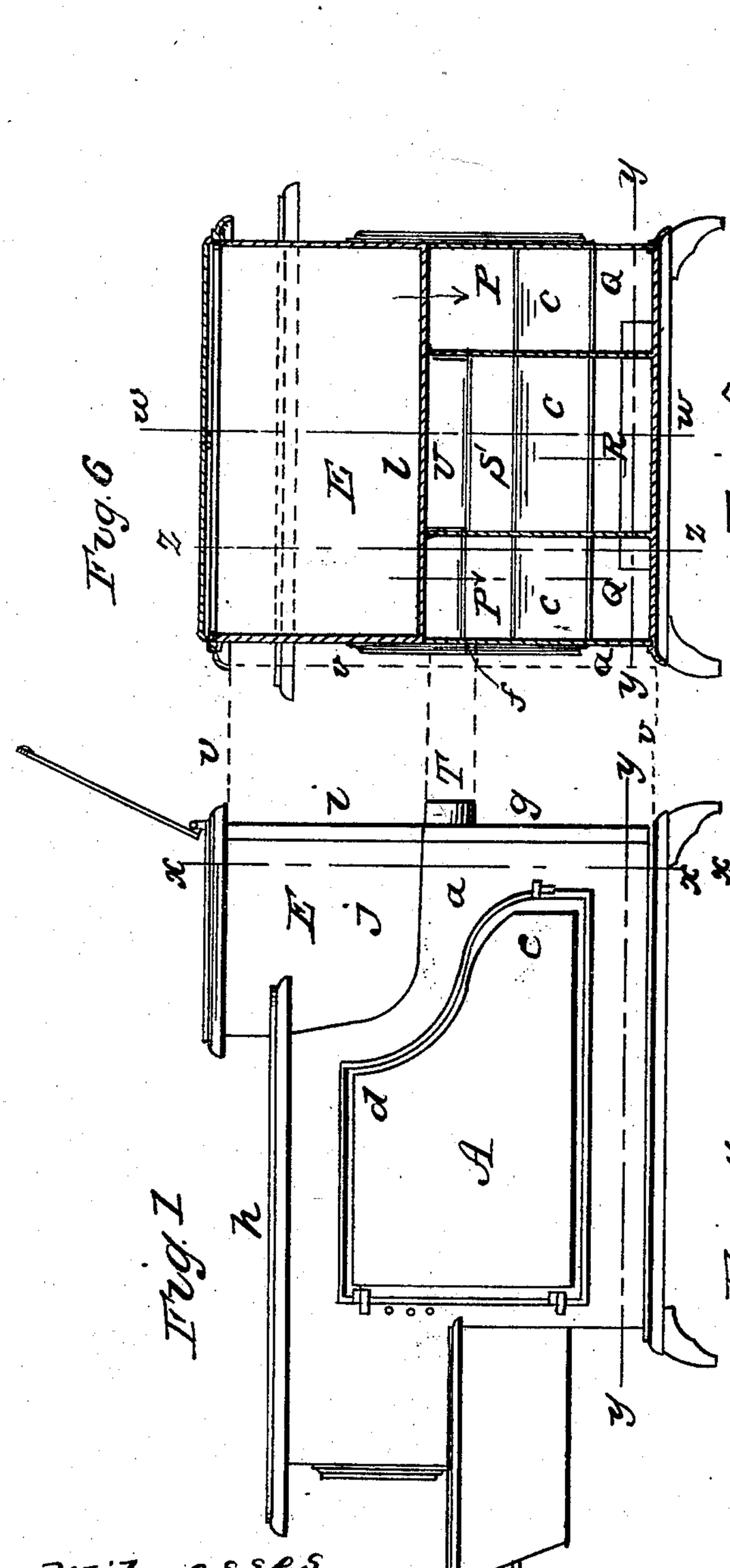
3 Sheets—Sheet 1.

F. RITCHIE.

Cooking Stove.

No. 91,968. Patented June 29, 1869.

Fig. 1



Witnesses
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3 Sheets—Sheet 2.

