No. 625,710. Patented May 23, 1899.

R. S. STEPHENSON.

STOVE OR RANGE.

(Application filed Dec. 20, 1898.)

(No Model.)

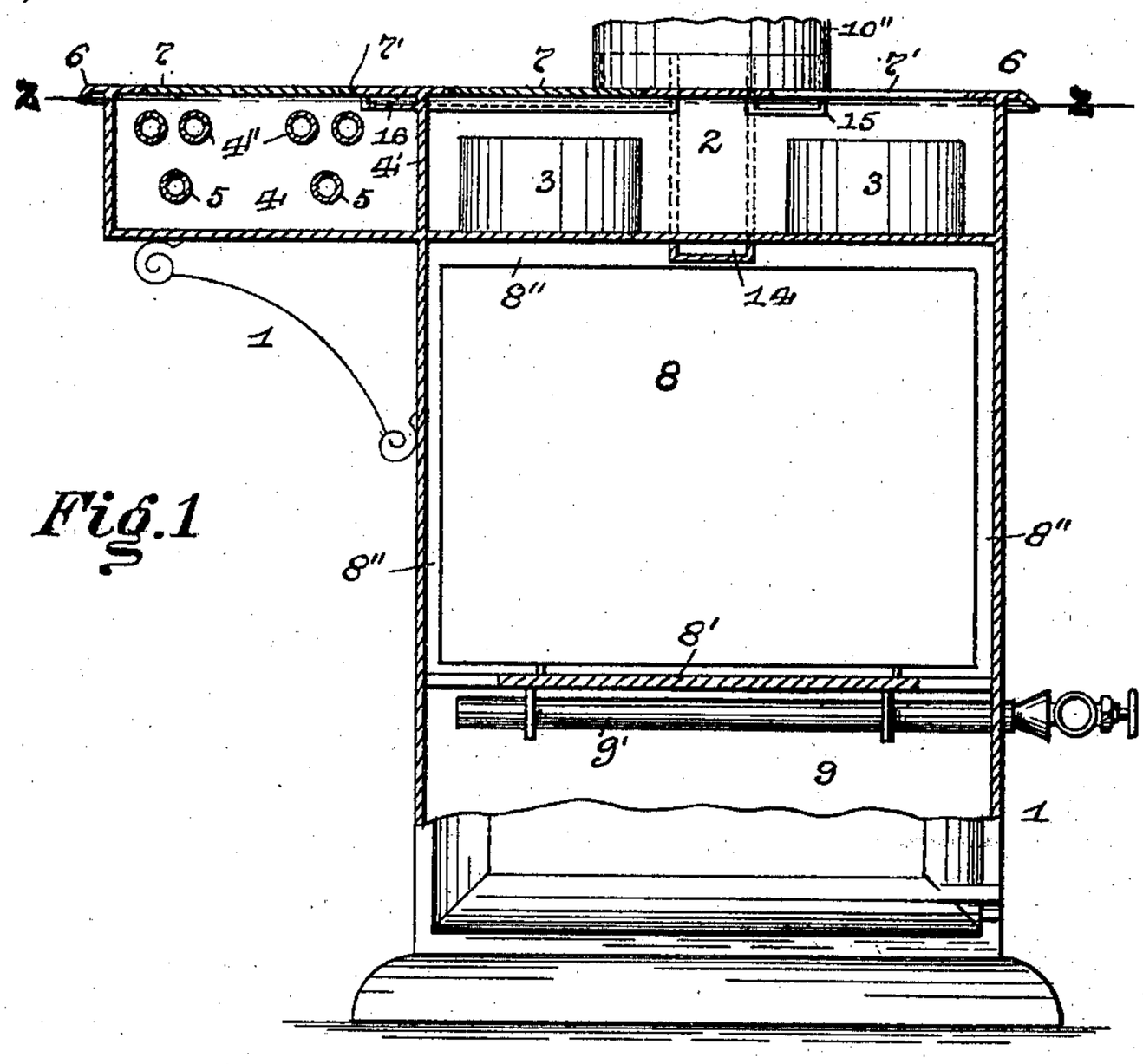

Fig. 1

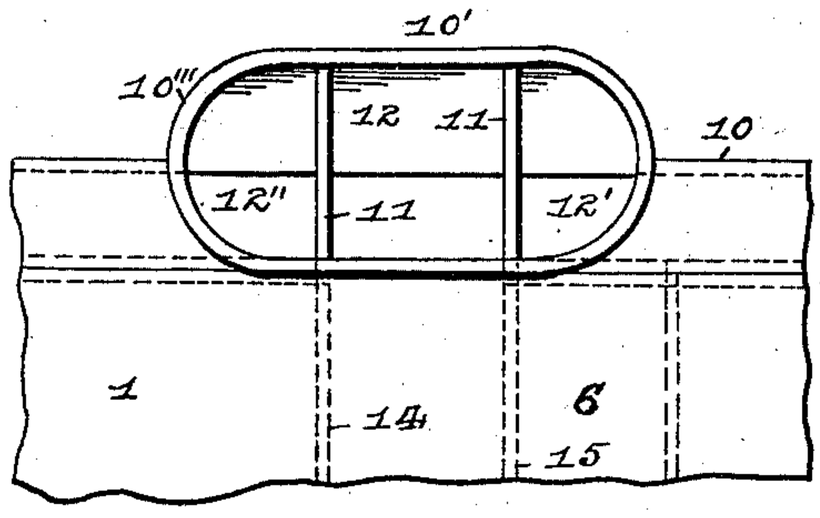

Fig. 4.

