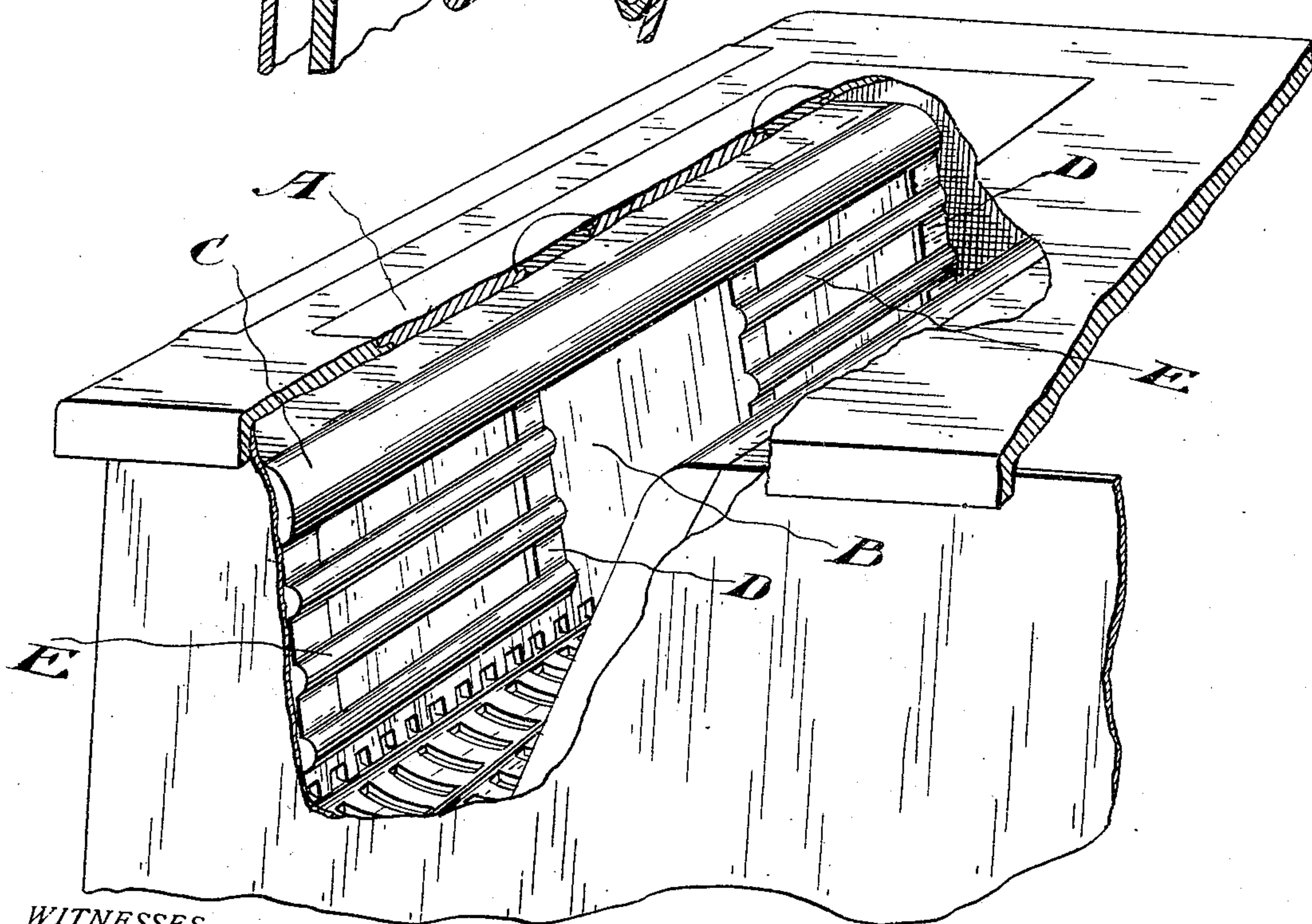
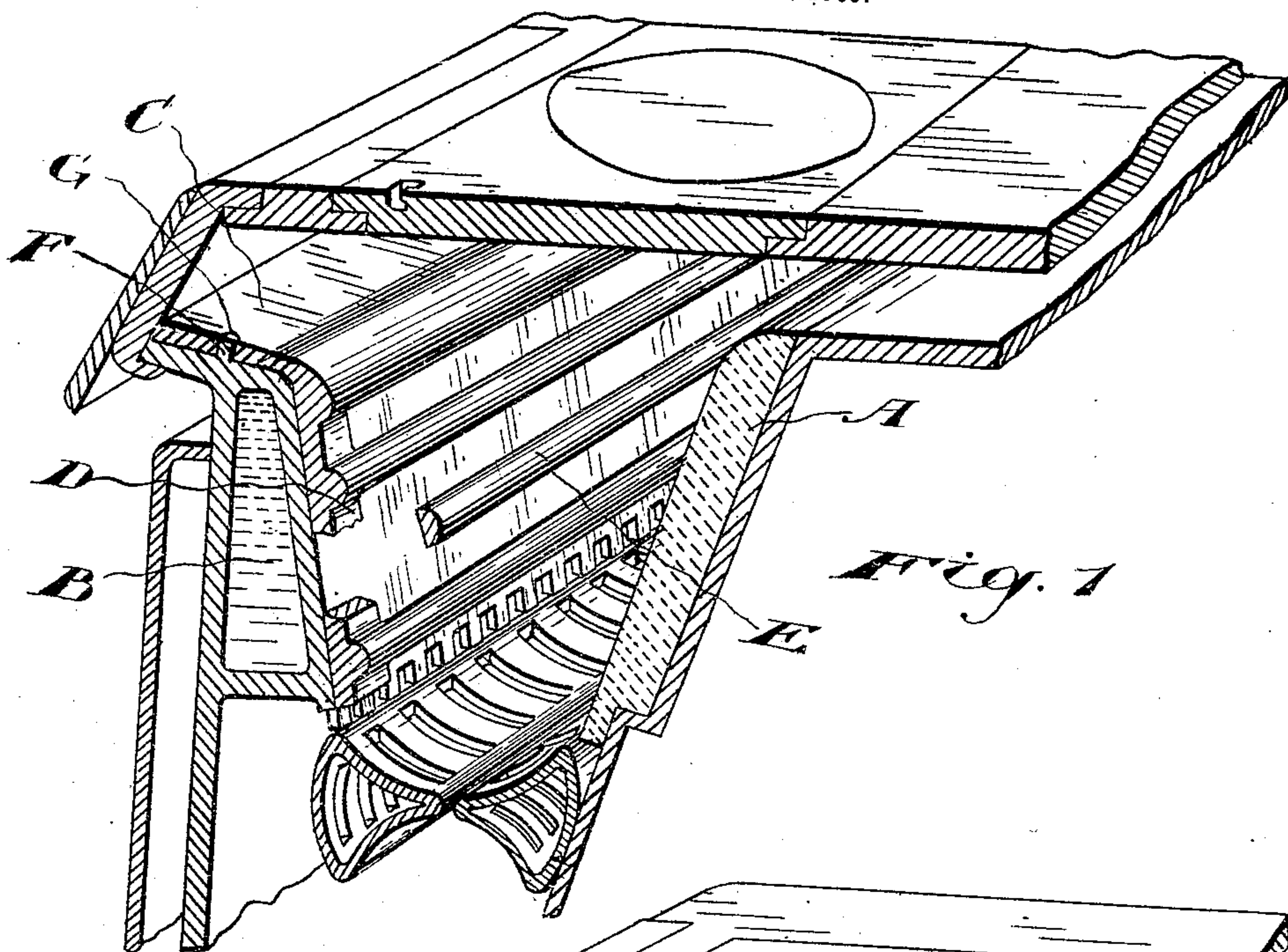


