

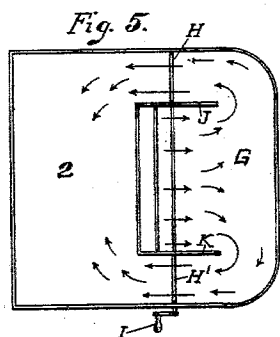
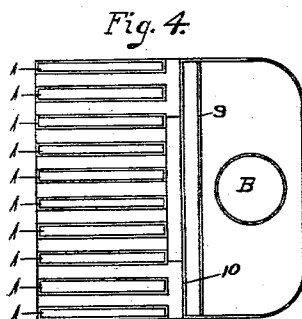
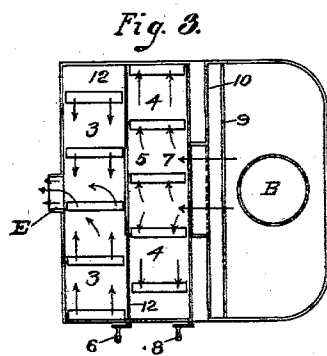
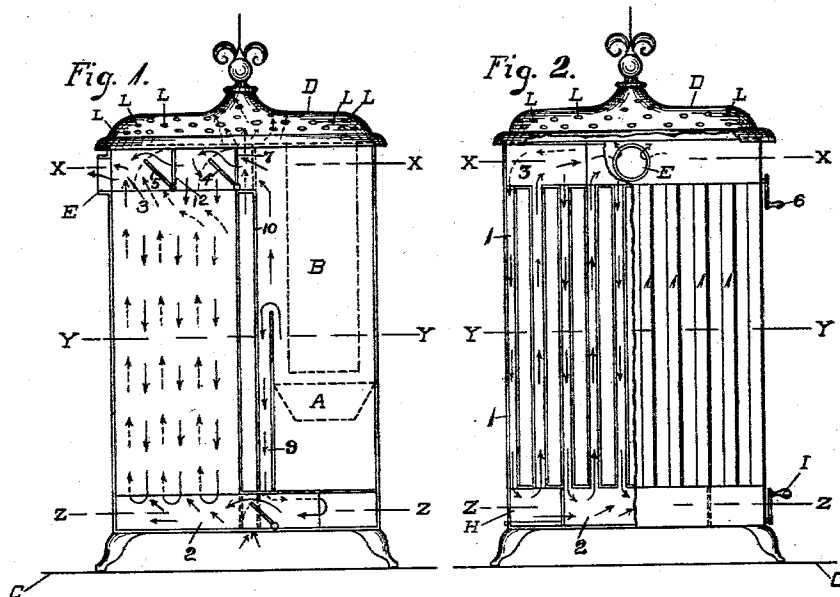
No. 739,726.

PATENTED SEPT. 22, 1903.

E. SCOTT.
RADIANT STOVE.

APPLICATION FILED MAY 18, 1903.

NO MODEL.



WITNESSES:

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RADIANT STOVE.

SPECIFICATION forming part of Letters Patent No. 739,726, dated September 22, 1903.

Application filed May 18, 1903. Serial No. 157,676. (No model.)

To all whom it may concern:

Be it known that I, ELWOOD SCOTT, a citizen of the United States, residing in the city of Marion, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Radiant Stoves, of which the following is a specification, which, taken in connection with the accompanying drawings, forming a part thereof, is sufficiently clear and concise as to enable others skilled in the art to which it appertains to make and use the same.

My present invention does not contemplate a radical departure from the principles heretofore involved in devices of this character, but rather the adaptation of well-known principles with their mechanical elements reduced to their simplest proposition and as a natural sequence accentuating the utilitarian residual benefits thereof and adapting them to subserve the highest economic ends.

The object of my present invention, broadly speaking, is to provide a stove composed of cooperating, interdependent, and subsidiary elements arranged and combined to subserve the highest economic ends.

Another object is to provide a stove containing a great amount of heating-surface adapted to accentuate and utilize the otherwise waste heat produced therein in order that it may be used for raising the temperature in a building with a minimum of fuel and a resultant decrease of the labor of maintenance thereof.

Another object is to provide a stove composed of sections of metal so arranged and combined that the maximum amount of heat may be obtained from a minimum of fuel therein and so evenly distributed that all parts of the stove will be heated equipollently and in a minimum of time.

