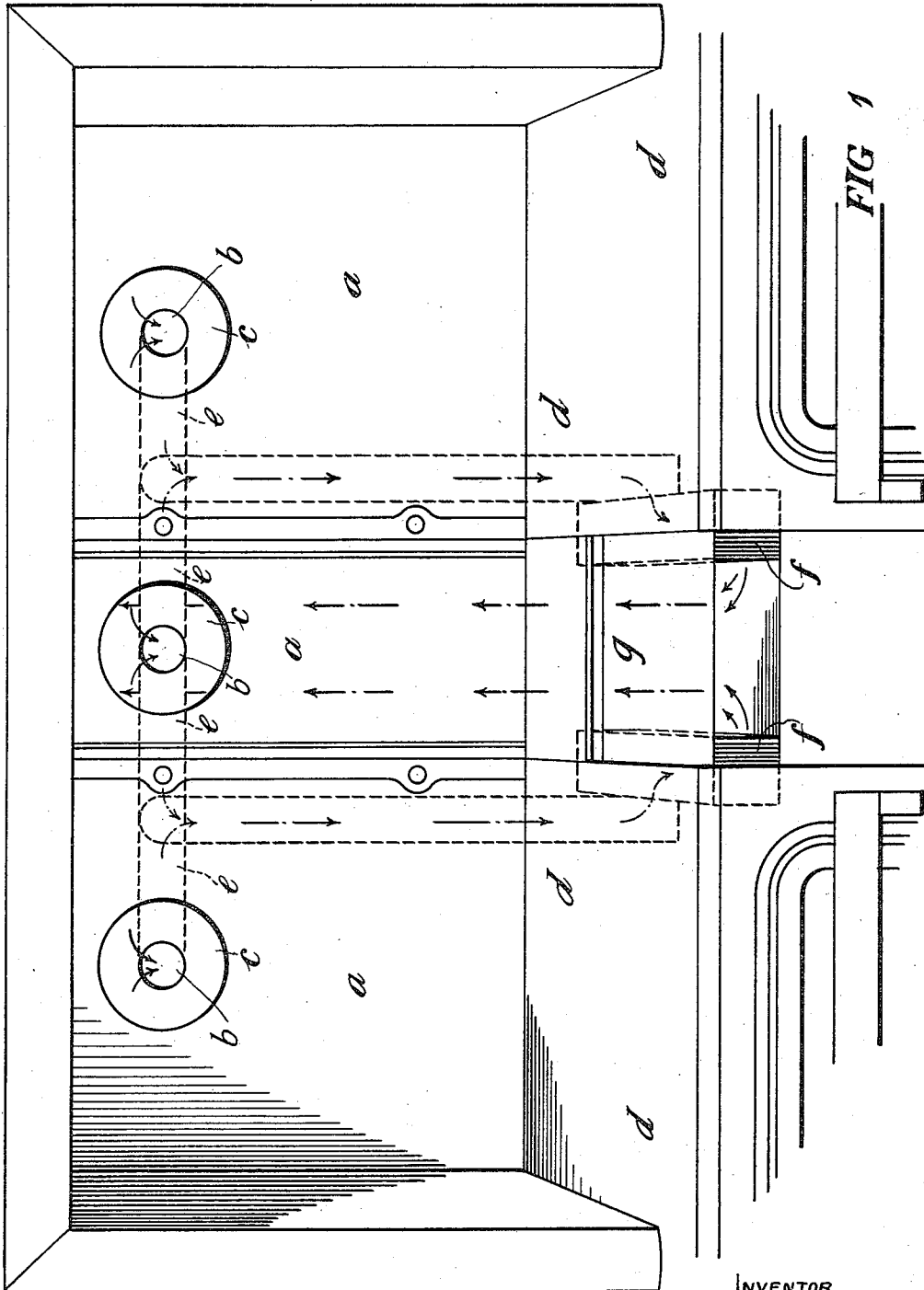


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COOKING RANGE.  
APPLICATION FILED JAN. 27, 1912.

1,060,228.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.



