

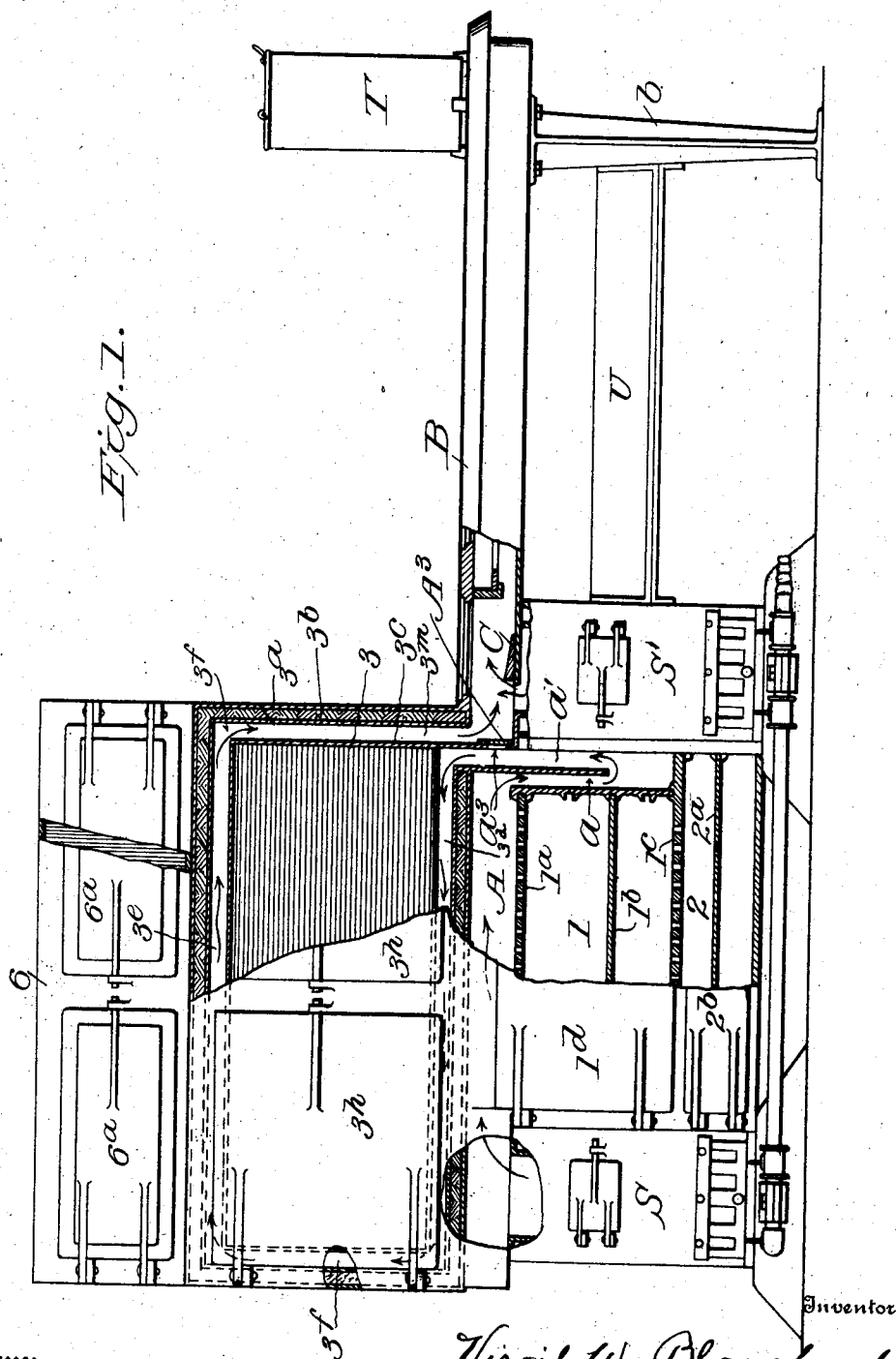
No. 834,230.

