

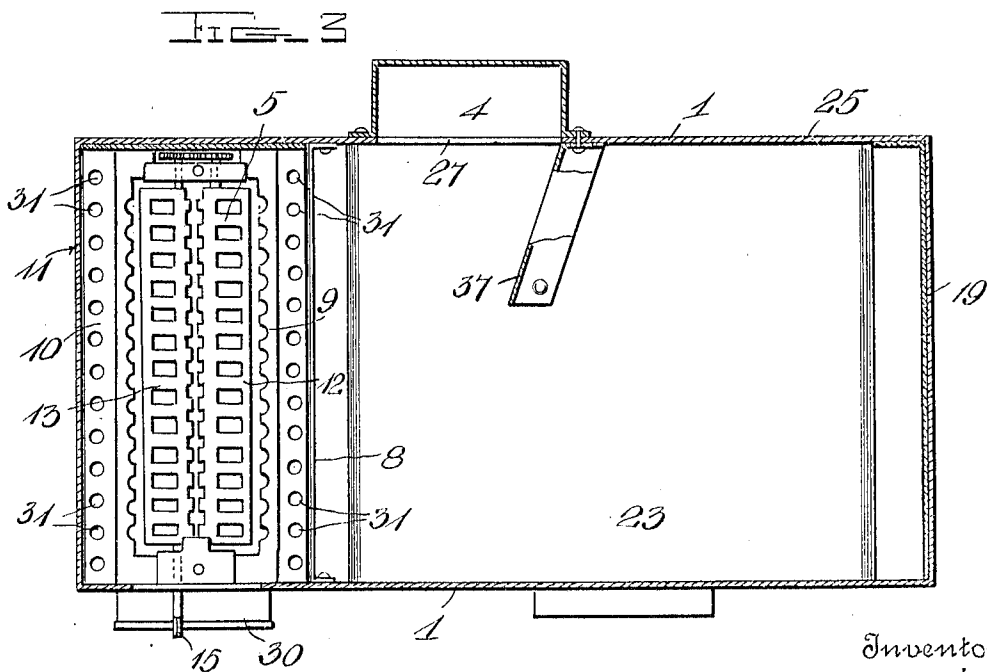
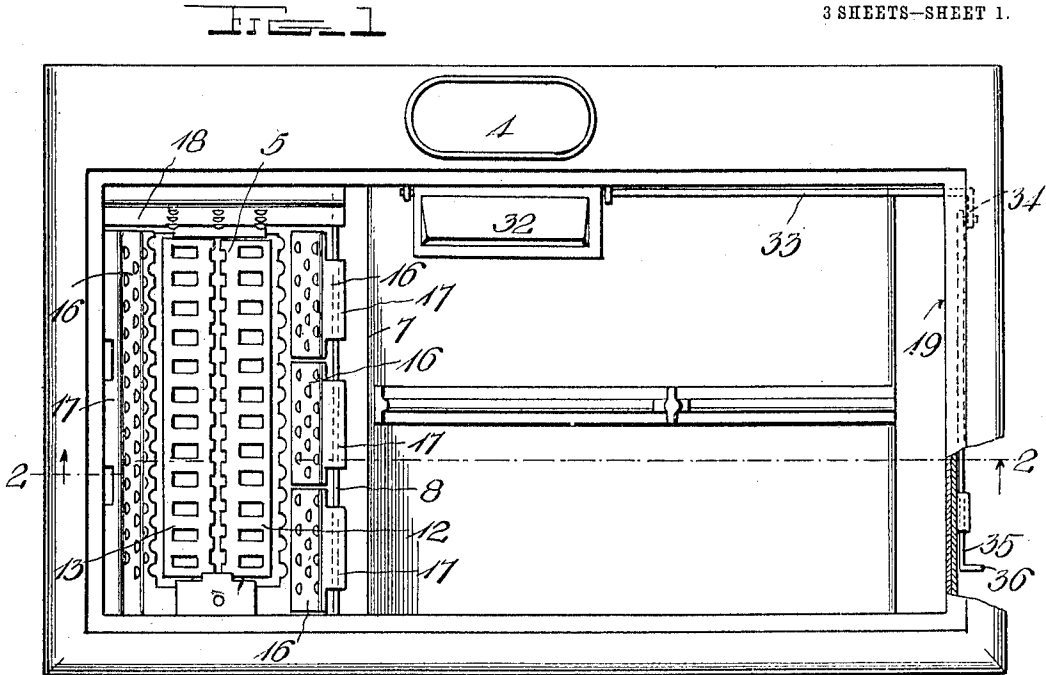
B. W. SMITH.
COOKING RANGE.