WITNESSES  
*F. J. Logan*  
*Alfred R. Anderson*

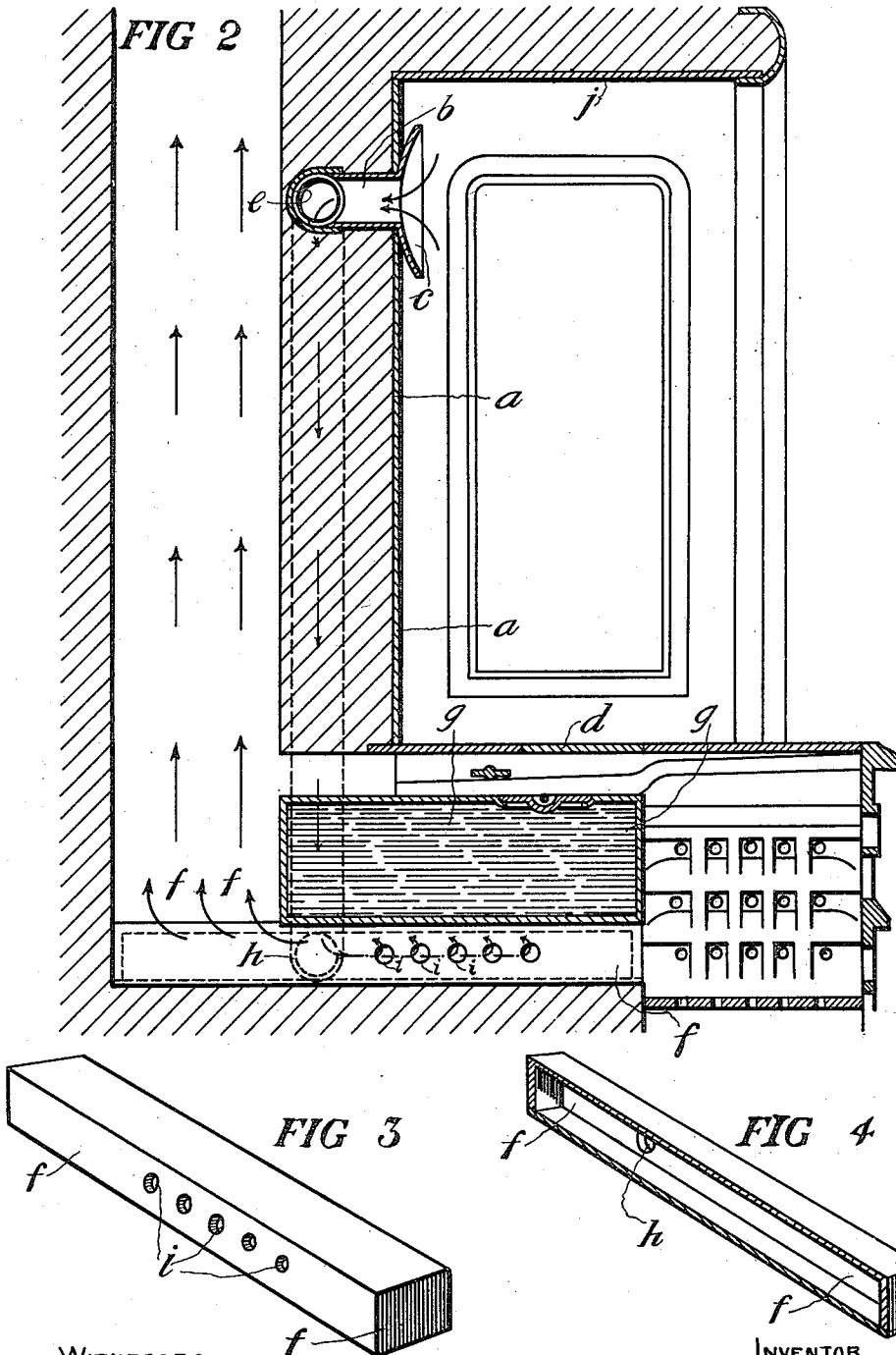
INVENTOR  
J. J. CARTWRIGHT  
BY *W. H. Berrigan*  
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J. J. CARTWRIGHT  
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# UNITED STATES PATENT OFFICE.

JOSEPH JOHN CARTWRIGHT, OF SHREWSBURY, ENGLAND, ASSIGNOR TO PHILIP  
CHARLES KNIGHTLEY WOLFE MURRAY, OF LONDON, ENGLAND.

## COOKING-RANGE.

1,060,228.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed January 27, 1912. Serial No. 673,719.

*To all whom it may concern:*

Be it known that I, JOSEPH JOHN CARTWRIGHT, manager, a citizen of Great Britain, residing at Abbey Foregate, Shrewsbury, county of Salop, England, have invented certain new and useful Improvements in Cooking-Ranges, of which the following is a specification.

This invention comprises improvements relating to cooking ranges and the object of the invention is to provide means for removing the hot gases from above the hot plate where they are very objectionable to persons superintending the cooking.

The hot gases from the grate and the hot plate and the steam from pots and kettles on the hot plate collect under the covering in plate and hang above the hot plate; to prevent this it has been proposed to provide inlets in the back plate or coving leading into the chimney or flues but such inlets are found to impair the supply of air to the grate as they practically "short circuit" same. To obviate this it has been proposed to draw these gases down and discharge them under the grate or over the front of the fire.