PATENTED OCT. 23, 1906.

V. W. BLANCHARD.
GAS RANGE.

APPLICATION FILED JAN. 22, 1906.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

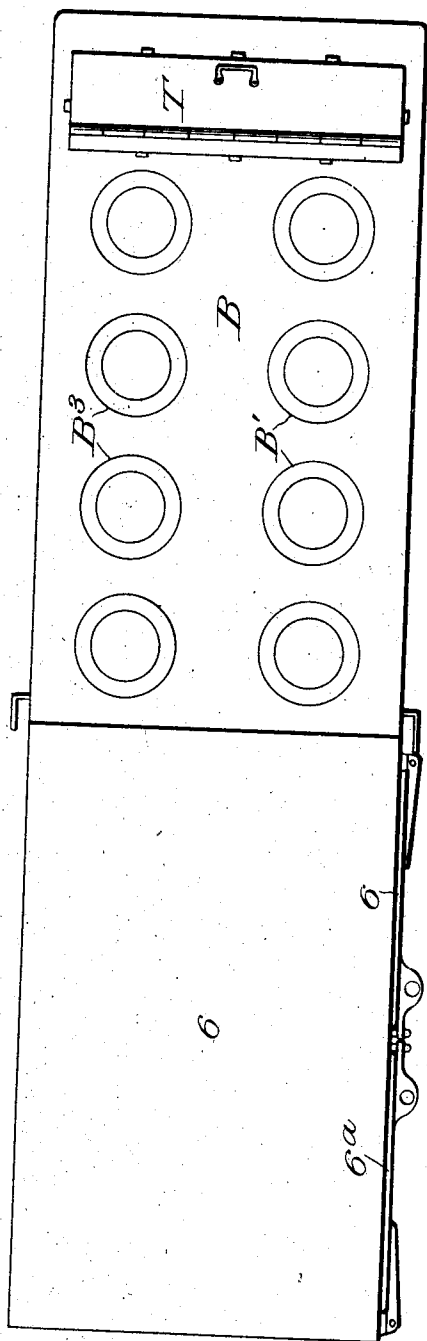
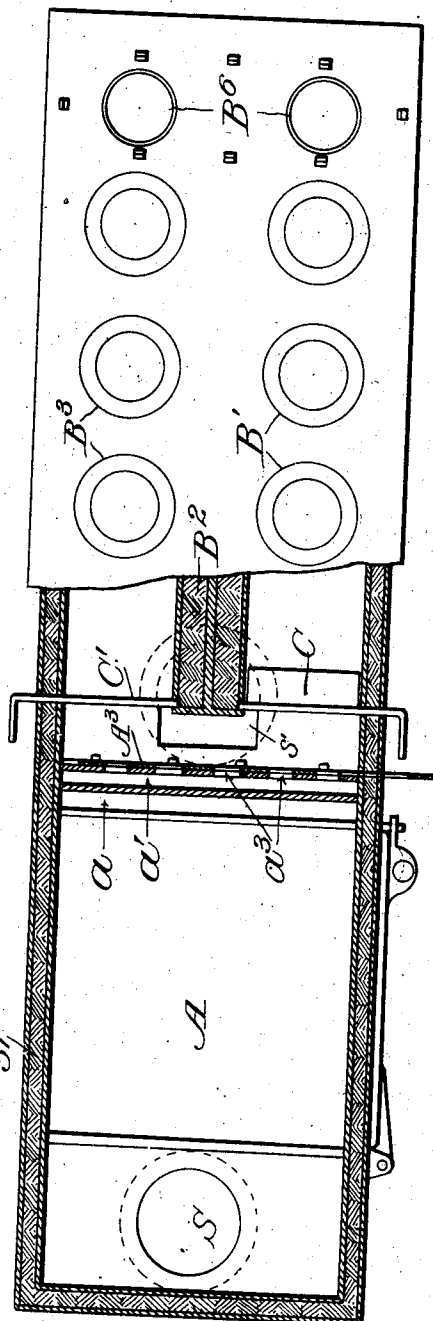


Fig. 3



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GAS-RANGE.

