

C. F. WILEY.

STOVE.

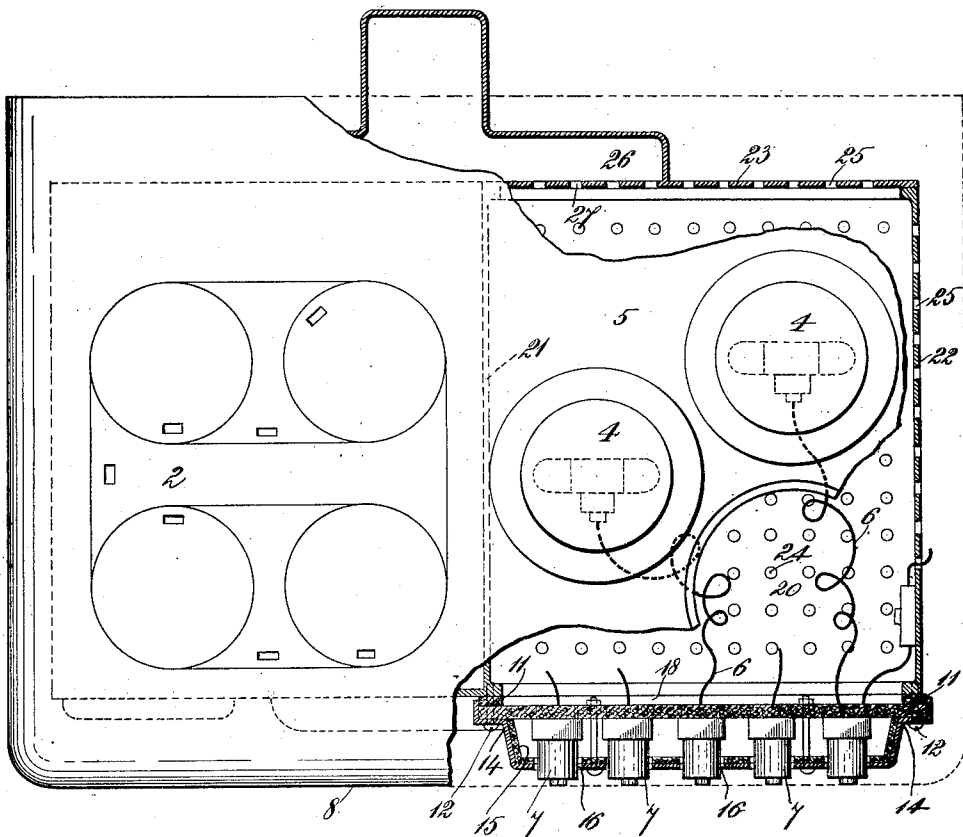
APPLICATION FILED JULY 8, 1921.

1,426,433.

Patented Aug. 22, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



INVENTOR:
Clarence F. Wiley
By *Charles H. Haynes*
ATTORNEYS.

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2 SHEETS—SHEET 2.

Fig. 2.

