one,  $f$ , being intermediate between the two, its cross-sectional area is in the same proportion, so that, if it should be admitted that the cross-sectional area of the flue  $e$  is six square feet, and that of the flue  $g$  twelve square feet, then the flue  $f$  would be nine square feet, and so on.

The flues, no matter what number there should be of them, should vary in their cross-section as their distance from the fire-place, and may extend from the main channel B to the smoke-stack D, either horizontally, as shown in the drawing, or vertically, according to the will of the builder, necessity of the place, or other conditions.

By this simple arrangement not only green fuel will burn most satisfactorily, but also three-fourths of smoke will be consumed, thus utilizing much more heat from the same quantity of fuel than has been hitherto done.

I am aware that flues of graduated size, around a circular fire-box, have been used, as, for instance, in the patent to J. G. Porter, April 12, 1870, but as it is apparent that such an arrangement differs essentially from mine in principle, I do not lay claim to any such invention; but

What I do claim, and desire to secure by Letters Patent, is—

A plurality of flues, leading from the same main flue into the smoke-stack, when said flues increase in their cross-sectional area proportionally as they recede from the fire-place, as set forth and described.

The above specification of my invention signed by me this 23d day of June, 1870.

Witnesses:

NELSON FOUCHÉ.

A. PERSAC,

PAUL C. BOUDOUSQUIÈ.