F. RITCHIE.

Cooking Stove.

No. 91,968. Patented June 29, 1869.

Fig. 1

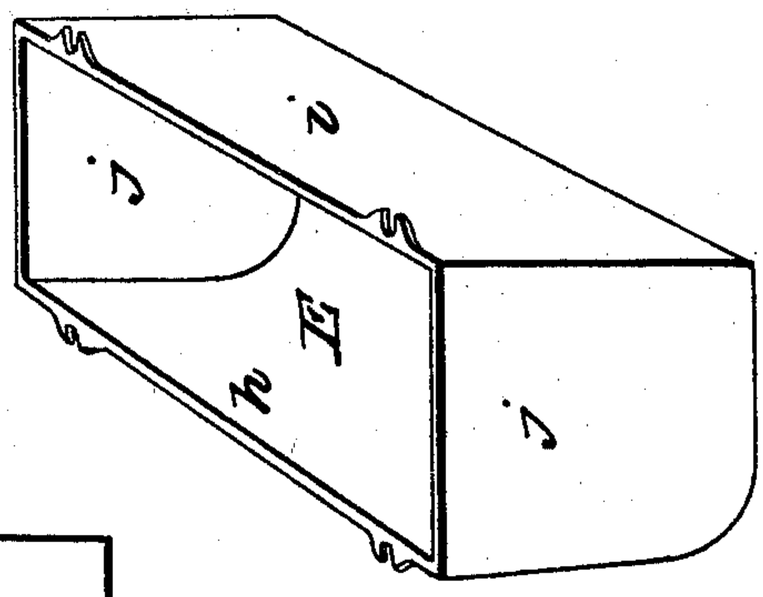


