

No. 820,847.

PATENTED MAY 15, 1906.

E. C. COLE.  
COOKING STOVE.  
APPLICATION FILED MAY 11, 1905.

Fig. 1.

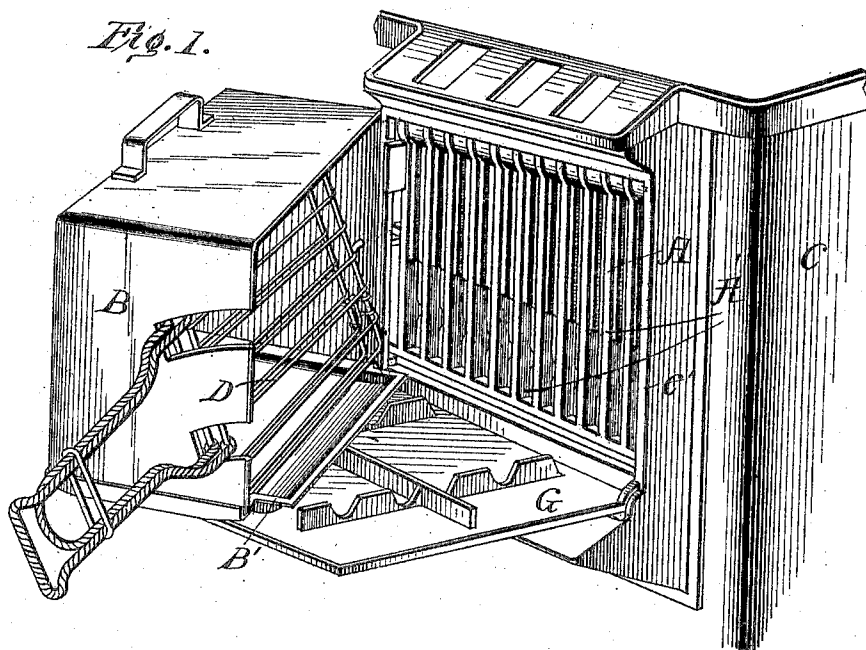


Fig. 3.

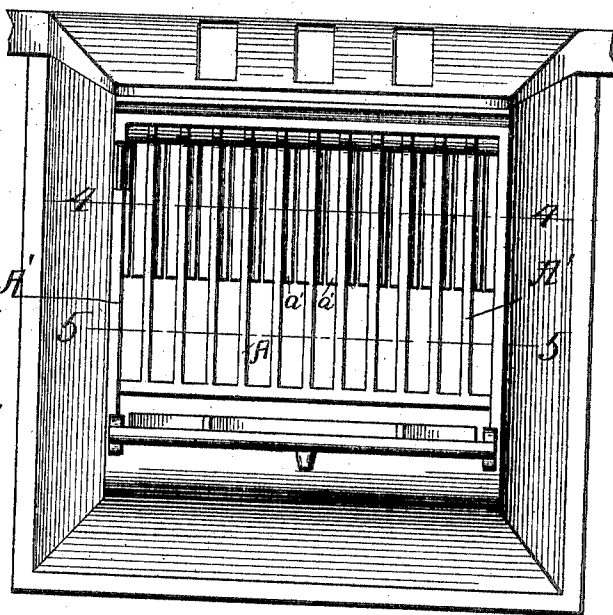
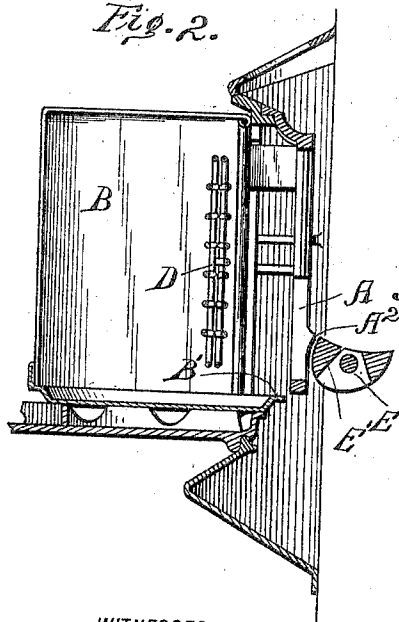


Fig. 2.



WITNESSES:

M. R. Taylor.  
Cory B. Harper.

Fig. 4.



Fig. 5.



INVENTOR

Ernest C. Cole.

BY Munroe & Co.

ATTORNEYS

# UNITED STATES PATENT OFFICE.

ERNEST CHAPIN COLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO COLE  
MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPO-  
RATION OF IOWA.

## COOKING-STOVE.

No. 820,847.

Specification of Letters Patent.

Patented May 15, 1906.

Application filed May 11, 1905. Serial No. 260,013.

