3 Sheets—Sheet 1.

G. W. GRAVES.

HOTEL RANGE.

No. 184,072. Patented Nov. 7, 1876.

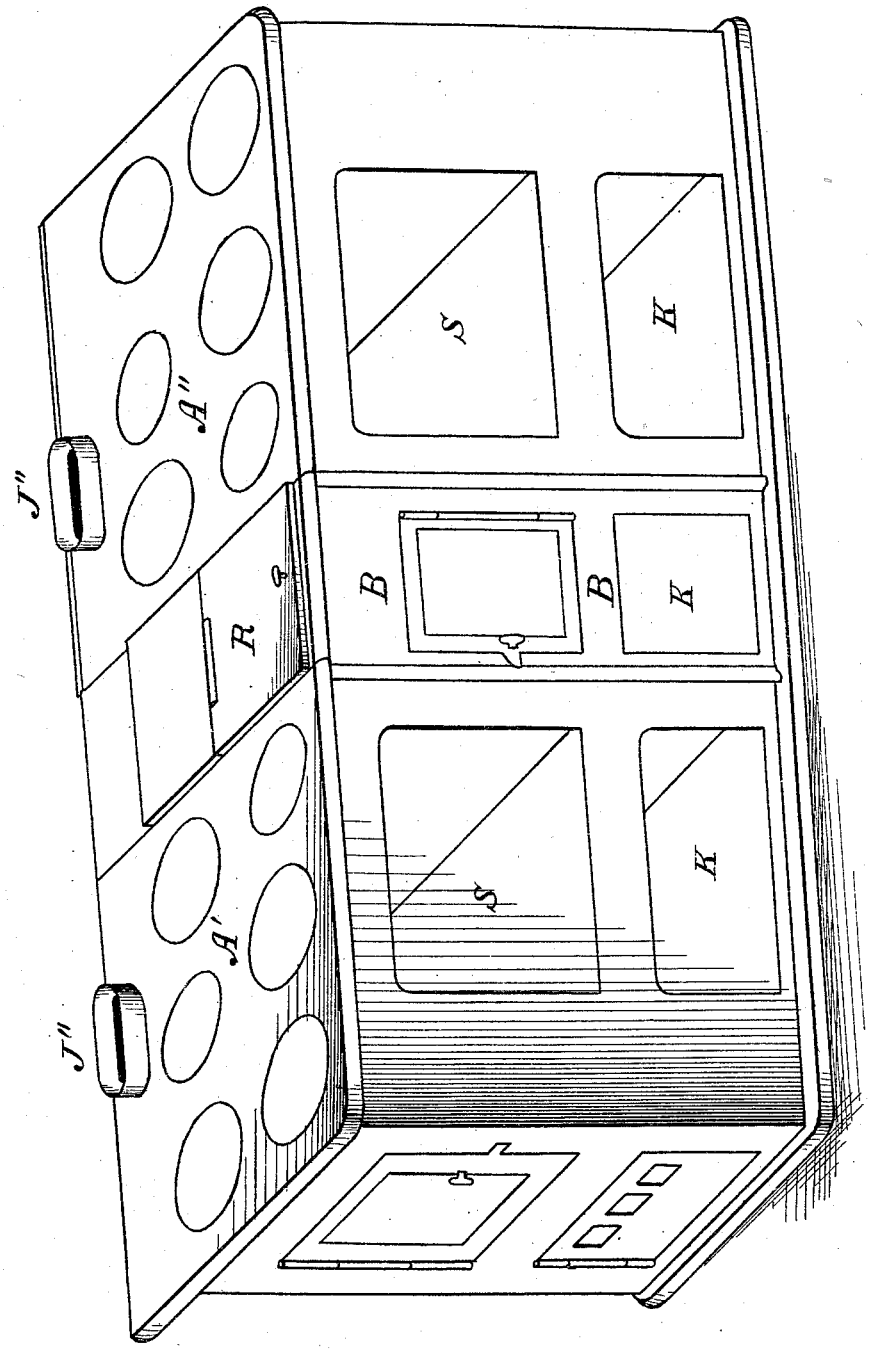

Fig. 1.

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Fig. 5.

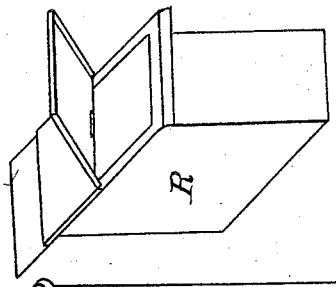


Fig. 4.