Fig. 2

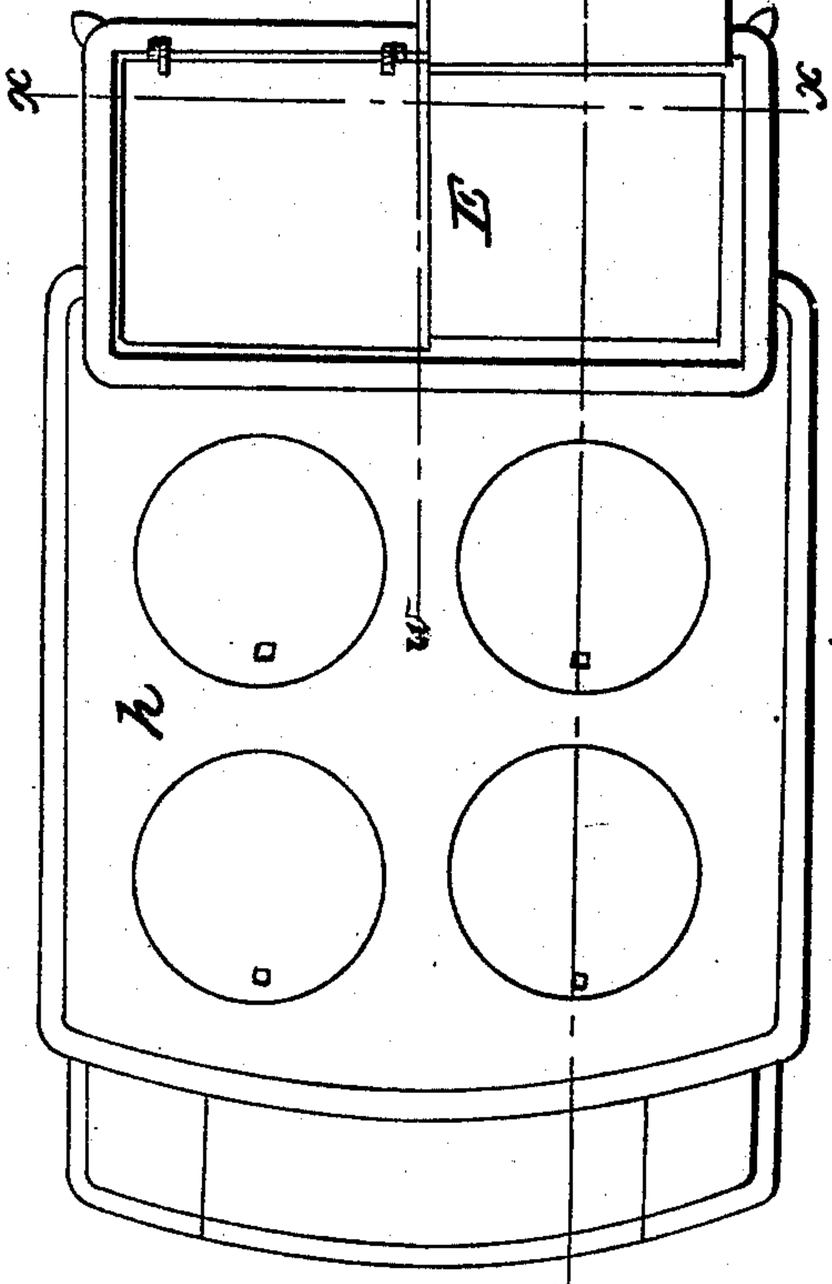
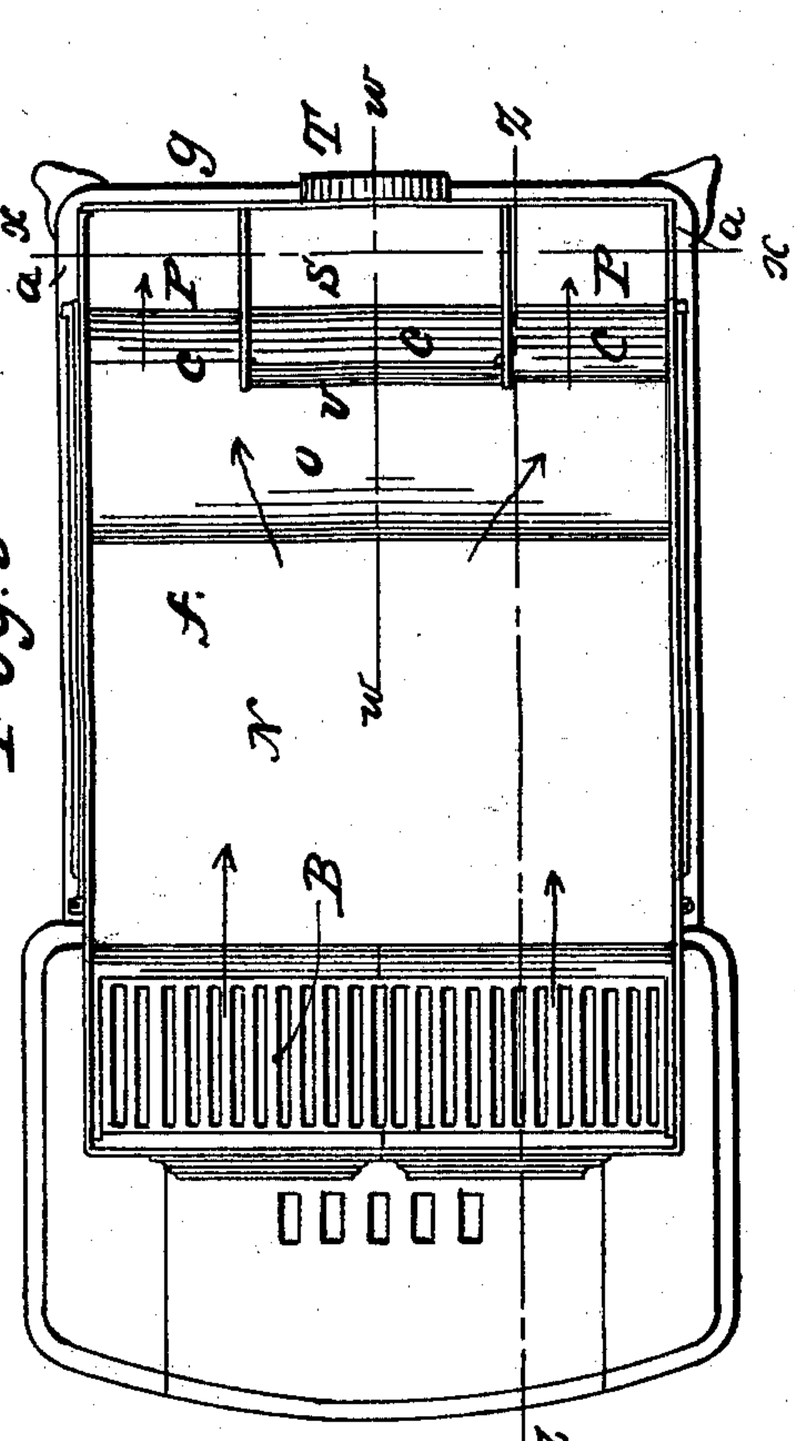


