

No. 757,046.

PATENTED APR. 12, 1904.

A. A. LITTLE.
STOVE.

APPLICATION FILED NOV. 30, 1903.

NO MODEL.

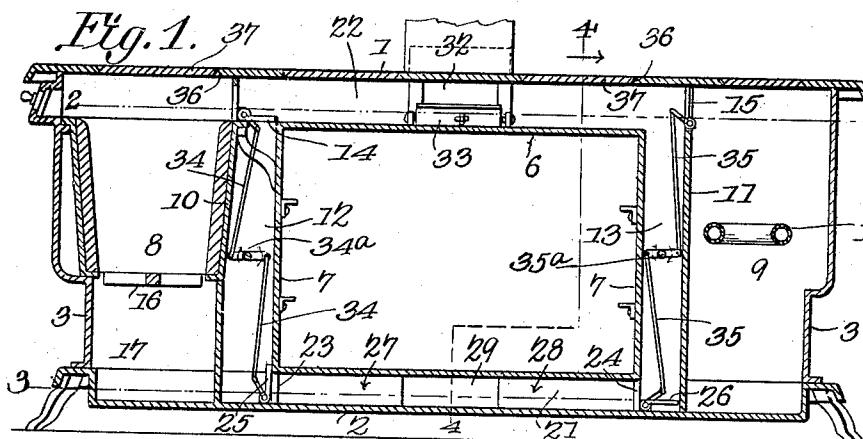


Fig. 2.

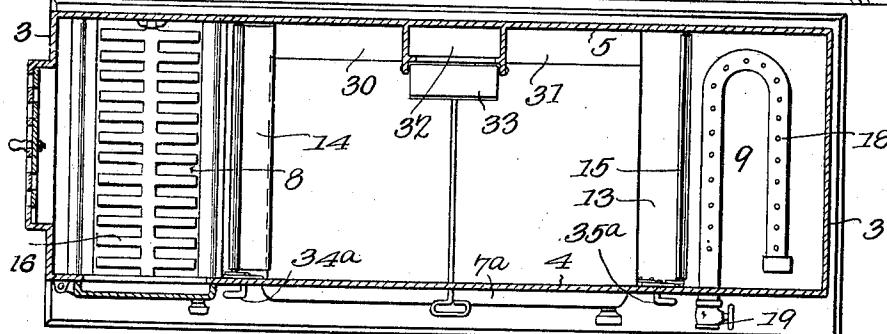


Fig. 3.



Fig. 4.

Witnesses

E. Offstet 28
Wm. Bagger 2

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UNITED STATES PATENT OFFICE.

ALBERT A. LITTLE, OF LIMA, OHIO.

STOVE.

SPECIFICATION forming part of Letters Patent No. 757,046, dated April 12, 1904.

Application filed November 30, 1903. Serial No. 133,222. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. LITTLE, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have 5 invented a new and useful Stove, of which the following is a specification.

This invention relates to stoves of all kinds, such as cooking-stoves, ranges, heating-stoves of all kinds, furnaces, and the like; and it 10 has for its primary object to construct a stove, heater, or device for the consumption of fuel which shall be adapted to consume solid fuel and fuel in a gaseous or vaporous form.

With this and other ends in view the invention consists in a stove or range equipped 15 with separate means for the consumption of solid fuel and of vaporous or gaseous fuel, the products of combustion in either case being carried off through a single stovepipe or other 20 conducting-pipe to the final point of exit.

My invention further consists in certain 25 improvements in the construction and arrangement of parts whereby the object stated may be carried into effect, as will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a 30 longitudinal sectional view of a stove or range constructed in accordance with the principles of my invention. Fig. 2 is a horizontal sectional view taken on the line 2 2 in Fig. 1. Fig. 3 is a horizontal sectional view taken on the line 3 3 in Fig. 1. Fig. 4 is a detail sectional view taken on the line 4 4 in Fig. 1.

Corresponding parts in the several figures 35 are indicated by similar numerals of reference.

In the construction of a cooking stove or range embodying my improvements I avail myself of an outer casing comprising a top 40 plate 1, bottom plate 2, end plates 3 3, and the front and rear plates 4 and 5.

6 is an oven-casing which is disposed about centrally in the outer casing, access to which may be had through a door 7^a in the front 45 plate 4. Between the end plates 7 7 of the oven-casing and the end plates 3 3 of the outer casing are disposed two fire-boxes 8 9, the back wall of each of which (designated, respectively, 10 and 11) is spaced from the end 50 plates 7 of the oven, thereby forming flue-

passages 12 and 13, the upper ends of which may be closed by means of dampers 14 and 15, hingedly connected with the upper edges of the back walls 10 and 11. The fire-box 8 in the present instance is adapted for the combustion of solid fuel—such as wood, coal, coke, or the like—and it has been shown as provided with a grate 16, below which is an ash-pit 17. Within the fire-box 9 is disposed a suitably-constructed burner 18 for the consumption of gaseous or vaporous fuel, said burner being connected, by means of a valved supply-pipe 19, with a source of supply. (Not shown.)

