

E. C. COLE.
 RANGE AND STOVE.
 APPLICATION FILED JUNE 1, 1912.

1,064,614.

Patented June 10, 1913.

3 SHEETS—SHEET 1.

Fig. 1.

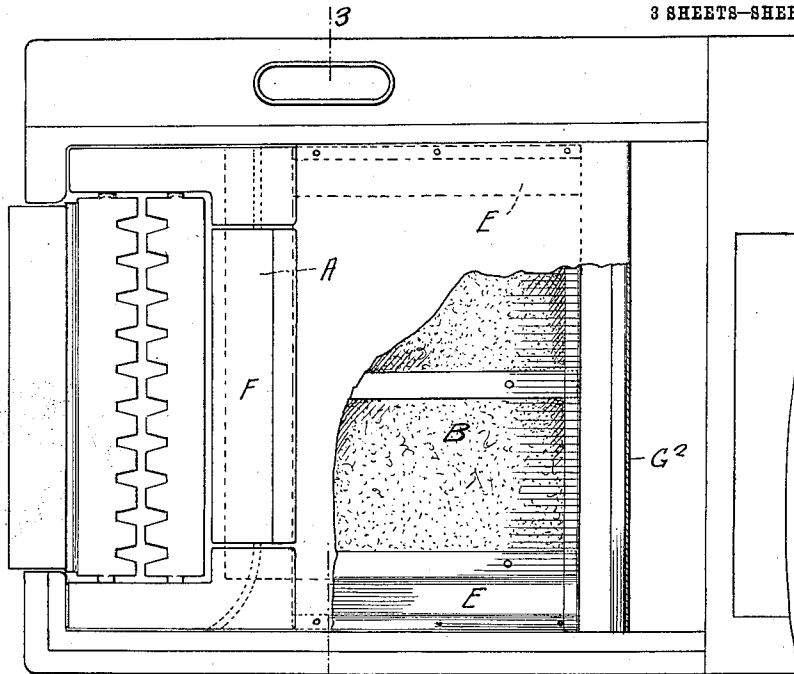
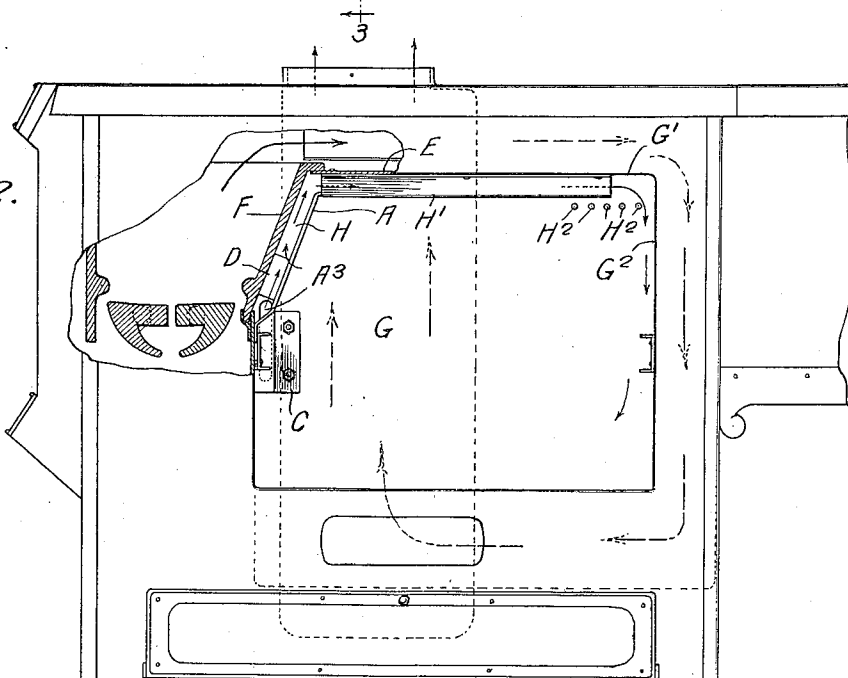


Fig. 2.