Fig. 3



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3 Sheets—Sheet 3.

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Cooking Stove.

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Fig. 7

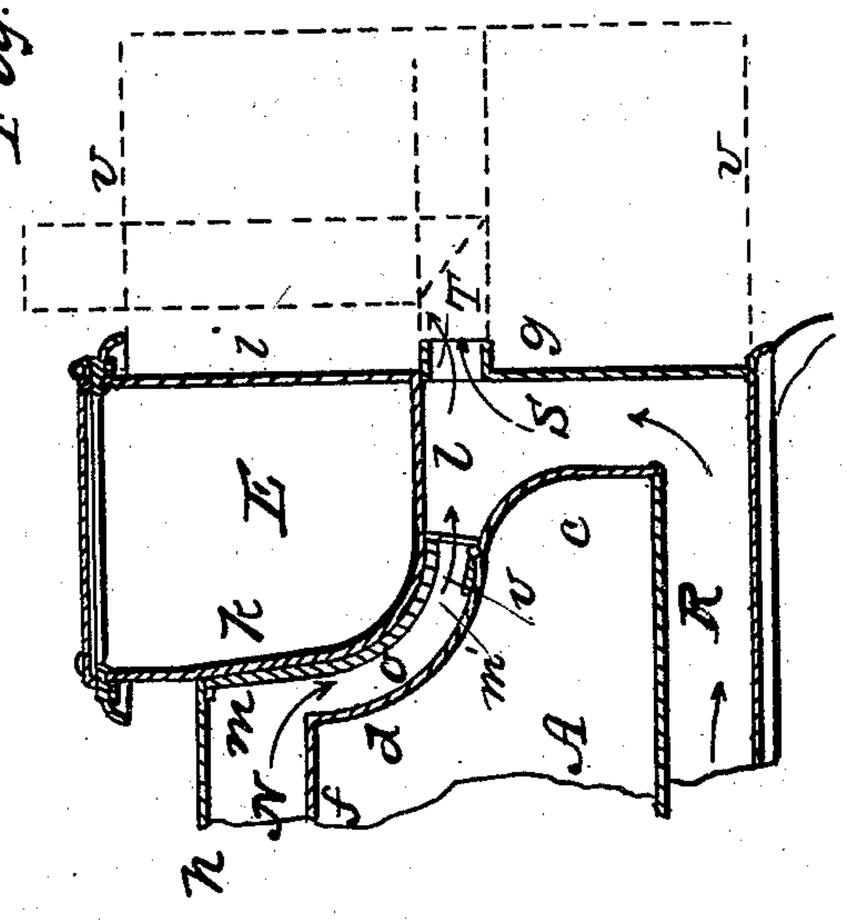
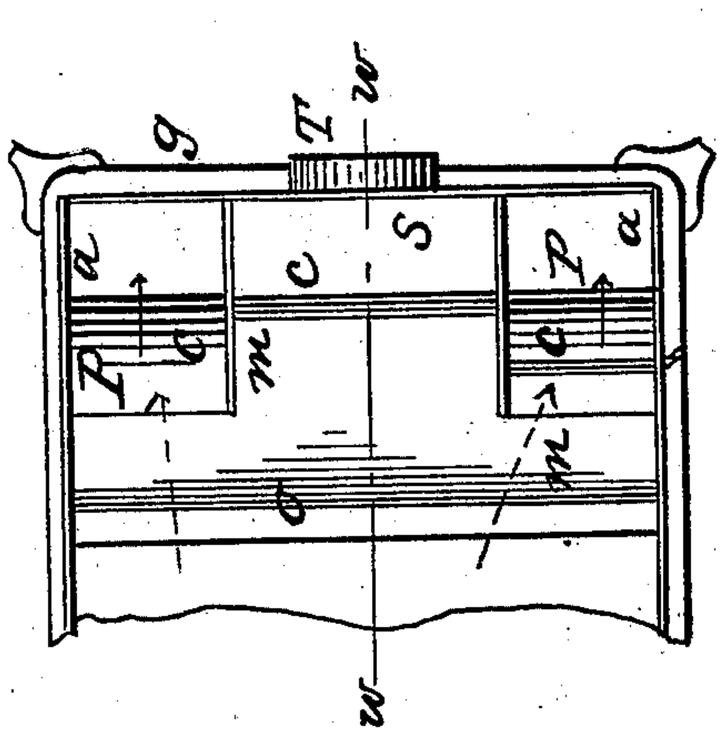