Between the oven and the back wall 5 of 65 the outer casing is the flue-space 20, and flue-spaces 21 and 22 likewise exist between the bottom and the top of the oven and the bottom and top plates 2 and 1 of the outer casing. Communication between the bottom 70 space 21 and the side flues 12 and 13 is partially cut off by means of vertical plates 23 and 24, extending from the back wall 5 of the outer casing about half-way toward the front wall. Dampers 25 and 26 are disposed between the plates 23 and 24 and the front wall 75 of the stove, so that communication between the passages 12 and 13 and the bottom flue-space 21 may be entirely cut off when desired. Plates 27 and 28, extending laterally inwardly 80 from the plates 23 and 24, directly below the rear wall of the oven-casing, shut off communication between the rear of the oven-casing and the rear plate 5 of the outer casing, with the exception of the central opening 29 between the inner ends of the plates 27 and 28. 85

Partitions 30 and 31 are likewise arranged between the upper end of the flue-space 20 and the rear end of the flue-space 22 at the top of the oven, said partitions being arranged on 90 either side of the smoke-exit 32. A damper 33 is disposed between the inner ends of the plates 30 and 31, which said damper when raised to close the space between the plates 30 and 31 will cause the products of combustion 95 to take a circuitous course, while by opening the said damper a direct draft will be established.

The dampers 14 and 25 at one side of the oven and the dampers 15 and 26 at the other 100

side of the oven are preferably connected by means of connecting rods (designated, respectively, 34 and 35) with operating-rods 34^a and 35^a in order that they may be operated simultaneously by handles attached to the hinge-rods of the upper dampers 14 and 15.

The top plate of the outer casing is to be provided in the usual manner with openings 36 and with griddles or covers 37 of the construction usually seen in cooking stoves and ranges of ordinary construction.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. It will be seen that by properly manipulating the dampers a direct draft or a circuitous draft may be established from either one of the fire-boxes 8 and 9, the other fire-box being meanwhile entirely cut off, or both fire-boxes may be utilized simultaneously, either for a direct or for a compound draft, by properly manipulating said dampers. This, it will be seen, is extremely desirable and useful, especially in places where natural gas is used largely as a fuel, for the reason that at times the pressure is liable to run low, thereby necessitating the use of a different fuel, usually wood, coal, or coke. The utility of my invention, however, is not confined by these limits, inasmuch as it may everywhere be found desirable to change from one kind of fuel to another, and by means of a stove constructed in accordance with my invention either solid or gas or vapor fuel may be used interchangeably or simultaneously, as may be desired. It is of course well known that in places where stoves are adapted for the consumption of gas or vapor in times of scarcity of such fuel solid fuel has frequently been used by piling it on top of the burner; but when this has been done the speedy deterioration and eventual destruction of the burner has been the inevitable result. With a stove of my improved construction each fire-pot is adapted for the consumption of a certain fuel and the life of the stove is consequently largely increased.

I would have it distinctly understood that I do not by any means limit myself as to the construction and arrangement of flues, flue-passages, and dampers herein shown and in-

dictated, but reserve the right to any flue and damper arrangement by which the avowed purpose of my invention may be satisfactorily and effectively carried into operation.

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Having thus described my invention, I claim—

1. In a device of the class described, a casing, fire-pots at the ends of said casing, a burner within one of said fire-pots for the consumption of vaporous or gaseous fuel, an oven disposed between and spaced from the back walls of said fire-pots, dampers at the upper edges of the latter, adapted to close the flue-spaces between the back walls and the ends of the oven, dampers adapted to close communication between said flue-spaces and the space between the bottom of the oven and the bottom plate of the casing, obstructions between the rear edge of the bottom plate of the oven and the bottom plate of the casing; said obstructions being spaced apart, obstructions between the rear edge of the top plate of the oven-casing and the top plate of the outer casing, said obstructions being spaced apart, and a damper disposed in the space between the latter obstructions and controlling the passage of the products of combustion to the final exit.

2. In a device of the class described, a casing, a fire-pot at one end of said casing for the consumption of solid fuel, a fire-pot at the opposite end of the casing, a burner in the latter fire-pot for the consumption of gaseous or vaporous fuel, an oven disposed between said fire-pots and spaced from the back walls of the same, dampers hinged at the upper edges of the back walls of the fire-pots and adapted to close the upper ends of the flues between said back walls and the ends of the oven, dampers arranged to close communication between the lower ends of said flues and the flue-space beneath the oven, and connections between said upper and lower damper whereby said upper and lower dampers, at either end of the oven, may be simultaneously operated.

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

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ALBERT A. LITTLE.

Witnesses:

C. N. BREESE,
H. B. WILLOWER.