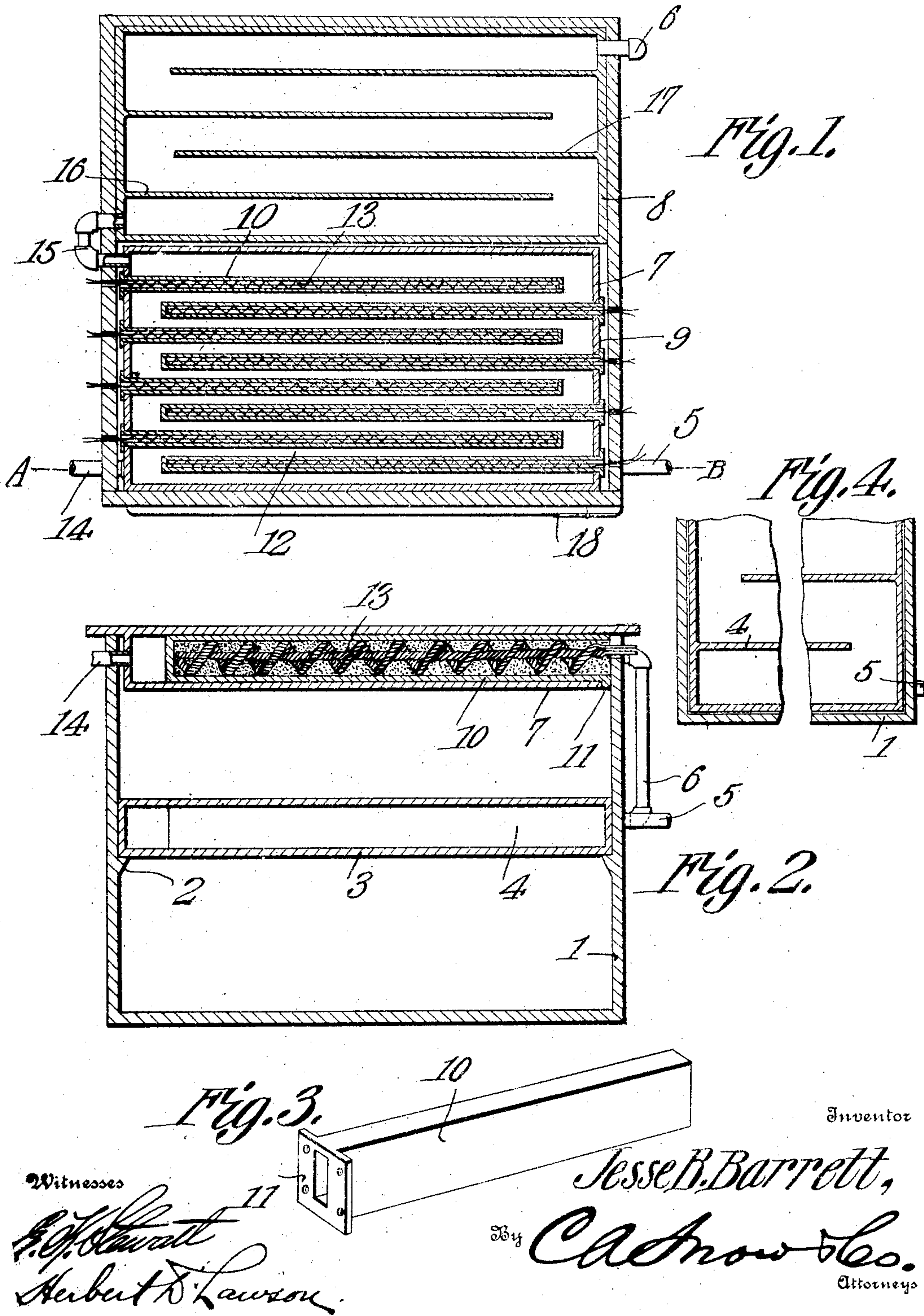


J. B. BARRETT.
STOVE.
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945,904.

Patented Jan. 11, 1910.



Witnesses

H. G. Stewart
Herbert D. Lawson

Inventor

Jesse B. Barrett,

By

C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JESSE BRADLEY BARRETT, OF NIAGARA FALLS, NEW YORK.

STOVE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JESSE BRADLEY BARRETT, a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented a new and useful Stove, of which the following is a specification.

This invention relates to stoves of that type utilizing steam as the principal heating medium and the object of the invention is to provide novel means for maintaining a circulation of steam through the top and one or more of the shelves or horizontal partitions within the stove.

Another object is to provide electric heating means consisting of a series of resistance coils, each coil being arranged within a box removably mounted within the superheater.

A further object is to so arrange the coil-containing boxes as to cause the steam to pursue a tortuous passage between said boxes.

