No. 656,794. Patented Aug. 28, 1900.

H. P. SIMPSON.

GAS STOVE.

(Application filed May 16, 1899. Renewed Apr. 28, 1900.)

(No Model.)

FIG. 1.

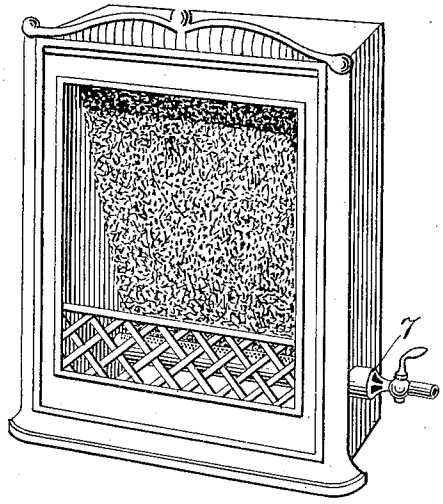


FIG. 2.

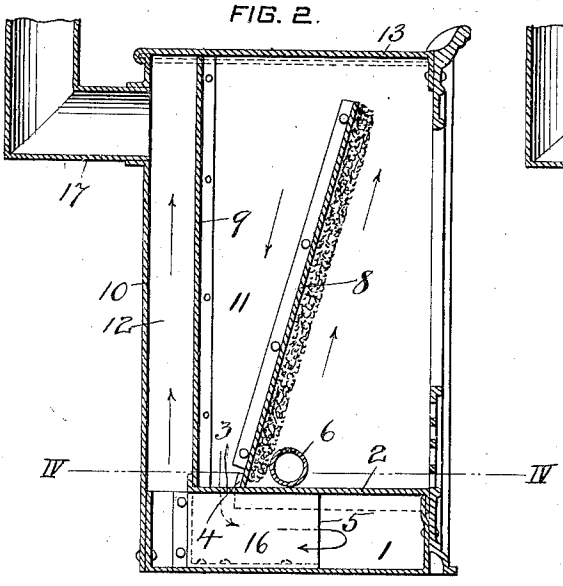


FIG. 3.

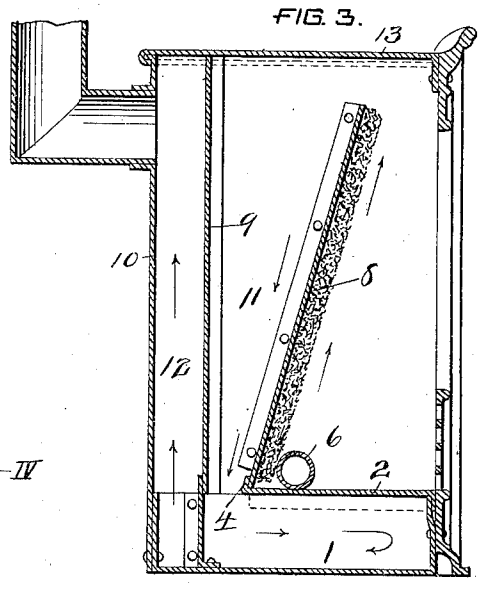
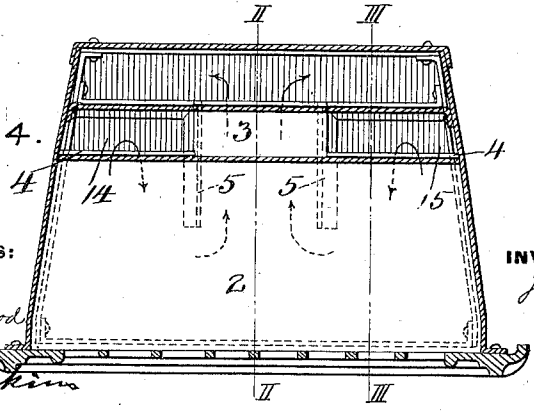


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HARRY PRESCOTT SIMPSON, OF PITTSBURG, PENNSYLVANIA.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 656,794, dated August 28, 1900.

Application filed May 16, 1899. Renewed April 28, 1900. Serial No. 14,760. (No model.)