WITNESSES.

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3 SHEETS—SHEET 2.

Fig. 3.

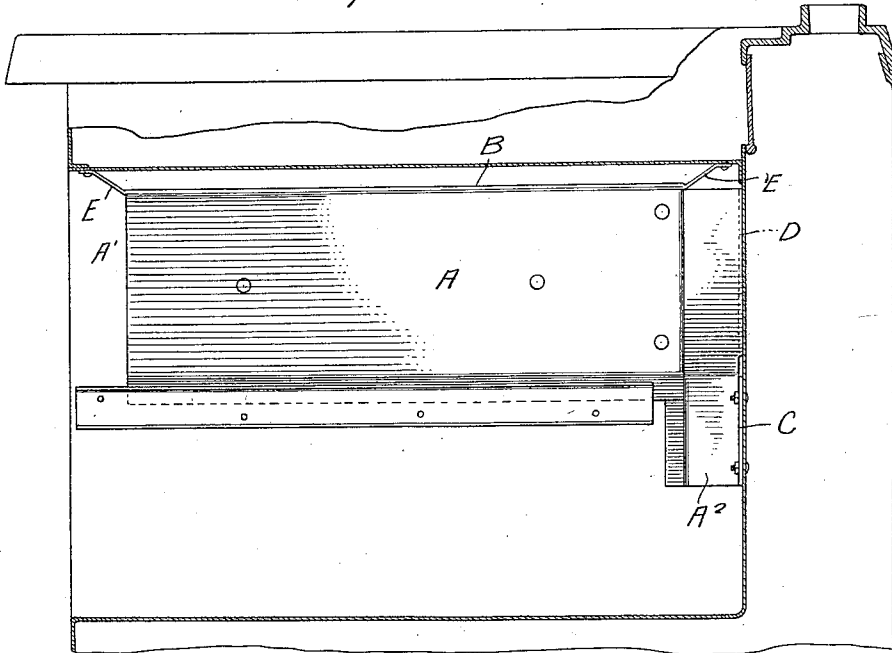
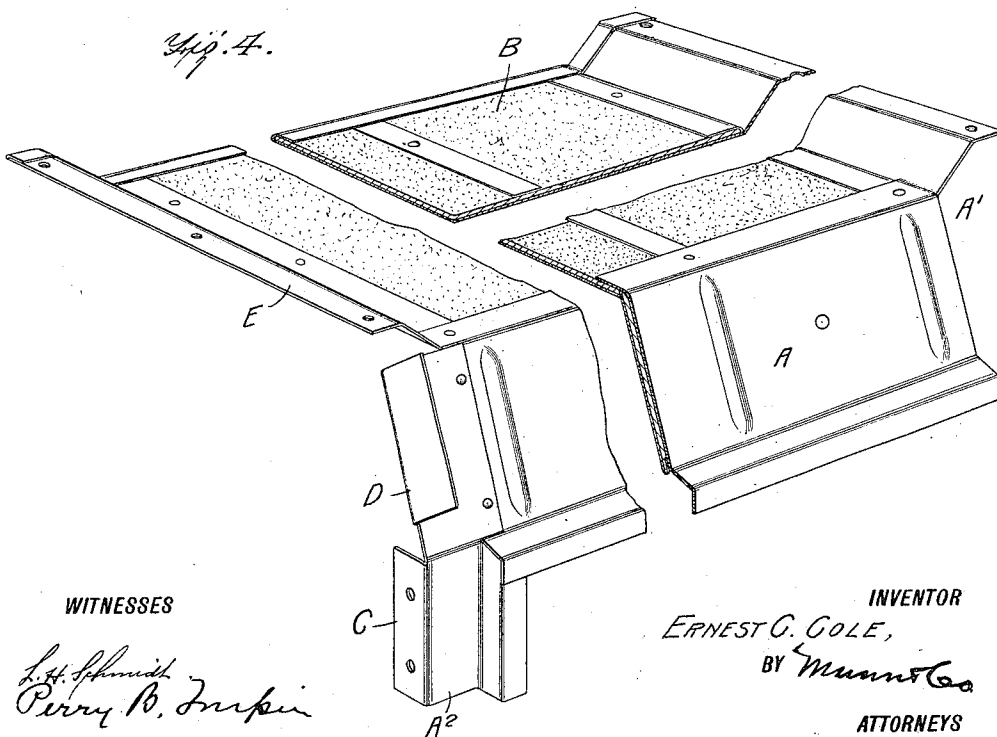


Fig. 4.