Another object is the provision of an article of manufacture, a stove composed of a minimum of component mechanical constituent elements to produce commensurate results, easily operated and maintained, simple in character, compact in form and construction, and which can be manufactured and sold at a comparatively low price.

The particular object of my invention is the provision of a stove using as a fuel nat-

ural or artificial gas, oil, vapor, wood, coal, coke, or other material, to be consumed therein in any preferred manner and adapted to obtain from the results of the combustion the full maximum amount of the heat generated thereby and to radiate it to the room or apartments to be warmed thereby.

Other objects and advantages of my invention will appear from the drawings and from the following specification and correlated in the claims hereunto appended.

This invention relates to that class of radiators in which a great amount of heating or radiating surface is provided with a minimum amount of space occupied by the stove.

My invention consists in a radiant stove embodying new and useful features of construction and relative disposition of the several parts, substantially as particularly described elsewhere in this specification and in the legitimate combinations herein set forth.

One manner of carrying out the objects of my invention and that which in practice is found the most desirable is illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical longitudinal section of my invention. Fig. 2 shows a rear elevation of same, partly in section, in order to show the interior of a portion of the radiator-flues. Fig. 3 is a horizontal cross-section of my invention, taken on the lines X X of Figs. 1 and 2. Fig. 4 is a horizontal cross-section of my invention, taken on the lines Y Y of Figs. 1 and 2; and Fig. 5 is a horizontal cross-section of my invention, taken on the lines Z Z of Figs. 1 and 2.

Similar characters refer to and denote like parts throughout the several views, and the arrows denote the course of the various drafts.

For a more thorough understanding and comprehension of my invention I will now proceed to take up the description thereof in detail, which I will refer to as briefly and compactly as I may.

In the drawings the letter A represents the combustion-chamber of my stove, with a reservoir B leading thereto from the top.

C represents the floor-line.

D is a removable top, and E the smoke and

foul-air exit. Said parts may be variously changed and may be of any preferred construction in order to meet various conditions. It will be observed that the construction of my stove contemplates a combination of stove and radiator, the latter part being located in this instance in the rear and the former in the front, as shown in the drawings, with means for the passage of the heated air therebetween through various channels, or the relative location of the stove and radiator portions may be variously changed to meet the requirements of various kinds of fuel which may be used or for specific purposes. Back of the front portion of my stove I arrange a plurality of comparatively flat oblong flues, (represented by the numeral 1,) arranged in a tier near each other and extending from near the fuel-chamber to back of the stove. Each of said flues opens into a chamber located below their lower ends and the bottom of the stove, and the upper ends of each alternate flue open into an upper chamber 3, and the alternate flues open into an upper front chamber. In the partition dividing the chambers 3 and 4 is a damper 5, operative from the outside of the stove by a handle 6. In the partition dividing the chamber 4 from the upper part of the fuel-chamber is a damper 7, operative from the outside of the stove by a handle 8. In front of the chamber 2 below the fuel-chamber is a chamber G, with a passage-way therefrom leading into the chamber 2, said passages being adapted to be opened and closed by the double dampers H and H', which latter are secured to a shaft common to both and operative by the handle I from the outside of the stove. Rising from the rear upper corner of the chamber G is a partition 9, which extends up only a slight distance above the mouth of the reservoir B, as indicated in the drawings. A slight distance in the rear of the partition 9 is a partition 10, which extends from the top of the stove downward to the bottom of the stove, forming the back of the stove proper. The damper 7 is adapted to close a passage formed through the partition 10, at the upper end thereof above the flues 1, which passage leads from the upper portion of the fuel-chamber to the chamber 4. Extending forward from the inner wall of each of the openings closed by the dampers H and H' are partitions J and K in the chamber G, as shown in Fig. 5. It will be apparent by reference to Fig. 3 that one-half of the upper end of each of the flues 1 is closed, the opening in the upper end of the flues being alternately in the front and rear in order that each alternate flue will open into the chambers 2 and 4. It will also be noticed that there is an open space between each of the flues; between the inner edges of the flues and the partition 10; through the bottom of the stove in the front of the flues, leading into the space between the flues and the partition 10, and from the last-named space around the passage

closed by the damper 7 to underneath the top D, from which latter space the heated air may pass through the openings L in said top D, and all of which open spaces the air may freely circulate and by means of which the radiating capacity of my stove may be greatly increased.