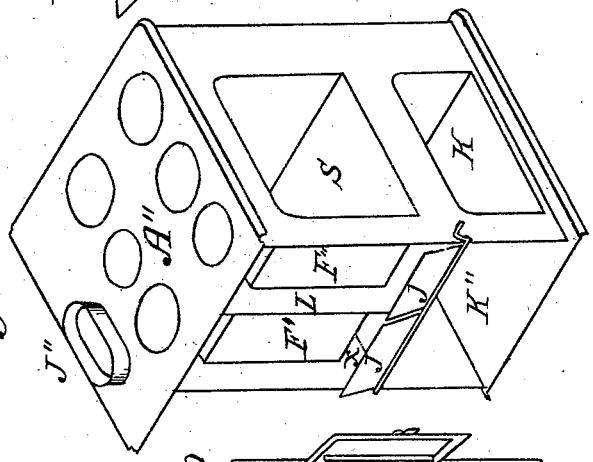


Fig. 3.

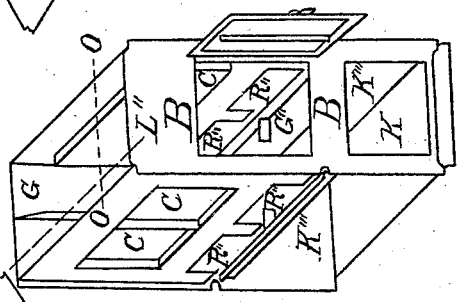
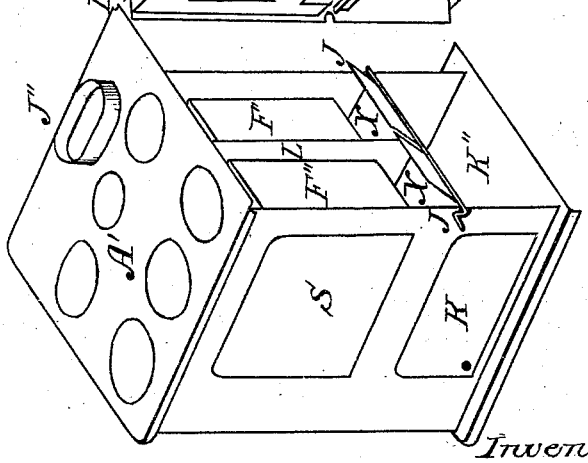


Fig. 2.



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HOTEL RANGE.

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Fig. 7.

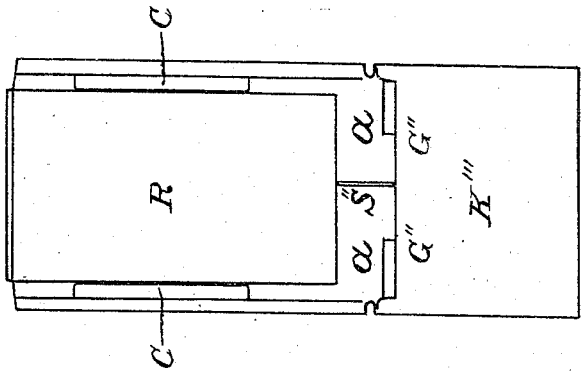
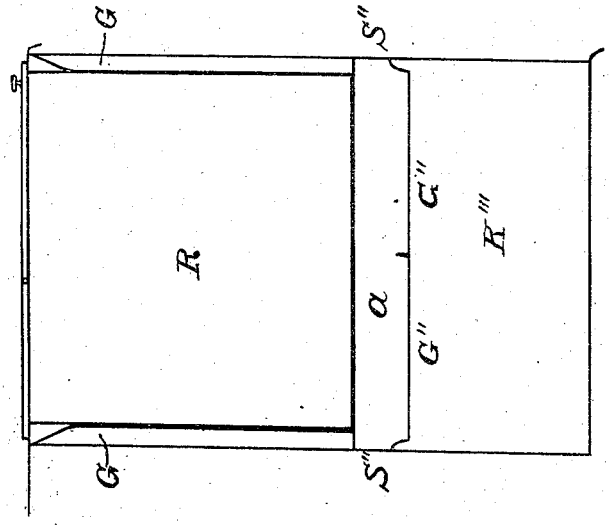


Fig. 6.



Attest:

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UNITED STATES PATENT OFFICE.

GEORGE W. GRAVES, OF ALBANY, NEW YORK, ASSIGNOR TO S. H. RANSOM & CO., OF SAME PLACE.

IMPROVEMENT IN HOTEL-RANGES.