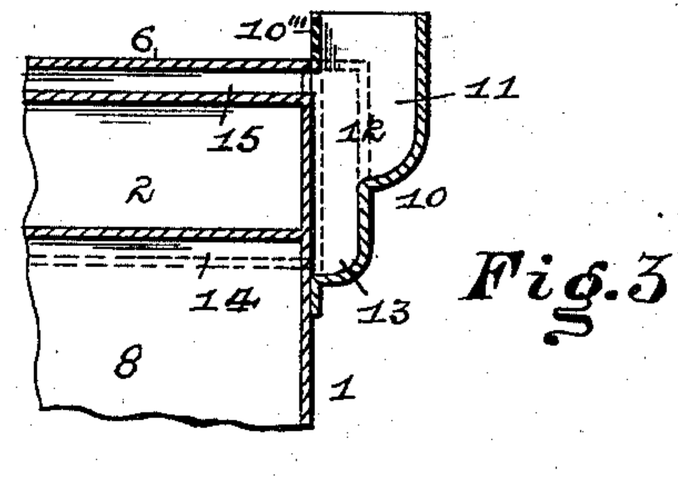

Fig. 3

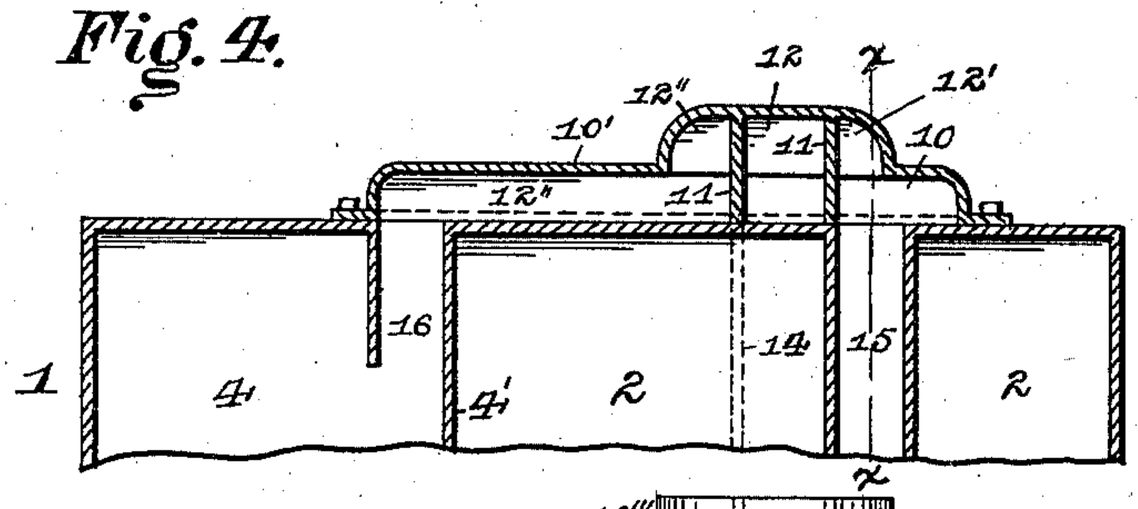

Fig. 2

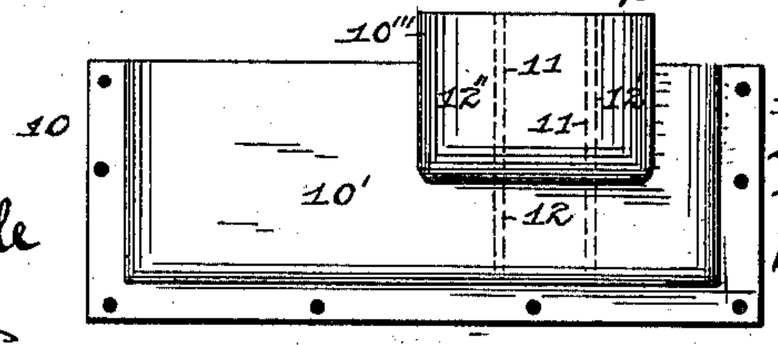

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

ROBERT S. STEPHENSON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN S. GRAHAM, OF SAME PLACE, AND SAMUEL R. BALDWIN, OF NEW CASTLE, PENNSYLVANIA.

STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 625,710, dated May 23, 1899.

Application filed December 20, 1898. Serial No. 699,796. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. STEPHENSON, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Stoves or Ranges, of which the following is a specification.

My invention relates to stoves and ranges, and has especial reference to the back-flue boxes of gas stoves and ranges. Heretofore in the use of these gas stoves and ranges when only one burner, for instance, was in use the suction of the draft of such burner would act to draw cold air from the portions of the stove not in use, which cold-air drafts meeting the heated products of combustion coming from the burner in use would tend to destroy the draft of such burner and cause a part of the products to pass out into the apartment. The stove was also by such occurrences rendered less efficient in its heating properties.

The object of my invention is to obviate these difficulties and to provide a gas stove or range in which the draft of the gaseous vapors or products of combustion from a burner or burners in use will not be so hindered or retarded by the currents or drafts of cold air sucked from the portions of the stove not in use as to cause the evil effects above described.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved stove or range, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a vertical central section of a stove or range, showing my invention applied thereto. Fig. 2 is a section thereof on the line *z z*, Fig. 1. Fig. 3 is a detail cross-section on the line *x x*, Fig. 2. Fig. 4 is an enlarged plan view of the back-flue box and a portion of the stove or range, and Fig. 5 is a rear view of the back-flue box.

Like numerals herein indicate like parts in each of the figures of the drawings.