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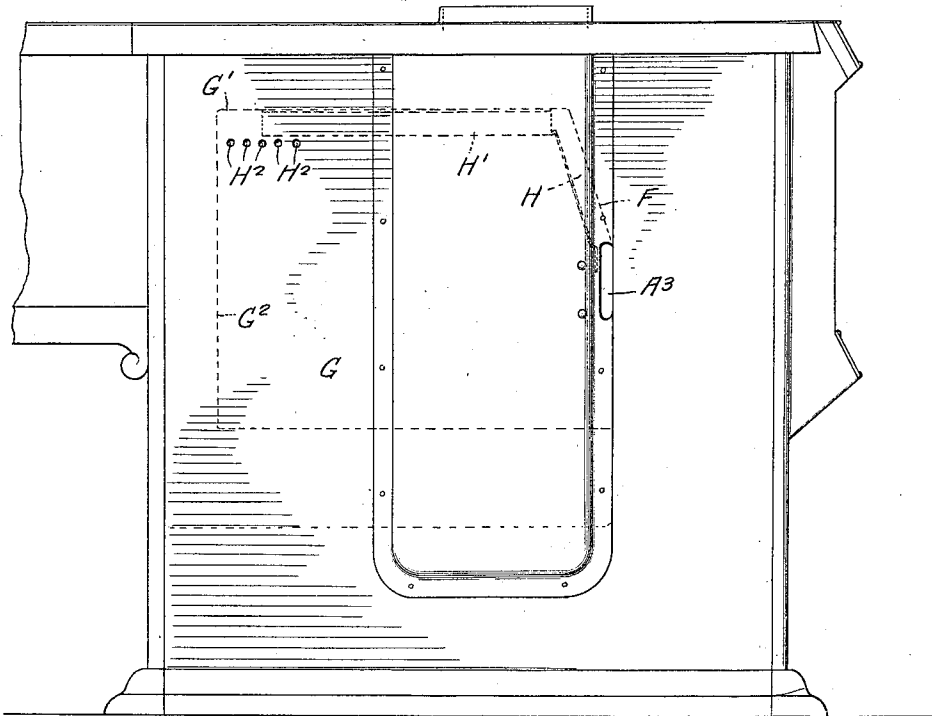
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3 SHEETS—SHEET 3.

Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

ERNEST CHAPIN COLE, OF CHICAGO, ILLINOIS.

RANGE AND STOVE.

1,064,614.

Specification of Letters Patent.

Patented June 10, 1913.

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To all whom it may concern:

Be it known that I, ERNEST CHAPIN COLE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ranges and Stoves, of which the following is a specification.

This invention is an improvement in ranges and stoves and particularly in the means for ventilating and controlling or balancing the oven heat; 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 top plan view, partly broken away, of a range embodying my invention. Fig. 2 is a front elevation of the range, partly broken away and partly in section. Fig. 3 is a cross section on about line 3—3 of Fig. 1. Fig. 4 is a detail perspective view, partly broken away of the oven shield. Fig. 5 is a rear elevation of the range.

Heretofore it has been the custom of stove manufacturers to either lay a piece of asbestos over the top oven plate inside of the top flue; or, in a cast range, to cast ribs, and plaster in fire clay in order to keep the top oven heat from being too great, and on the fire box end of the oven, the custom has been to have an air space between the oven plate and the cast iron back walls of the fire box. This causes the back walls of the fire box to burn out very quickly.