No. 834,230.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed January 22, 1906. Serial No. 297,280.

To all whom it may concern:

Be it known that I, VIRGIL W. BLANCHARD, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gas-Ranges; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in gas-burning cooking-ranges designed particularly for use in large hotels and restaurants, but also useful in smaller sizes for domestic purposes.

Its object is to provide a range having large broiling and baking ovens, a large extension of open-top range-surface, and large warming-ovens, thus affording ample conveniences for all operations necessary in cooking; also, to provide means whereby the heat may be concentrated upon any particular part of the range and whereby the consumption of fuel can be reduced to a minimum whenever it is not desired to use the entire range.

The invention in particular is an improvement upon the apparatus shown and described in my application for gas-burning cooking-ranges, Serial No. 297,277, filed January 22, 1906, and will be fully understood from the following description of the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of the complete range. Fig. 2 is a plan view thereof, and Fig. 3 is a partial horizontal section of the range.

The range as shown has two stoves or hot gas-generating devices S and S', which are preferably constructed as shown and described in my application for gas-burner, Serial No. 297,246, filed January 22, 1906, and are adapted to produce perfect combustion of gas and to discharge large quantities of highly-heated gases into the flues of the ovens and range.

The space between the stoves S and S' is inclosed, as shown, to form a broiling and baking chamber having a top flue A, into which the heated gases are discharged directly from stove S. This flue extends horizontally toward stove S' and then meets a descending flue a adjacent the stove S', which connects at bottom with an ascending

flue a', leading upwardly to the superimposed heating-oven hereinafter referred to.

Below the flue A and between stove S and the flue a' is the main baking or broiling chamber 1, the upper end of which is preferably closed by a plate 1^a, which forms the bottom of flue A and is preferably perforated, so that through the perforation in this plate the hot gases may pass directly into chamber 1 and produce intense heat therein. If plate 1^a be made imperforate, the chamber 1 would be heated by the direct radiation of heat from said plate.

Within the chamber 1 is an adjustable shelf 1^b, as shown, and the bottom of this chamber may be formed by a plate 1^c, which extends beyond the oven and forms the bottom of the flues a a'. Access to chamber 1 can be had through suitable doors 1^d, as indicated in the drawings. Below the oven is a warming-chamber 2, in which is a removable shelf 2^a. Access to chamber 2 can be had through suitable doors 2^b.

Superimposed above the stove S and chamber 1 is a heating-oven 3, whose exterior walls 3^a are preferably composed of inner and outer metal linings, the space between which is filled with non-heat-conducting packing 3^b of asbestos or other suitable material, which will prevent loss of heat by exterior radiation or conduction. Access can be had to the oven 3 through doors 3^b at one side thereof.

Within the oven, but separated from the outer walls thereof, is a metallic box 3^c, which is preferably constructed of a good heat-conducting metal and is of such size as to leave flue-spaces 3^d between its bottom and the lower wall of the oven, a flue-space 3^e between its top and the upper wall of the oven, and flue-spaces 3^f between its ends and the end walls of the oven. The inner flue 3^m communicates with the ascending flue a', and hence the gases rising from flue a' pass through flue 3^d, up through outer flue 3^f to flue 3^e, and down through the inner flue 3^m out into the range extension B, the inner end of which is supported upon stove S' and its outer end upon a leg b. Thus the hot gases generated in stove S will first highly heat chamber 1 and then circulate around in oven 3, heating the same, and finally escape into the range portion B and heat the latter. This range portion B is preferably constructed as described in my application for gas cook-

ing stoves or ranges, Serial No. 297,251, filed January 22, 1906, with the exception that in this instance it has a double row of openings B' B³, closed by removable lids, the two rows of openings being separated by a wall B², which is preferably lined with non-heat-conducting material, as are the walls of the range, so that the heated gases will be confined as closely as possible under the openings B' B³ and not be wasted by external radiation or conduction through the sides or bottom walls of the range.