*To all whom it may concern:*

Be it known that I, ERNEST CHAPIN COLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have made certain new and useful improvements in Cooking-Stoves, of which the following is a specification.

My invention is an improvement in cooking-stoves, and relates particularly to the construction of the upright grate-front and of the broiler for coöperation therewith; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a portion of the front of a cooking-stove with the broiler-case thrown back at an angle to the grate-front. Fig. 2 is a vertical section drawn through the broiler and grate-front, the broiler being adjusted to position adjacent to the said grate-front. Fig. 3 is a front elevation of the stove, parts being broken away, showing the grate-front in elevation; and Figs. 4 and 5 are detail cross-sections of the grate-front on about lines 4 4 and 5 5 of Fig. 3.

By my invention I provide a grate-front A in which the space between the upright bars A' is narrowed or contracted at the upper portion of the grate. This is preferably effected by providing the bars A' for a considerable distance from their upper ends with the laterally-projecting upright ribs a', the ribs a' of the adjacent grates being spaced apart but a slight distance in order to provide narrow slits between the upper portions of the grate-bar. I thus provide broiler-openings at the upper portions of the grate-front, which are contracted in comparison with the ordinary grate-openings at the lower portion of the grate, so that I reduce the inflow of air over the top of the fire without interfering with the draft through the lower portion of the grate and through the bottom of the grate in securing a good rapid combustion. At the same time I overcome the difficulty of broiling too fast at the top of the grate-front and overcome the danger of burning out the front of the grate, enabling me to dispense with the extra cut-off or swinging door ordinarily employed and in connection with the box-broiler B, which is

fitted to the opening C' in the front of the stove C, secure an efficient broiling device for use on a soft-coal range.

The box-broiler B is provided at its lower edge with a projecting lip B', which when the broiler is arranged as shown in Fig. 2 projects into the front opening of the range and catches all of the grease and drippings from broiling meats. This projecting lip is an important feature of the invention and will be found to operate efficiently for the purpose in view, as will be understood from Fig. 2 of the drawings.

By narrowing the grate-openings at the upper portion of the grate-front I am able to in a way reduce the heat at such portion of the grate, so that the broiler-frame D may be set upright or parallel with the grate-front, as shown in Fig. 2, instead of being tilted back, as shown in Fig. 1.

In order to secure a broiling-surface of the greatest vertical extent, it is preferred to extend the grate-front A down below the bottom of the duplex bottom grate E and to saw or slot the teeth in the grate-sections E at E' (see Fig. 2) to coincide with the openings in the grate-front, so that I secure a reflection from the heated coals in the fire-box the full length of the openings or spaces between the bars A' of the grate-front.

As best shown in Fig. 2, I provide the bars of the grate-front A on their inner sides near their lower ends with a boss or projection A<sup>2</sup> immediately above the outer ends of the sections of the duplex grate and adapted to prevent the cinders pinching in such duplex grate when in operation.

In the use of the ordinary grate in connection with a broiler it has been noticed that the steak or toast would heat much more quickly at the top than at the bottom of the broiler, and consequently it has been necessary to tip the broiler at an angle, as shown in Fig. 1; but it is found in practice by constructing the grate-front with the openings or spaces between the grate-bars narrowed or contracted at the upper portion of the grate the broiler may be set upright, as shown in Fig. 2, and uniform results secured.

In operation the broiler-box is supported upon the hinged door or front G of the stove, which may be lowered to the position shown

in Fig. 2, to support such box and to expose the grate-front, so the broiler-box may be set in close relation thereto.

5 In constructing the upright grate-front with the contracted portions of the spaces between its bars it will be noticed that the spaces are formed with upper and lower communicating wings, the upper wings being narrowed substantially relative to the lower  
10 wings in order to reduce the flow of air over the fire at the top of the grate, and this narrowing of the upper wings is effected by forming the walls of said upper wings with inwardly-projecting ribs.

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

1. The improvement herein described, comprising the upright grate-front having  
20 the spaces between its bars contracted at the upper portion of the grate, the broiler-box

having means for supporting the broiler, and provided at the lower edge of its open side with a projecting lip or flange extending toward the grate-front, and a support for the  
25 broiler, substantially as set forth.

2. The combination with a grate-front having the spaces between its bars contracted or narrowed at the upper portion thereof, and a broiler including the gridiron and the  
30 box in which it is supported in front of the grate, substantially as set forth.

3. The combination of a grate-front having the spaces between its upright bars contracted or narrowed at the upper portion  
35 thereof, and the broiler-box fitted at its open front for application to the said grate-front, and a gridiron, substantially as set forth.

ERNEST CHAPIN COLE.

Witnesses:

ALICE COMSTOCK,  
E. G. GOODCHILD.