The gas stove or range is shown at 1 and is provided with the main heating or combustion chamber 2, formed in the top thereof, within which are located the gas-burners 3, of any suitable construction and supplied with gas in any desired manner. Located adjacent to the main combustion-chamber 2 and separated therefrom by the partition-wall 4′ is the water-heating or auxiliary combustion-chamber 4, within which are located the water-heating pipes 4″, connected to a suitable boiler, (not shown,) and the gas-burners 5. The chambers 2 and 4 are closed by the top or cover 6, within which are provided the holes 7′ for holding the lids 7 therein. Below the combustion-chamber 2 is the bake-oven 8, which is supported on a spider-plate 8′, secured within the stove or range 1, flues 8″ being formed around the same. The plate 8′ supports gas-burners 9′ below the same in the upper part of a broiler-oven 9, located below the baker-oven 8 in the stove or range 1, and these gas-burners 9′ are of any suitable construction adapted to be supplied with gas and connected to supply-pipes in any desired manner. Located at one side of the stove or range 1 is the back-flue box 10, which is formed by a hollow plate 10′, secured to the stove or range in any suitable manner. A draft or escape pipe 10″ fits over and around an oval portion 10‴ on the top of the hollow plate 10′ for the passage of the products of combustion from the chambers 2 and 4 and ovens 8 and 9 to the chimney and open air. The back-flue box 10 is provided with the division walls or plates 11 therein, which form the central flue 12 and side flues 12′ and 12″ therein. The central flue 12 extends down at 13 and connects by a passage-way 14, formed under the chamber 2, with the flues 8″ around the baker-oven 8, and the side flue 12′ connects by a passage-way 15, formed under the cover 6 and leads from the heating or com-

bustion chamber 2. The side flue 12″ connects with a passage-way 16, formed under the cover 6, which leads from the water-heating or auxiliary combustion-chamber 4 to the flue-box 10.

The operation of my improved stove or range is as follows: When the burners 3 within the heating-chamber 2 are used, the products of combustion pass therefrom into the chamber 2 to heat the articles upon the lid or cover 6, and the waste gases or products of combustion then pass through the passage-way 15 into the side flue 12′ of the back-flue box 10 and escape into the chimney or open air through the draft or escape pipe 10″. When the gas-burners 5 within the auxiliary heating-chamber 4 are used, the heating-gases pass therefrom into the chamber 4 to heat the objects or articles upon the cover or lid 6 as well as the water-heating pipes 4′ and are then allowed to pass through the passage-way 16, leading from the chamber 4 into the side flue 12″ of the back-flue box 10, where they escape through the draft-pipe 10″ into the chimney or open air. In case only the baker-oven 8 or broiler-oven 9 is used the gas-burners 9′ within the oven 9 will permit the gases or products of combustion to pass therefrom up through the openings in the spider-plate 8′ and through the flues 8″ around the baker-oven 8 to heat or broil the articles within the oven 9 and heat or bake the articles within the oven 8, after which the gases or products of combustion pass from the flues 8″ and enter the passage-way 14, leading from the oven 8 into the central flue 12 of the back-flue box 10 and escape through the escape-pipe 10″ into the chimney or open air, as desired. It is evident that either one of the combustion-chambers 2 and 4 or the ovens 8 and 9 can be used as well as both the chambers 2 and 4, and ovens 8 and 9 can be used when desired and still allow the practical operation of the back-flue box 10.

It will be apparent that in the use of my improved stove or range the construction of the back-flue box will permit the operation of any or all parts of the stove or range, as desired, and will prevent the draft of cold air through the idle parts interfering with the free draft and exit into the chimney of the gases from the part or parts in use.

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

1. A stove or range having two or more burners or burner-chambers and a separate flue leading from each of said burners or burner-chambers, in combination with a back-flue box divided into separate compartments, there being a compartment in said box for each of said flues and communicting therewith.

2. A stove or range having two or more burners or burner-chambers and a separate flue leading from each of said burners or burner-chambers; in combination with a back-flue box divided into separate compartments by vertical partition-walls extending to about the level of the top of the stove, there being a compartment in said box for each of said flues and communicating therewith.

In testimony whereof I have hereunto set my hand, at Pittsburg, in the county of Allegheny and State of Pennsylvania, this 10th day of December, A. D. 1898.

ROBERT S. STEPHENSON.

Witnesses:
JNO. C. BASH,
J. N. COOKE.