Above the outlet s' of stove S' and at opposite sides of partition B² are arranged valves C and C', which when opened will permit the gases from stove S' to pass quickly under the two rows of openings B' and B³; but if either valve is closed all the gases will be sent under one row of openings B' or B³. If desired, gases may be sent directly from flue a' into the range through openings a³, closable by slide-valve A³. When this valve is open, the heated products from flue A will not circulate through and around the oven 3, but will pass directly into the range B. By the aforesaid arrangement of valves it is obvious that the range can be very intensely heated and either one or the other sides thereof can be heated more than the other.

The gases after traversing the range B escape through outlets B⁶ at the outer end of the range, over which outlets may be placed a reservoir or water-heating tank T, as shown in the drawings, so that the terminal gases will be utilized in heating water.

Above the oven 3 may be placed a warming-oven 6, of any suitable construction, to which access can be had through doors 6^a. A shelf U may be placed beneath the range between the stove S' and leg b. The apparatus thus described forms a very convenient and efficient cooking-range, and a large number of different cooking operations can be performed thereon at the same time, and the warming-ovens enable quantities of prepared food to be kept in readiness while other food is being cooked.

In operation when the stoves S and S' are fired large quantities of heated gases are delivered therefrom, which traverse the flues of the stove and thoroughly heat the ovens and plates, as described. The gases from stove S quickly raise plate 1^a to a very high temperature, so that meats can be broiled in chamber 1 effectively and expeditiously at the same time other food can be baked in the lower part of chamber 1, and the heat passing around oven 3 enables articles to be cooked therein at a more moderate temperature than in chamber 1, the temperature of the oven 3 being regulable by adjusting-valve A³.

After traversing the flues of oven 3 the gases enter the range B and there are reinforced by the fresh heated gases delivered

from the stove S'. These heated gases can be directed under the openings B' B³, so as to heat vessels placed thereon. All of the gases can be directed under one set of openings, or more under one than under the other set, by adjusting the valves C C'. Thus the chef has an apparatus which enables him to perform a number of operations requiring different temperatures at the same time in the most satisfactory manner. Furthermore, when only baking operations are being performed one of the stoves can be cut out of operation, or when moderate temperatures are desired and only a small amount of work is to be done one of the stoves can be cut out of operation. For instance, if it is not desired to use oven 3 the gas can all be sent directly through outlets a' into the range B, and thus the broiler and the range can be heated by the stove S alone. The stove S in some cases will supply enough heated gases to heat the broiling-chamber, oven, and the range and will always suffice to keep the range at a moderate temperature. The stove S' need only be used when it is desired to raise the range to a very high temperature simultaneously with broiling or baking operations in the chamber and oven. As it is not, therefore, necessary to run both stoves at all times, great economy in fuel is realized.

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

1. In a range, the combination of a stove; with a broiling-oven beside said stove having a flue in its top into which the heated products are discharged from the stove and a perforated plate forming the bottom of said flue.

2. The combination of a stove, an oven beside the same having a top flue into which the heated products of combustion are discharged, a perforated plate forming the bottom of this flue, a warming-oven below the broiling-oven and a perforated plate forming the bottom of the broiling-oven and top of the warming-oven.

3. In a range, the combination of a gas-stove, a broiling-oven beside said stove having a flue connected with the outlet of the stove; with a baking-oven above the stove and broiling-oven into which baking-oven the heated products pass from the broiling-oven.

4. The combination of a gas-stove, a broiling-oven beside said stove having a flue connected with the outlet of the stove, and a perforated plate forming the bottom of said flue; with a baking-oven above the broiling-oven and into which the heated products pass from the broiling-oven, said baking-oven having heat-circulating flues within its walls, substantially as described.