From the above-described construction it will be apparent that should a fire be maintained in the fuel-chamber that the stove may be operated in a variety of ways. For instance, the dampers 5 and 7 may be turned back or opened and the dampers H and H' closed, which will allow the heat to pass directly from the fuel-chamber through the chambers 3 and 4 to the exit E, thus giving a direct draft, or by opening the dampers H and H' and closing the damper 7 the heat will pass down between the partitions 9 and 10 into the chamber G, over the dampers H and H' into the chamber 2, then up the flues 1 into the chambers 3 and 4, and then through to the exit E, and by closing the dampers H and H', opening the damper 7, and closing the damper 5 the heat will pass from the fuel-chamber into the chamber 4, down each alternate flue 1 into the chamber 2, up each alternate flue into the chamber 3, and then out through the exit E. By thus manipulating the dampers it will be apparent that the heat will be brought into contact with a great amount of radiating-surface without materially decreasing the draft of the stove. It will also be apparent that the flues 1 being formed, preferably, of sheet metal or the like with their sides close together that thereby very narrow channels are formed, through which the heat must pass, and consequently all of the heat is brought very near to the surface—that is to say, near to the air surrounding the stove—and therefore the radiation of the heat will be very rapid, and I have also demonstrated that by the time the heat from the lower chambers has reached the exit that practically all of the heat will have been radiated therefrom and transmitted to the room in which the stove is located.

It will be noticed that my stove will be comparatively light in weight and will occupy a very small compass of space, while at the same time will contain a great amount of radiating-surface.

My invention is perfectly adapted to accomplish the results for which it is intended, and it is evident that changes in and modifications of the specific construction herein shown and described may be made and that analogous parts may be used to accomplish the same results without departing from the spirit of my invention or sacrificing any of its many advantages, and the specific construction of the details of my invention, in which novel features are embodied, may be variously changed without altering the essential principles which are claimed as new.

Having now fully shown and described my

invention and the best manner for its construction to me known at this time, what I claim as new, and desire to secure by Letters Patent of the United States, is—

5 1. In a stove the combination of a series of flat flues arranged parallel and near each other, each of said flues extending from near the top to near the bottom of the stove in the rear of the fuel-chamber, a chamber in the
10 base into which said flues open, a rear and a front chamber above the flues, each alternate flue opening into said front and rear chamber, and the dampers for controlling the route the heat shall follow in its outward course,
15 all substantially as shown and described.

2. In a stove the combination of a series of flat flues arranged parallel and in alinement with each other in the rear of the fuel-chamber, a base-chamber into which all of said
20 flues open, an upper front chamber into which each alternate flue opens, an upper rear chamber into which each alternate flue opens, a passage between the upper front and rear chambers, a passage between the upper front
25 chamber and the upper portion of the fuel-chamber, a passage between the fuel-chamber and the said base-chamber, and dampers for opening and closing each of said passages, all substantially as shown and described.

30 3. In a stove the combination of a series of flat flues arranged parallel and near each other, each of said flues extending from near the top to near the bottom of the stove in the rear of the fuel-chamber, a channel between
35 the fuel-chamber and the flues, a chamber in the base into which all of said flues open, a rear and a front chamber above the flues, each alternate flue opening into said front and rear chamber, and a series of dampers
40 for determining the route the heat shall fol-

low in its outward course, all substantially as shown and described.

4. In a stove the combination of a series of flat flues arranged parallel and near each other, each of said flues extending from near
45 the top to near the bottom of the stove, a chamber in the base into which all of said flues open, a two-part chamber above the flues into which the flues open alternatively, a channel extending from the fuel-chamber to
50 the base-chamber controlled by a damper, a passage from the fuel-chamber through the upper chamber to the exit controlled by dampers, and means for controlling the course of the heat by the operation of said dampers,
55 substantially as shown and described.

5. In a radiant stove, the combination with a fuel-chamber and an exit, a series of flat flues arranged vertical and parallel between
60 said fuel-chamber and exit, a chamber in the base into which all of said flues open, a passage from the fuel-chamber to said base-chamber, a damper for controlling said passage, an upper rear chamber in front of the exhaust into
65 which one half of said flues open, a second upper chamber into which the other half of said flues open, an opening controlled by a damper between said upper chambers, and an opening controlled by a damper between
70 the last-named chamber and the fuel-chamber, all substantially as shown and described for the purposes set forth.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

ELWOOD SCOTT.

Witnesses:

WILLIAM KNIGHT,
ELIAS BUNDY.