Fig. 8



WITNESSES

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Austin H Park

INVENTOR

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United States Patent Office.

FRANCIS RITCHIE, OF TROY, ASSIGNOR TO S. S. JEWETT, OF BUFFALO, NEW YORK.

Letters Patent No. 91,968, *dated June* 29, 1869; *antedated June* 15, 1869.

COOKING-STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANCIS RITCHIE, of the city of Troy, in the county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Cooking-Stoves, of which the following is a full and exact description, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation;

Figure 2, a plan of the top;

Figure 3, a plan, with the top-plate and water-reservoir removed;

Figure 4, a vertical section, at or about the line *z z* in figs. 2, 3, 5, and 6;

Figure 5, a horizontal section, at or about the line *y y* in figs. 1, 4, and 6; and

Figure 6, a vertical section, at or about the line *x x* in figs. 1, 2, 3, 4, and 5; all of one of my improved stoves.

Figure 7 is a vertical section of a modified part of the same stove, at or about the line *w w* in figs. 2, 3, 5, 6, and 8;

Figure 8, a plan of the same part, with the water-reservoir and top-plate removed; and

Figure 9 is a perspective view of the reservoir, without its cover.

The same letters refer to like parts in the different figures, and the arrows therein indicate the directions in which the gases of combustion pass through the stove.

The distinguishing feature of one part of my invention is the combination, in a cooking-stove, of an oven, A, having a fire-chamber, B, at one end, and the lower part *c*, of the opposite rear portion of the oven, extended rearward beyond the upper part *d* thereof, with a water-reservoir, E, extended below the level of the top *f* of the oven, and over its lower extended part *c*, so that while the oven is diminished in size, somewhat in proportion to the increase in distance from the fire-chamber, and the consequent decrease in the amount of heat received from the latter, the water-reservoir occupies the otherwise vacant upper rear portion of the stove; and so that when the water-reservoir is of the common width and capacity, the upper rear portion of the stove, where the reservoir is located, in rear of the upper portion of the oven, may extend rearward no further than the rear upright plate *g* of the lower portion of the stove, where the lower part of the oven extends under the reservoir, so as to leave room for a warming-closet to extend vertically, and of equal width and capacity from bottom to top, along the whole rear end of the stove.