5. The combination of a pair of adjacent gas-stoves, an oven intermediate the stoves

having a flue connected with the first stove at its receiving end, and receiving the products of combustion therefrom, said flue being connected to the outlets of the second stove at its discharge end.

6. The combination of a pair of adjacent gas-stoves, a broiling-oven intermediate the stoves having a top flue connected with the first stove at one inner end, and outlets from said flue connecting with the outlet of the second stove, and a range connected with the outlet of the second stove and into which the products of both stoves may be discharged.

7. The combination of a pair of adjacent stoves, a broiling-oven intermediate the stoves, and a range connected with the outlet of the second stove and into which the products of both stoves may be discharged; with a cooking-oven above the stove provided with flues for the products of combustion, said flues communicating at their inlet end with the discharge from the broiling-oven, and at their outlet end with the inlet to the range.

8. The combination of a pair of adjacent gas-stoves, a broiling-oven intermediate the stoves having a top flue connected with the first stove at its inner end and a valved outlet from said flue to the outlet of the second stove, and a range connected with the outlet of the second stove and into which the products of both stoves may be discharged; with a cooking-oven above the stoves provided with flues for the products of combustion, said flues communicating with the discharge from the broiling-oven and with the inlet to the range.

9. In a range, the combination of a gas cooking-stove, and a range connected thereto provided with two longitudinal flues each provided with a series of openings, a partition between the flues, and valves by which all the heated products may be directed through either flue at will.

10. In a range, the combination of a gas cooking-stove, a range connected to the upper portion thereof into which the heated gases are discharged, said range being provided with two longitudinal flues each provided with a series of openings, lids closing said openings, a partition between the flues, and valves by which the heated products may be directed entirely through either flue or through both.

11. In a cooking-range, the combination of a pair of adjacent gas-burning stoves, a broiling-oven intermediate said stoves into which the products of combustion of the first stove are discharged, a range extension connected with the outlet of the second stove, and a valved opening for admitting the products of combustion from the broiling-oven into said range.

12. In a cooking-range, the combination of a pair of adjacent stoves, a broiling-oven intermediate said stoves into which the products of combustion of the first stove are discharged, a range extension connecting with the outlet of the second stove, and a valved opening for admitting the products of combustion from the broiling-oven into said range, said range extension having two series of openings separated by a partition, and valves whereby the products of combustion can be caused to traverse under either or both series of openings.

13. The herein-described range comprising two gas-burning stoves, a range connected with the outlet of the second stove, a broiling-oven intermediate the stoves having a top flue communicating at its receiving end with the outlet of the first stove, and a baking-oven superimposed upon the broiling-oven and having flues communicating at their receiving end with the discharge-flue from the broiling-oven and at their discharge end with the range.

14. The herein-described range, comprising two gas-burning stoves, a range extension connected with the outlet of the second stove, a broiling-oven intermediate the stoves having a top flue communicating at its receiving end with the outlet of the first stove, a valved opening whereby the gases may be discharged from said flue into the range extension, and a baking-oven superimposed upon the broiling-oven and having flues communicating at their receiving end with discharge-flues from the broiling-oven and at their discharge end with the range.

15. The herein-described range comprising two gas-burning stoves, a range connected with the outlet of the second stove and having two longitudinal series of openings separated by a longitudinal partition, a broiling-oven intermediate the stoves having a top flue communicating at its receiving end with the outlet of the first stove, and a valved opening whereby the gases may be discharged from said flue into the range extension, a baking-oven superimposed upon the broiling-oven having flues communicating at their receiving end with the discharge-flues from the broiling-oven and at their discharge end with the range and valves above the outlet of the second stove by which the products of combustion may be directed under or over both series of openings in the range.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VIRGIL W. BLANCHARD.

In presence of—

JAMES R. MANSFIELD,
L. E. WITHAM.