APPLICATION FILED JULY 1, 1909.

949,203.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 1.



Witnesses

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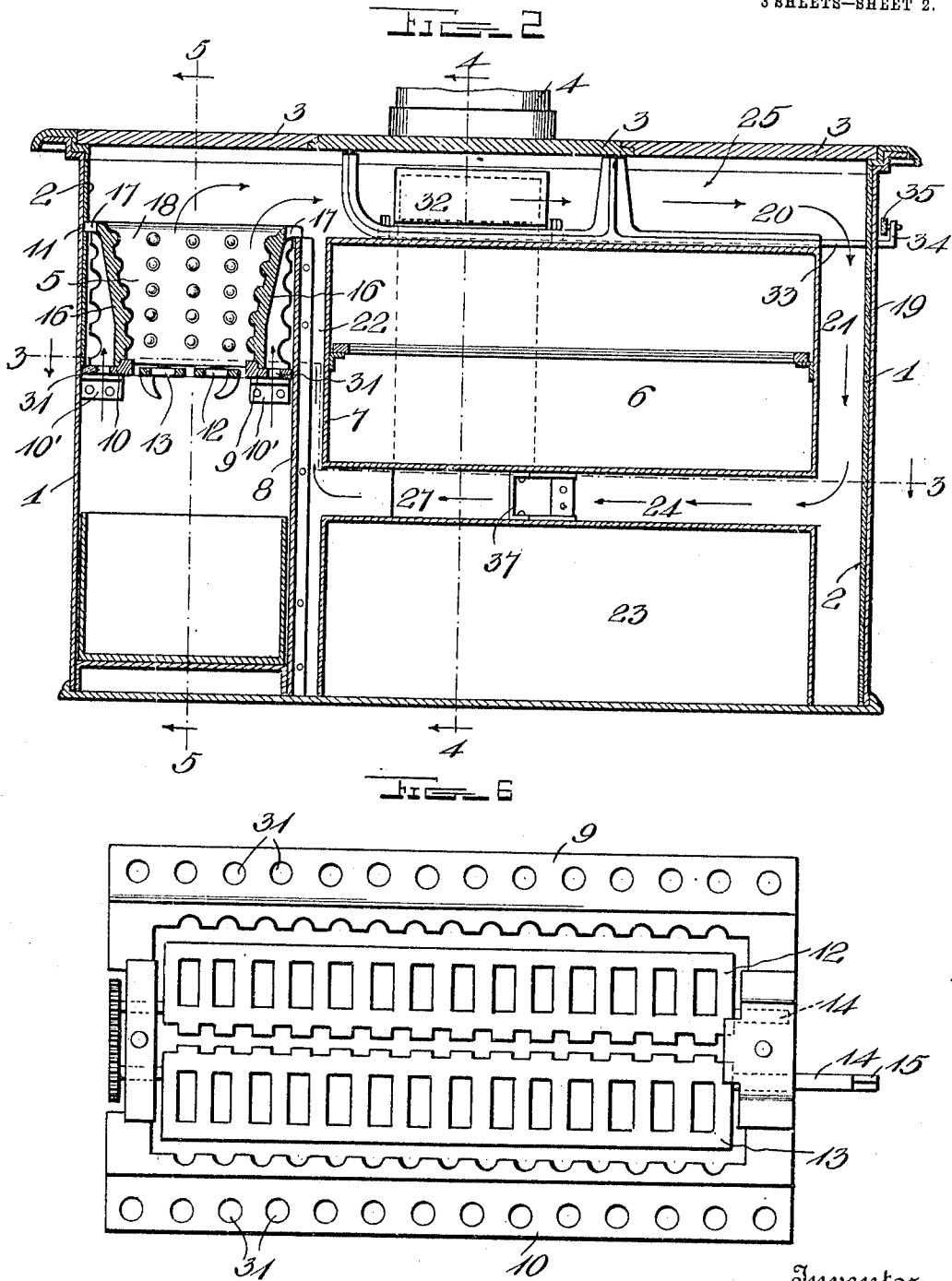
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3 SHEETS—SHEET 2.