By my invention, I provide what for convenience of reference I term an oven shield having an inclined wing A, a flat top wing B and flanges C, D and E, which flanges facilitate the connection of the shield to the various parts of the oven. The inclined wing A is located directly along the fire back F from which it is spaced to form an air duct through which air may circulate along one side of the oven G and between the fire back F and the said wing A, such air discharging at its upper end into the air space above the wing B, which latter is depressed below the top plate G' of the oven, as will be understood from Figs. 2, 3 and 4 of the drawings.

The shield, which is shown in detail in Fig. 4 and applied in Figs. 1, 2 and 3, is preferably made of steel, reinforced with asbestos and extending as it does along the fire back F and below the top plate of the

oven, forms a flue, which discharges at its rear end slightly in advance of the end plate G² of the oven G as best shown in Fig. 2 of the drawings.

At one end A' of the wing A, the inclined flue H is open to receive air from the oven and at the other end of the shield an upright flue A² is provided, which receives air from outside the range through an opening A³, see Figs. 2 and 5 of the drawings.

Adjacent to the discharge end of the top flue H', above the wing B, I provide an outlet by means of a number of small holes H² for ventilation when the oven door is shut and when the oven door is on the notch or partly open, a perfect circulation is created between the red hot fire back and the too hot oven plate, circulating the air in the oven and letting a portion of it out through openings provided, making an oven that is much more evenly heated and with a perfect circulation of air inside. Ordinarily in ovens as commonly constructed, the corner of the oven next to the fire box and back smoke flue is always very much hotter than any other point in the oven on account of the back smoke flue, which carries the heat up across the back of the oven, while the front of the oven has only a door which is exposed to the outer air. In the use of my construction, the cold air is taken into the shield from the back of the range next to the fire back, F, and at the lower portion, the advantage of this being that it greatly prolongs the life of the fire back and also creates a circulation within the oven even with the oven closed, making the heat more even and improving the baking results.

I claim:

1. The combination, substantially as shown and described with an oven and a fire-back, the former of which is provided with inlet and outlet openings formed through its rear wall and respectively located adjacent the lower rear portion of the fire-back, and at the opposite side of the oven, of a shield within the oven and comprising an imperforate top wing secured in spaced relation to the oven top plate whereby to form an air circulating space, and open at one end into the oven adjacent the said air outlet openings, and an imperforate inclined wing secured in spaced relation against the fire-back and forming an air circulating flue, the upper end of which is in communication

with the adjacent end of the top wing flue, said inclined wing flue being open at one side to the oven and at its opposite side to the said air inlet openings.

- 5 2. The combination, substantially as shown and described with an oven and a fire-back, the former of which is provided with inlet and outlet openings formed through its rear wall and respectively located adjacent the
10 lower rear portion of the fire-back, and at the opposite side of the oven, of a shield within the oven and comprising an imperforate top wing secured in spaced relation to the oven top plate whereby to form an
15 air-circulating space, and open at one end into the oven adjacent the said air-outlet openings, and an imperforate inclined wing secured in spaced relation against the fire-back and forming an air-circulating flue,
20 the upper end of which is in communication with the adjacent end of the top wing flue, said inclined wing flue being open at one side to the oven and having a portion at the other side overlying the said air inlet and
25 forming a cold air receiving duct which communicates with said air-circulating flue.

3. The combination, substantially as shown

and described, with an oven and a fire-back, the former of which is provided with inlet and outlet openings formed through its rear wall and respectively located adjacent the
30 lower rear portion of the fire-back and at the opposite side of the oven, of a shield within the oven and forming air-circulating flues alongside the fire-back and along the
35 oven top, which flues open at one end adjacent to said air outlet openings, and at their opposite end to the said inlet openings and also to the oven and which have otherwise imperforate walls between their ends. 40

4. An oven shield comprising a relatively flat top wing having side closing flanges and an inclined wing extending from said first wing and having a closing flange at its lower end and an angularly bent portion at one
45 side, the said wings being adapted to form one wall of communicating flues and said angularly bent portion of the inclined wing being adapted to form one wall of an air duct communicating with said flue.

ERNEST CHAPIN COLE.

Witnesses:

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