In accordance with my invention I draw the hot air and gases from the hot plate down to chambers or tubes in or at the sides of the flue beneath the boiler and I preferably arrange and construct these chambers so that they may also serve as supports for the boiler.

I have found that by drawing the hot air and gases to the chambers in the boiler flue such a powerful draft is promoted that hot air is drawn from the room in addition to the space about the coving, and the atmosphere of the entire room is cooled and rendered more pure. Further, the hot air which is drawn into the boiler flue brings a new supply of oxygen into contact with the gases passing from the grate or oven flues and more complete combustion of the gases is effected giving the advantages of the heat for raising the temperature of the water in the boiler and the reduction of smoke.

In practice the side chambers in the boiler flue are found to check the velocity and roar of the gases through the flues and to insure a more steady and even working of the range promoting greater economy in fuel consumption.

In order that the invention may be easily

understood and readily carried into practice, I have appended hereunto two sheets of drawings, on which:

Figure 1 is a front view of the upper portion of a range showing the application of my invention. Fig. 2 is a central vertical section of the range. Fig. 3 is a perspective view of the tube delivering the air into the boiler flue. Fig. 4 is a longitudinal sectional view of Fig. 3.

The coving plate *a* is perforated at suitable points for the insertion of short tubes *b* having flared mouths *c* through which the gases from the hot plate *d* pass. The tubes *b* lead into a second tube *e* which communicates by means of a down tube or tubes with the perforated tube or tubes or chambers *f* which communicate with the flue beneath the boiler *g*. The tubes or chambers *f* are formed with perforations such as *h*, Fig. 4, in the side for connection to the down tubes and on the sides remote therefrom are provided with a number of perforations *i* forming outlets for the hot air into the boiler flue. The hot air from off the hot plate *d* and the steam and other gases arising from utensils contained thereon rise to the top of the recess underneath the covering in plate *j* and then are drawn through the flared mouths *c* of the tubes or chambers *b* into the boiler flue or grate bottom.

The passage of the gaseous products of combustion along the boiler flue and chimney draws the hot air and gases from off the hot plate *d* into the flue and thus keeps the temperature of the atmosphere around the top of the range at a comparatively low temperature. The hot air and gases also assist in heating the boiler instead of causing inconvenience by their presence above the hot plate as in the case of an ordinary range. In the example shown upon the drawings there are three flared mouths *c* to conduct the hot air and gases away from the hot plate but I may vary this number if so desired.

I prefer to make the tubes or chambers *f* which deliver the heated air and gases to the boiler flue of square cross section but any suitable section may be employed; if square or equivalent section is used however and the tubes are made of requisite strength they may form supports for the boiler as here shown. The tubes may be of cast iron, fire clay or other suitable material.

In the foregoing description and in the claims appended hereunto it will be understood that the term cooking ranges is intended to include cooking stoves whether  
5 portable or otherwise.

What I claim and desire to secure by Letters Patent then is:

1. Cooking ranges and stoves having heating means and a hot plate above said means,  
10 a boiler and a flue from said heating means to said boiler, means above said hot plate for collecting hot air and gases and means for conveying same to the boiler flue and distributing chambers arranged within said  
15 flue through which chambers the hot air and gases from said collecting means are distributed in said flue.

2. Cooking ranges and stoves having heating means and a hot plate above said means,  
20 a boiler and a flue from said heating means to said boiler, means above said hot plate for collecting hot air and gases and means for conveying same to the boiler flue, chambers at the sides of said flue which form  
25 distributors for said gases and also form supports for said boiler.

3. Cooking ranges and stoves having heat-

ing means and a hot plate above said means, a boiler and a flue from said heating means to said boiler; means for collecting hot air  
30 and gases above said hot plate and passages leading from said collecting means, distributing chambers in said boiler flue to which chambers the passages from the collecting means are taken.  
35

4. Cooking ranges and stoves having heating means such as a grate and a hot plate above said grate, a boiler and a flue from the grate to the boiler, collecting means arranged above the hot plate, said collecting  
40 means having flared mouths, hollow chambers in said boiler flue and passages from the collecting means to the hollow chambers, which chambers form distributors.

In testimony whereof I, the said JOSEPH  
45 JOHN CARTWRIGHT have signed my name to this specification in the presence of two subscribing witnesses, this 17th day of January, 1912.

JOSEPH JOHN CARTWRIGHT.

Witnesses:

F. G. BRETTELL,

E. SIMS BRETTELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."