Witnesses

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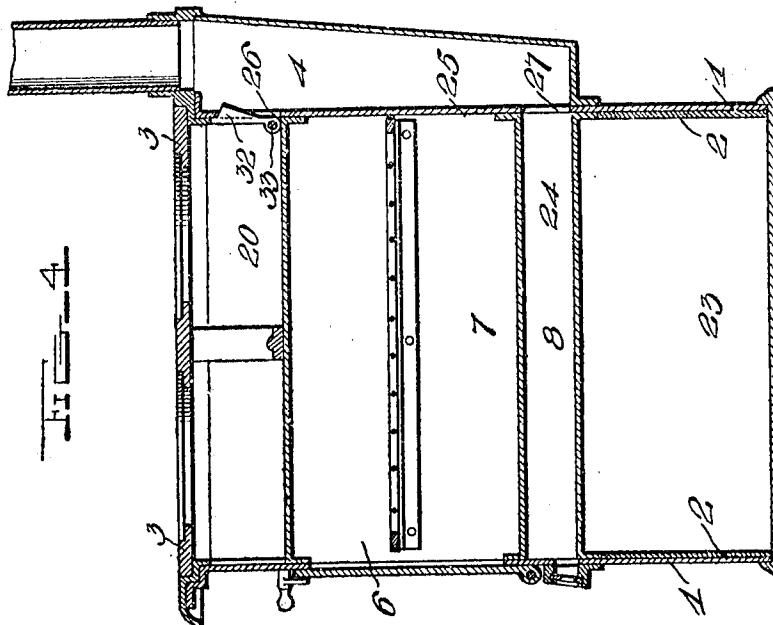
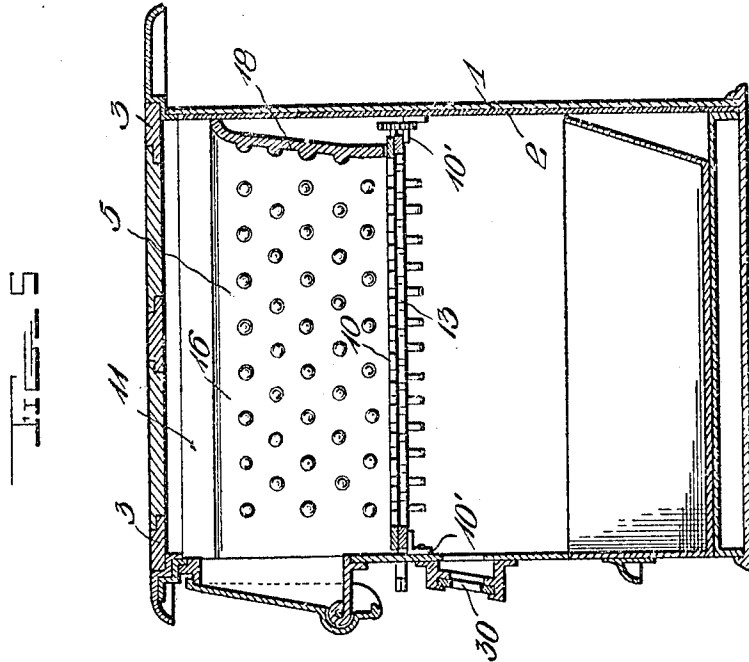
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3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

BENJAMIN WILSON SMITH, OF LACROSSE, VIRGINIA.

COOKING-RANGE.

949,203.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed July 1, 1909. Serial No. 505,420.

To all whom it may concern:

Be it known that I, BENJAMIN WILSON SMITH, a citizen of the United States, residing at Lacrosse, in the county of Mecklenburg and State of Virginia, have invented certain new and useful Improvements in Cooking-Ranges, and do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in cooking ranges.

The principal object of the invention is to provide a range construction in which one side of the grate is spaced from the adjacent end of the oven by means of a partition and a continuous supply of fresh air admitted between the sides of the grate and the adjacent walls or portions of the range and oven to equalize to as great an extent as possible, the temperature existing at all parts of the range and oven so that the parts of the oven and stove which are located adjacent the grate, will not become quickly burned out by reason of intense heat.

A further object of the invention is to provide means for controlling the course of the heated air either directly out through the smoke flue or around the oven before passing through the flue.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangements of parts as will be more fully described and particularly pointed out in the appended claim.

In the drawings, Figure 1 is a plan view of a range embodying my improvements with the top plates removed to more advantageously disclose certain features of the invention; Fig. 2 is a longitudinal sectional view on line 2—2 of Fig. 1 looking in the direction indicated by the arrows; Fig. 3 is a horizontal section taken on line 3—3 of Fig. 2; Fig. 4 is a vertical transverse section taken on line 4—4 of Fig. 2; Fig. 5 is a similar view taken on line 5—5 of said figure; and Fig. 6 is a plan view on an enlarged scale of the grate.