Specification forming part of Letters Patent No. **184,072**, dated November 7, 1876; application filed April 21, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. GRAVES, of the city and county of Albany, and State of New York, have invented a new and Improved Method of Constructing and Arranging Hotel-Ranges, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of two separate ranges, and their combination with an intermediate section, so that a water-reservoir placed in the latter may be heated by one or both of the combined ranges, and by the separate and disconnected action of either or both. My invention also consists in omitting the exterior wall of the vertical flues of both ranges, and the substitution therefor of the side walls of the intermediate section, with the latter taking the place of the omitted range-wall, to inclose the ascending and descending flues of each range. It further consists in the manner of constructing the side walls of the intermediate section by forming recesses therein, and opposite to the vertical flues of the ranges, against which the intermediate section is placed. It also consists in dividing the inside inclosure of the intermediate section in two stories laterally, with the upper one fitted to receive a water-reservoir, and the lower one connected with the warming-closet inclosure of the two adjoining and contiguous ranges.

My invention also consists of dividing the space within the intermediate section at the front, back, and bottom of the reservoir when in position, in two vertical longitudinal parts by means of a vertical division partition, and so that one-half of the space between the reservoir exterior and the outer wall of the intermediate section shall be separate and disconnected from the other, with each space so divided, in connection with one of the combined ranges, by means of dampered openings leading from the side wall of the intermediate section to the vertical flues of the range.

Attached hereto and forming a part of these specifications, and to which connected reference is made, are three plates of drawings illustrating my invention.

Plate 1 shows a view in perspective of the combined ranges and intermediate section, and this is designated for detailed reference as Fig. 1. Plate 2 illustrates the same combined range in perspective, with the two ranges and intermediate section by which it is formed separated and detached, with the reservoir removed and shown by itself. Plate 3 illustrates two vertical sectional views of the intermediate section, taken on designated lines of division to be hereinafter described, and these are separately distinguished as Figs. 6 and 7.

Figure 1, Plate 1, illustrates as facing the view, a right and left fronting range at A′ and A″, with the intermediate section at B, the reservoir in position at R, the ovens at S S, the warming-closet doors at K K K, and the separate exit-flues of each range at J′ and J″. The ranges A′ and A″, as they form no part of my invention considered by themselves, need not be described, excepting as relates to such elements of construction as are applied to them for the purposes of the combination in which I use them in connection with the intermediate section. One of these features consists in making them with right and left ends, and so that when the fronts of both are parallel the vertical flue ends of each range will face toward the other. Another feature of their construction, for the purposes of co-operating combination, consists in the omission of the ordinary and usual vertical wall of each range back of and opposite the vertical flues for the reception of the side walls of the intermediate section, which, in the organization of co-operating parts, takes the place of the omitted end plates. It also consists, as another separate feature in the further omission of the end walls of both ranges below the ovens, so that the warming-closets of both of them may connect with that space formed in the intermediate section below the reservoir-chamber, as shown at K‴ K‴ of Fig. 3.

Figs. 2 and 4, Plate 2, illustrate the same combination of two ranges and an intermediate section, as is shown at Fig. 1, Plate 1, with the ranges separated from the intermediate section, and detached to show the manner in which they are connected. The two ranges are designated as A′ and A″, as

well by reference as Figs. 2 and 4, with the intermediate section B designated as Fig. 3. The flue-wall and warming-closet wall of both the ranges is omitted, exposing to view the vertical flues of each range at F″ and F″, with the flue-strips of the ranges shown at L L, the flues under the oven at X X. The openings into the warming-closet inclosure of each range are seen at K″ K″. At J J in both ranges are shown dampers to regulate the passage of the heat from the vertical flues of each range into the intermediate section through openings formed in its walls, which will be subsequently herein described.

Fig. 3, Plate 2, illustrates, in perspective, the intermediate section separated from the two ranges with the reservoir removed. Upon the side walls of the intermediate section there are formed recesses C C projected into its inclosed space, and when the ranges and intermediate section are joined these recesses are opposite to and form one wall of the vertical flues of each range. (Shown at F″ and F″ of Figs. 2 and 4.) Below these recesses there are formed in both of the side walls of the intermediate section the dampered openings R″ R″. These openings are made to fit and suit the surfaces of the dampers J J, (shown at Figs. 2 and 4,) and when the ranges and intermediate section are in position and combined, these dampers regulate the flow of heat from the flues F″ and F″ of Figs. 2 and 4 into the intermediate section.

Fig. 5, Plate 2, illustrates the reservoir as detached and separated from the intermediate section.