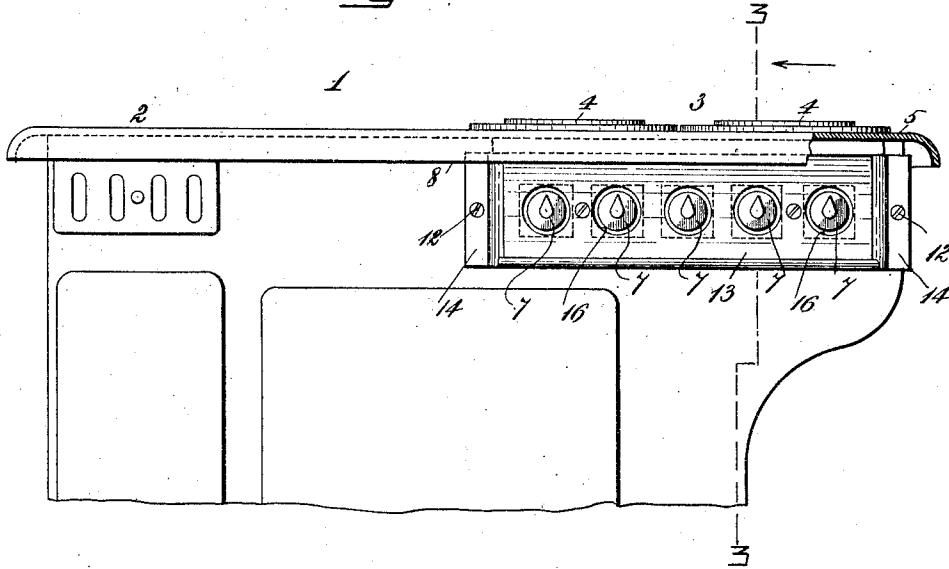
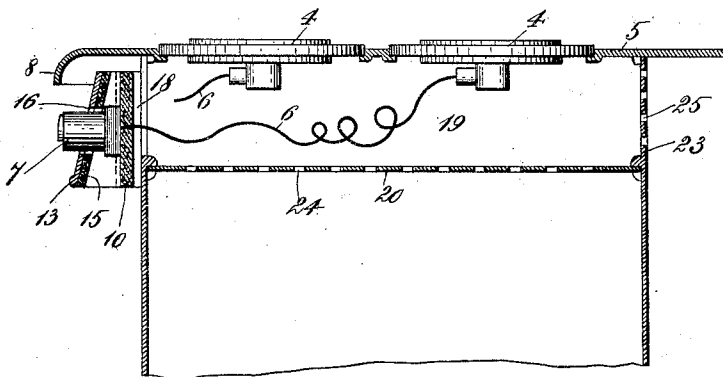


Fig. 3.



INVENTOR=
Clarence F. Wiley
BY *Crane & Hayes*
ATTORNEYS=

UNITED STATES PATENT OFFICE.

CLARENCE F. WILEY, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO MAGEE FURNACE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

STOVE.

1,426,433.

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To all whom it may concern:

Be it known that I, CLARENCE F. WILEY, of Taunton, in the county of Bristol and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The present invention especially relates to a combination stove or range adapted in part to be heated by coal or wood and in another part to be electrically heated.

It is very desirable that the switches controlling the application of the electric current to the heating units be mounted upon the stove in a convenient position.

The mounting of the switches upon the stove was thought impracticable for the reason that when the stove was heated by coal or wood the heat tended to destroy or at least seriously impair the switches.

The object of my invention is to obviate the difficulty above referred to and enable the switches to be mounted upon the stove in a position both convenient and attractive.

The invention can best be seen and understood by reference to the drawings in which there is shown a combination stove or range embodying my invention, such portion only being shown as is necessary for a proper understanding of the invention.

Figure 1 is a plan, certain portions of the stove being shown in section.

Fig. 2 is a front elevation, and

Fig. 3 is a section on the line 3—3 of Fig. 2.

Referring to the drawings:—

1 represents the stove or range of which 2 represents its coal or wood burning section of common type and 3 the section or part electrically heated, preferably located at the right side of the stove.

The part 3 comprises a number of electrically heated units 4 which set into the top part 5 of the stove and with which connect wires 6 for supplying the electric current.

Arranged within the circuits which supply the electric current are switches 7 by which the application of current to the units

is controlled. These switches are arranged at the front of the stove forward of the electrically heated units and beneath the top edge rim 8 of the stove. The manner in which these switches are protected from heat affection is as follows:—

The switches are mounted upon a board 10 of asbestos or other material, not a good conductor of heat. The board is located beneath the top edge rim 8 of the stove and spaced therefrom so that air may pass between the rim and the board. The board is fastened to the front body wall of the stove and spaced therefrom, spacing strips 11 being interposed between the ends of the board and the front wall of the stove. 12 represents the fastenings for securing the board to the body of the stove, these fastenings extending through the end of the board and through the spacing strips 11.