Referring to the drawings for a more particular description of the invention, the range or stove comprises the casing 1 which is of approximately rectangular form and may be provided with an inner lining 2, of asbestos or other like material to reduce the

heat radiation. The range also comprises the usual removable cover plates 3, the smoke flue 4, which is located at the rear side of the range, the fire box 5, which is located at one end of the range, and the oven 6, which is here shown of rectangular form and arranged at the opposite end of the casing opposite the fire grate.

In carrying out the invention, one end of the oven as 7 is spaced from the adjacent side of the grate by means of the vertical transverse partition 8, which supports the inner side of the grate and is mounted in position in any suitable manner. The grate consists of a bottom comprising the stationary side pieces 9 and 10, respectively, which are mounted upon brackets 10' secured at their opposite ends to the front and back walls of the range, and the intermediate shaking sections 12 and 13, respectively, the shaft 14, of one of which is provided with the squared portion 15, to provide for suitable engagement with the shaker in order that the grate sections may be rocked back and forth. This construction however, is well known and forms no part of the present invention. Each of the sides of the grate is formed by a plurality of sections 16, which are mounted upon the bottom sections 9 and 10, and are provided at their upper ends with the laterally and outwardly bent portions 17, said outwardly bent portions of the inner side sections fitting on the upper edge of the partition 8, and said portions of the sections forming the other side of the grate fitting against the end wall 11 of the range or stove. The grate is also provided with the rear end section 18. As shown, the oven 6 is arranged below the cover plates and in spaced relation with the partition and end wall 19, of the range, leaving the horizontal and vertical hot air passages 20, 21 and 22, respectively. The bottom of the oven is also spaced above the hollow section 23, leaving the lower hot air passages 24.

The rear side wall 25, of the range is cut away as at 26 and 27, to afford communication between the passages 20 and 24, so that the heated air may pass directly into the flue 4, through the opening 26, or into the flue after passing around the oven and through the passage 27.

In practice, the fresh air passes into the range beneath the grate through the draft regulator 30 and the ash pit door and passes through longitudinal series of vertical aper-

tures 31, in the stationary sections 9 and 10, of the grate base and between the sides of the grate and the partitions and end wall 11, and in doing so, is heated by the heat radiated from the sides of the grate and thus equalizes to a more or less extent the temperature at all portions of the oven and stove; thus the portions of the stove and oven located adjacent to the grate are not quickly burned out as would otherwise be the case. The products of combustion together with the heated fresh air may be permitted to pass directly out of the smoke flue 4 through the opening 26, by opening the damper 32, which is pivoted to the rear wall of the stove in position to close said opening. This damper, as shown, is formed upon the end of a longitudinal rock shaft 33, the outer end of which projects beyond the end wall 19 of the range, and is provided with the crank arm 34, with which is connected the inner end of the transversely disposed operating rod 35, the front end of which is provided with the handle 36, by means of which it may be readily manipulated. If desired however, the heated air together with the products of combustion may be caused to first pass around the oven and then through the opening 27, into the smoke flue, by closing the damper 32, thus heating the oven.

A horizontal transversely disposed inclined deflector or baffle plate 37, is riveted to the rear wall of the range between the bottom of the oven and the hollow base member 23, and serves to retard and deflect the heated air and products of combustion toward the front before passing out of the opening 27, into the smoke flue so that the bottom of the oven will be uniformly heated.

Should the partition become eventually burned out or become unfit for use, it may be readily removed and replaced by a new

one whereas were my construction not resorted to, the adjacent wall of the oven would be burned out and the entire oven would have to be replaced.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claim.

Having thus described my invention, what I claim is:

In a cooking range of the class described, a casing, an oven in the casing, a transverse partition near one end of the oven, supporting brackets on the partition and adjacent end wall of the casing, a fire grate comprising a base having outer stationary sections mounted on said supporting brackets and removable side and end sections having outwardly bent portions at their upper edges to hook over the partition and portions of the casing, the stationary sections of the base having longitudinal series of vertical openings, the sides of the grate being spaced from the partition and adjacent end wall of the casing and the outwardly bent portions of the side sections having recesses formed therein to provide openings for the passage of fresh air through and above the fire grate.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BENJAMIN WILSON SMITH.

Witnesses:

G. A. SAUNDERS,
A. E. THOMS.