Fig. 6, Plate 3, shows a longitudinal vertical section of the intermediate section, taken on the line L″ L″ of Fig. 3, Plate 2, in which the vertical partition-strips G G upon their inner edges are shown in contact with the end wall of the reservoir R, which is in position within the intermediate section, and so as to vertically divide the space at the ends of the reservoir, and between it and the walls of the inclosure in two parts longitudinally. But one of these spaces is seen in this illustration, and this is designated at *a*. Each of these spaces connects with the range-flues at the bottom of the reservoir by means of the dampered openings formed in the side walls of the intermediate section, as shown at R″ R″ R″ R″, Figs. 2 and 4. In this illustration, Fig. 6, the lateral plate which divides the intermediate section into an upper and lower story is designated by the letters G″ G″.

Fig. 7, Plate 3, illustrates a cross-sectional vertical view of the intermediate section, taken on the line O O of Fig. 3, Plate 2. In this illustration, Fig. 7, the recesses formed in the side walls of the intermediate section are designated at C C, the reservoir in position at R, and the two heating-spaces beneath the reservoir at *a a;* the lateral plate at G″ G″, with the part of the division-plate upon which the reservoir rests at S″. This latter portion of the division-plate divides the area beneath the reservoir in two parts, as designated at *a a*. The division-plate S″ runs from front to rear, and unites with the vertical partition-strips G G of Fig. 6. Each one of the two spaces *a a* is connected with the range adjoining it; but the spaces *a a* do not connect with each other, but may be used separately or together to heat the water-reservoir in the intermediate section.

The two ranges A′ and A″ have separate fires, and their fire-chambers are of the ordinary kind in use, and they also have separate exit-pipes for the escape of smoke into the chimney. They have one connected feature, and that is the one which makes the warming-closet space underneath the range-ovens unite in continuous inclosure with the space under the reservoir-chamber of the intermediate section by means of the openings K″ K″ in the former, and the corresponding ones, K‴ K‴, in the latter. With the dampers J″ J″ open, of which there is one in each range, the heat from the ranges in passing through the vertical flues will expand into and enter the spaces *a a* in the intermediate section beneath the reservoir. These spaces also connect with the divided spaces at the ends and sides of the reservoir, formed by the division-plates G G and S″, and thus each range will heat one-half of the reservoir within the divided reservoir-chamber of the intermediate section independently, and one may be used without the other to perform this office; or both may be used at the same time, but not with connected currents of heat. The two ranges thus combined with an intermediate section will heat a reservoir of large capacity, and at the same time form a large warming-closet—two very desirable features in a hotel-range.

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

1. In combination, the two ranges A′ and A″ and the intermediate section B, with the vertical end plates of the ranges omitted opposite the vertical flues of each range, and, as substituted therefor, the sides of the intermediate section, and, by the application of the latter, to inclose the vertical flues of the ranges against the oven-walls, as and for the purposes herein shown and described.

2. In combination, the two ranges A′ and A″ and the intermediate section B, with the vertical walls of both of the ranges omitted at each of their flue ends, where the vertical walls are opposite to and form the end walls of the warming-closet inclosures below the oven, to form a connected and continuous warming-closet space beneath the range-ovens and the reservoir heating-chamber of the intermediate section, as herein shown and described.

3. In combination, the two ranges A′ and A″ and the intermediate section B, with the

dampers J J, and the openings R″ R″ R″ R″ made in the vertical side walls that inclose the intermediate section, and form the vertical flue-walls of the two ranges, substantially as shown and described.

4. The recesses C C C C, formed in the vertical side walls of the intermediate section, opposite to and in communication with the vertical flues of each range, with the recesses projected into the inclosure of the intermediate section, and in contact with the reservoir-wall, substantially as shown and described.

5. In combination, the ranges A′ and A″ and the intermediate section B, with the openings K″ K″ formed in the vertical flue ends of each range by the omission of the range-wall opposite the warming-closet, with the corresponding openings K‴ K‴ formed in the lower side walls of the intermediate section, and the lateral division-plate G″, which divides the reservoir heating-chamber of the intermediate section from the lower space within its inclosure, to form a continuous warming-closet under the ranges and intermediate section, as shown and described.

6. In combination, the reservoir R, and partition-strips G G and S″, and the lateral division-plate G″, arranged within the intermediate section, to form the separate heating-spaces *a a* with each of the latter spaces, in connection with the vertical flues of the range, which it adjoins by means of the dampered openings R″ R″ R″ R″, substantially as shown and described.

Signed at Horseheads on the 11th day of April, 1876.

GEO. W. GRAVES.

Witnesses:

THOMAS HIBBARD,

DEWITT STARING.