In carrying out the aforesaid part of my invention, I arrange a flue or flues, for the hot gases of combustion, from the fire-chamber along and between, and so as to properly heat the oven A and water-reservoir E in a suitable manner, and with an exit-passage for the gases, either in front, or in rear, or upward through the top of the water-reservoir; and I arrange the water-reservoir either wholly or partly below the level of the top cooking-plate *h* of the stove, and have the rear side *i*, or the ends *j j*, or the rear side and ends of the reservoir, either covered by a heating or warming-flue space or casing, or naked, as shown in the drawing, and have the front side *k*, or the bottom *l*, or the front side and bottom of the reservoir, either exposed directly to the hot gases of combustion in the stove, as indicated in figs. 4 and 6, or protected or separated therefrom, either wholly or partially, by an intervening plate or plates, *m m*, fig. 7.

In the aforesaid drawing—

N is a sheet flue, leading from the fire-chamber B, rearward, between the top cooking-plate *h* and the top *f* of the oven.

O is a sheet flue, leading from the rear end of the flue N, downward, between the reservoir E and the upper rear part of the oven.

P P are flues extended rearward under the lateral portions of the bottom of the reservoir, and leading downward from the bottom of the flue O, along the side portions of the rear end of the extended lower part *c* of the oven.

Q Q are flues leading from the bottoms of the flues P P forward, along the side portions of the bottom of the oven, and communicating at their front ends with a flue, R, which extends from front to rear along the middle portion of the bottom of the oven.

S is a flue, from the rear end of the flue R upward, along the middle of the rear side of the extended lower portion of the oven, and under the middle part of the bottom of the reservoir, and terminating in an exit-passage, T, just below the rear side of the reservoir.

U is a valve or damper, arranged between the lower part of the flue O and the upper part of the flue S.

When the valve U is open, as shown in fig. 7, the hot gases of combustion pass from the fire-chamber B, through the flues N O and the upper part of the flue S, into the exit-passage T.

When the valve U is closed, as in figs. 3, 4, and 6, the hot gases then pass from the fire-chamber, successively through the flues N, O, P P, Q Q, R, and S, into the same exit-passage.

In either case, the reservoir is strongly heated, whether the draught is direct or under the oven.

And the above-described arrangement in a cooking-stove, of the flues N, O, P P, Q Q, R, S, exit-passage T, and valve U, in combination with the fire-chamber, oven, having its lower portion extended rearward, beyond its upper portion, and water-reservoir extended below and in rear of the top of the oven, and over the extended lower portion of the latter, constitutes one part of my invention.

Another part of my invention in cooking-stoves, is

a hot-water reservoir, E, arranged in the upper rear portion of the stove, and extended below the level of the top of the oven, and in rear of the upper portion thereof, with the upright rear side *i* of the reservoir arranged in substantially the same plane as the main upright outer rear flue-plate *g* of the stove, below the reservoir, so that a warming-closet, of uniform width and size from top to bottom, may extend vertically along, and receive heat directly from both the rear side *i* of the hot-water reservoir and the outer plate *g* of the heating-flue or flues in the rear end of the stove, below the reservoir, as indicated by the dotted lines at *v v v* in fig. 7.

In the drawing, the rear side *i* and ends *j j* of the water-reservoir are shown resting at their bottoms upon, and forming virtual continuations of the main upright rear plate *g* and side plates *a a* of the stove.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a cooking-stove, of an oven, A, having the lower part *c* of the portion farthest from the fire-chamber extended rearward beyond the upper part *d*, with a water-reservoir, E, extended below the level of the top of the oven and over the rearwardly-extended lower portion thereof, as herein set forth.

Also, the arrangement of the flues N, O, P P, Q Q, R, S, exit-passage T, and valve or damper U, in combination with the fire-chamber, oven, having the lower portion extended rearward beyond the upper part, and water-reservoir extended below the level of the top of the oven, and over the rearwardly-extended lower portion thereof, as herein described.

Also, in a cooking-stove, a hot-water reservoir, arranged in the upper rear portion of the stove, and extended below the level of the top of the oven, when the rear upright side *i* of the reservoir is even with or in substantially the same plane as the upright outer rear flue-plate *g* of the stove, as herein set forth.

In testimony whereof, I hereunto subscribe my name, this 12th day of January, A. D. 1869.

FRANCIS RITCHIE.

Witnesses:

LESLIE SMYTH,

AUSTIN F. PARK.