No. 840,861.

PATENTED JAN. 8, 1907.

S. McK. NEILL.  
STOVE AND THE LIKE.  
APPLICATION FILED JULY 29, 1905.



WITNESSES:

*C. A. K.*

*P. R. Jones*

Fig. 2.

INVENTOR.  
S. McK. Neill

BY *Edw. Maybee*  
his ATTORNEY.



# UNITED STATES PATENT OFFICE.

SAMUEL McKEE NEILL, OF GUELPH, ONTARIO, CANADA.

## STOVE AND THE LIKE.

No. 840,861.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed July 29, 1905. Serial No. 271,840.

*To all whom it may concern:*

Be it known that I, SAMUEL McKEE NEILL, of the city of Guelph, in the county of Wellington, Province of Ontario, Canada, have  
5 invented certain new and useful Improvements in Stoves and the Like, of which the following is a specification.

My invention relates particularly to the fire-boxes of stoves, ranges, furnaces, and the  
10 like which are provided with water fronts or backs for heating water, and my object is to effect such improvements in the fire-box that the burning fuel will not be unduly chilled by the cold water circulating in the front, which  
15 interferes with combustion and results in waste of fuel.

With this object in view my invention consists, essentially, of a grating fitted against the water-front and adapted to hold the fuel  
20 from direct contact with the water-front, while permitting radiant heat from the burning fuel to strike the same, substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a perspective sectional view showing my improvements. Fig. 2 is a perspective view, partly broken away, showing a modification.

In the drawings like letters of reference indicate corresponding parts in both figures.

A represents part of a stove, of which B is the water-front. In using the term "water-front" in this specification I desire it to cover water-backs, water ends, or water-jackets of  
35 all kinds. In the ordinary stove or furnace the fuel comes directly in contact with the water-front, through which cold water is constantly circling. This has a great tendency to dampen the fire and interfere with the  
40 combustion of the fuel. My invention consists of means, such as a grating, which will prevent actual contact between the water-front and the fuel, so that the combustion of the latter is not in any way interfered with,  
45 while the water-front is effectively heated by the radiant heat from the burning fuel striking through the interstices or apertures of

the grating. In its preferable form the grating comprises a lipped bar C, adapted to engage the upper corner or upper surface of the  
50 water-front. From this lipped bar depend the vertical bars D, which would usually be in contact with the water-front. Connected with the vertical bars at their inner faces are a series of transverse bars E, which owing to  
55 their place of connection are separated by clear spaces from the water-front. These transverse bars may be continuous from end to end of the water-front or portions may be omitted, as shown on Fig. 2, though the continuous form shown in Fig. 1 is preferable.  
60 For the purpose of holding the attachment in place one or more pins may be formed on or connected with the top of the water-front and engaged with corresponding holes G, formed  
65 in the lipped bar C of the grating. (See Fig. 1.) This attachment greatly improves combustion, as not only is the dampening effect of the cold-water front avoided, but a current of air is enabled to pass up through the  
70 outer edge of the grate and behind the bars E. I find that with my device owing to the perfection of combustion there is a considerable saving of fuel and a good fire may be obtained in a much shorter space of time than  
75 with the old type of water-front.

Of course the device is useful not only with stoves of the type shown, but with all forms of heating or cooking stoves or hot-air and  
80 hot-water heaters.

What I claim as my invention is—

An attachment for water-fronts of stoves and the like comprising a lipped bar adapted to engage the inner upper corner of a water-front, depending vertical bars, and trans-  
85 verse bars connected with the vertical bars at the inner faces of the latter, substantially as described.

Toronto, July 21, 1905.

SAMUEL McKEE NEILL.

In presence of—

WALTER ELLIS BUCKINGHAM,  
AMELIA KARN.