With these and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings Figure 1 is a horizontal section through the top of a stove embodying the present improvements. Fig. 2 is a section on the line A—B of Fig. 1. Fig. 3 is a perspective view of one of the coil-holding boxes of the superheater. Fig. 4 is a horizontal section through the shelf or partition of the stove, only a portion thereof being shown.

Referring to the figures by characters of reference, 1 designates a stove casing the same being provided with cleats 2 therein constituting supports for a shelf or partition 3. This partition is in the form of a box of metal provided with parallel vertical partitions 4 disposed in staggered relation so as to form a tortuous passage extending from one end to the other of the partition, as shown in Fig. 4, there being an outlet 5 at one end of said passage while the other end thereof has a pipe 6 opening thereinto.

The top of the stove is formed of two metallic box-like sections 7 and 8, the section 7 being provided in opposite walls thereof with rectangular openings 9 for the reception of oblong boxes 10. The lengths of

these boxes are slightly less than the distance between the apertured walls of the section 7 and each box is open at one end as shown in Fig. 3, said end being surrounded by a flange 11. This flange is designed to be bolted or otherwise secured to the apertured face of the section 7 and when all of the boxes 10 have been inserted in the said section they are disposed in staggered relation as indicated in the lower portion of Fig. 1 thus forming a tortuous passage extending from one end to the other of said section as indicated at 12. Each of the boxes 10 has an electric heater 13 therein preferably in the form of a resistance coil embedded in asbestos or other suitable material.

A steam inlet pipe 14 opens into one end of the section 7 and an outlet pipe 15 extends from the other end of said section and opens into one end of a tortuous passage 16 formed between partitions 17 disposed in staggered relation within the section 8, the outlet end of said passage 16 opening into the pipe 6 hereto referred to.

It is of course to be understood that each of the compartments formed within the casing 1 is to be provided with a door, one of these doors being shown in plan at 18, in Fig. 1. Inasmuch as the section shown in Fig. 2 discloses the rear end of the stove in elevation, it is of course to be understood that the doors do not appear in that figure.

While the stove herein described is in use a current of electricity is directed through the resistance coils 13 which thus act as heating means and the steam is directed into the passage 12 from the pipe 14, this steam passing between the boxes 10 and being thoroughly superheated after which it passes through the pipe 15 to the passage 16 in section 8 and thence through said passage to the pipe 6 and downwardly through the tortuous passage within the partition 3, said steam finally leaving the stove at the outlet 5.

It will be seen that by providing the means herein described the temperature of the steam can be raised to a very high degree and the efficiency of the stove greatly increased.

The various parts of the apparatus are readily accessible, it being possible to remove either of the sections 7 and 8 from the top of the stove and to also withdraw the partition 3 from its position therein. The boxes 10

can be disconnected and removed from the section 7 so as to enable repairs to be made to the coils 13 or to permit the interior of the section 7 to be cleaned.

5 It will be seen that electricity constitutes the principal heating medium. It will also be noted that the heating area formed by the box 10 is considerably larger than the radiating surface formed by the top and bottom of the section 7. A very efficient cooker and steam superheater is thus produced. While the section 7 and the parts therein are specially designed for use in connection with a stove as herein described it is to be understood that it can if preferred be employed solely for superheating steam or for heating water or for other purposes.

15 It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:

25 1. A cooking stove comprising a casing having a hollow top and a hollow partition, means for establishing communication between said top and partition, and means for directing steam along a tortuous path through the top and partition successively.

30 2. A cooking stove comprising a casing having a sectional top, steam superheating means contained within one of the sections and forming a tortuous passage therebetween, and means for directing the superheated steam from said section to the other section.

40 3. A cooking stove comprising a casing having a sectional top, means within one of the sections for superheating steam, said means forming a tortuous passage therebe-

tween, means within the other section for directing the steam along a tortuous path, means for establishing communication between the two sections, and separate means for directing steam into the superheating section and out of the remaining section. 45

4. In a cooking stove a sectional top, boxes removably mounted in opposed walls of one of said sections, said boxes being disposed in staggered relation and forming a tortuous passage therebetween, and steam superheating means contained within the boxes. 50

5. A cooking stove comprising a casing including separate communicating hollow sections, there being an inlet to one of said sections and an outlet to the other section, and opposed steam superheating means within the inlet section and arranged in staggered relation, said means forming a tortuous passage therebetween. 55 60

6. A cooking stove comprising a casing, a hollow partition therein having a tortuous passage, separate hollow top sections upon the casing, said sections communicating, partitions disposed in staggered relation within one of said sections to form a tortuous passage, means for establishing communication between said sections and the hollow partition, oppositely disposed removable boxes within the other top section and arranged in staggered relation, said boxes forming a tortuous passage therebetween, and electric heating means within each box therein. 65 70

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses. 75

JESSE BRADLEY BARRETT.

Witnesses:

CHARLES GUINThER,

CARL E. TUCKER.