Arranged outside the board 10 is a face plate 13. This face plate is spaced from the board and also spaced from the top edge rim 8 of the stove so that air may pass not only between the face plate and the board, but also pass inwardly over the top edge of the face plate between it and the rim. The face plate is of metal and is provided with flanged ends 14 which turn inwardly around the ends of the board 10 and are secured for holding the plate by the same fastenings 12 as fasten the board to the body of the stove. The face plate is preferably provided with a lining 15 of asbestos or similar material. The casings in which the switches are contained extend outwardly through openings 16 in the face plate, these openings being made so large that the face plate will be out of contact with the switch casings. Thus arranged the switches are insulated from the body of the stove and at the same time passage of air is permitted through the openings 16 in the face plate around the bodies of the switches and likewise between the face plate and the board 10. In fact, circulation of air is permitted entirely around the switches, the board upon which the switches are mounted and the face plate with which the board is provided.

The body or front wall of the stove back

of the board 10 is cut away to leave an opening 18 which communicates with a chamber 19 within the body of the stove beneath the units 4. The chamber 19 has a bottom plate 20, inner and outer side plates 21, 22, respectively, and a back plate 23. The inner side plate 21 separates the chamber from the parts pertaining to the coal and wood burning section of the stove.

It is evident that the chamber 19 will form a hot air chamber when coal or wood is being burned in the stove owing to the heating of the entire stove structure. To prevent the air within the chamber becoming too highly heated the bottom plate 20 is provided with holes or openings 24 permitting of an ingress of air. The side plate 22 and back plate 23 are provided with perforations 25 permitting the heated air within the chamber to pass out of it. The chamber 19 may connect with the back flue passage 26 and outlet from the stove through perforations 27, these perforations being controlled by any suitable damper (not shown) as occasion may require.

According to the above described arrangement not only does the initial mounting of the switches tend to keep them cool, but they are also air-cooled inasmuch as they are constantly subjected to a draft of cold air induced to pass over and around them. As the air in the chamber 19 becomes heated, the tendency will be for the heated air to pass out of the chamber at the side and back, thereby tending to draw in fresh cooling air into the chamber from the front, the air thus entering coursing entirely around the switches, the board upon which they are mounted and the plate with which the board is provided, with the resulting effect that not only the switches but all associated parts are kept cool.

Other switches than those which control the circuits leading to the units 4 may be mounted upon the board 10. In practice other heating units may be employed than those referred to and the switches controlling such other units may well be mounted upon the one board 10.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. In a stove having electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, a board on which the switches are mounted occupying a position upon and spaced from the body of the stove whereby air may circulate around the board, a face plate to said board occupying a position spaced in part therefrom whereby air may pass between the plate and board, said spaced portion of the face plate having in it openings through which the switches extend out of contact with the face plate.

2. In a stove having an overhanging top edge rim together with electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, a board upon which the switches are mounted secured to the body of the stove, said board being located beneath the rim and occupying a position spaced from the rim and from the body of the stove, a face plate to the board, said face plate occupying a position spaced from the rim and spaced also in part from the board, that portion of the plate spaced from the board having openings in it through which the switches extend to lie out of contact with the plate.

3. In a stove having electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, said stove having also an opening on one side thereof, means for mounting the switches whereby air induced to pass through said opening may pass over said switches, and means whereby air may be induced to pass through said opening and over said switches.

4. In a stove having electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, said stove having also a chamber therein with an opening in it by which air may enter the chamber, said chamber having also an outlet for air therefrom, means for mounting the switches in front of said opening into the chamber whereby air may be introduced to pass over said switches.

5. In a stove having electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, said stove having also an opening in the front side thereof, a board on which the switches are mounted occupying a position upon and spaced from the body of the stove in front of said opening whereby air may circulate around the board and the switches thereon and pass through said opening, and means for inducing air to pass around said board and switches thereon and through said opening.

6. In a stove having an overhanging top edge rim together with electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, said stove having also an opening in the front side thereof below said rim, a board upon which the switches are mounted secured to the body of the stove, said board being located beneath the rim and occupying a position spaced from the rim and from the body of the stove and lying in front of said opening, and means for inducing air to pass around said board and the switches thereon and through said opening.

7. In a stove having electrically heated parts with circuit-forming connections and switches for controlling the application of the electric current, said stove having also a chamber therein with an opening in it from the front of the stove by which air may enter the chamber, said chamber having also an outlet for air therefrom, a board upon which the switches are mounted secured to and spaced from the body of the stove and lying in front of said opening whereby air induced to pass through said opening may pass around said switches.

CLARENCE F. WILEY.