To all whom it may concern:

Be it known that I, HARRY PRESCOTT SIMPSON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this invention is to provide an improvement in gas-stoves; and to this end the invention consists in means whereby heat which has heretofore been wasted may be utilized in a stove having a great amount of heat-radiating surface and constructed in such a manner as to produce a general improvement in the heating qualities of a stove without any increase in the amount of fuel consumed; and the invention further consists in certain combinations of parts and features of construction, all as hereinafter set forth.

In the accompanying drawings, which illustrate an application of the invention, Figure 1 is a perspective view of a stove embodying the improvement; Fig. 2, a central vertical sectional view taken on line II II of Fig. 4; Fig. 3, a vertical sectional view taken on line III III of Fig. 4; and Fig. 4, a horizontal sectional view on line IV IV of Fig. 2, looking down on the hollow heating-base, with the burner omitted.

Referring to the drawings, the body of the stove, comprising the sides, back, and top portions, is of the same general shape and construction as gas-stoves of the class to which this invention relates. The body portion rests on and is supported by a hollow heating-base 1. This hollow base may be of any desired shape and the details of construction may be varied. As illustrated, it comprises the bottom and four sides, all made from a single sheet of metal and joined at the corners, and the top or cap plate 2, which is provided with an extending portion 3, the object of which will be hereinafter mentioned. Instead of forming the hollow base of a single piece of sheet metal it may be made of cast metal, the shape of the same enabling it to be readily cast. The top plate 2 covers only a portion of the hollow base and is made separate from the base proper. Upwardly-extending flanges 4, running from the edges of the extended part 3 outwardly to the corners of the top plate 2, engage with the flame-plate when the latter is in place. Within the hollow base are two similar L-shaped walls 5. These walls, which are preferably made of sheet metal, are securely attached to the bottom plate of the base. A burner 6, disposed between the sides of the body portion, is connected with the source of fuel-supply by a pipe-coupling 7. Immediately back of the burner 6 is an inclined flame-plate 8. This flame-plate is attached to the sides of the body portion and rests on the top 2, its lower edge engaging with the flanges 4 of the top plate 2. The flame-plate is usually covered with asbestos, but other refractory material may be employed. A partition-plate 9, located between the back 10 of the stove-body and a flame-plate 8, aids in forming the flues or passages 11 and 12. Plate 9 runs entirely across the interior of the stove, extending upwardly from the part 3 and the upper edges of the walls 5 to the top 13 of the body portion and, as shown, is riveted to the sides of the stove. The heated air and products of combustion pass in the direction indicated by the arrows and after leaving the flame-plate strike against the top 13, by which they are deflected. The course of travel is then down through the flue or passage 11 and into the hollow heating-base through the passages 14 and 15, which latter are formed by the L-shaped walls 5, the sides of the hollow base, and the top plate 2. The heated air is caused to circulate thoroughly throughout the hollow base and then passes into the flue 12 through the duct 16, formed by the walls 5 and the extended portion 3 of the top plate 2. The stove is further provided with the usual exit-pipe 17.

By the construction herein set forth a great amount of heat-radiating surface is provided and the heating power of the stove is very materially increased without any additional consumption of fuel. Practically all the heating products are brought in contact with the plates, walls, and heating-base of the stove before passing out the exit-pipe, thereby greatly adding to the heating efficiency of the stove.

Having thus described my invention, what I claim is—

1. In a gas-stove, the combination, with the body portion, of a burner, a flame-plate, a hollow heating-base on which the body portion rests, a downtake flue or passage in the body portion formed by the flame-plate and a partition-plate located between the flame-plate and the back of the body portion, said flue or passage in communication with ducts or passages formed in the hollow heating-base, a passage in the hollow base in communication with an uptake flue or passage, said uptake-passage formed by the partition-plate and the back of the stove-body, and an exit-passage, substantially as set forth.

2. In a gas-stove, the combination, with the body portion, of a burner, a flame-plate, a partition-plate between the back of the body portion and the flame-plate, a downtake flue or passage formed by the flame-plate and the partition-plate, a hollow heating-base, a top plate for the hollow heating-base having an extended part 3, walls 5, within the base and forming, in conjunction with the top plate and sides of the base, passages 14 and 15, an uptake flue or passage 12, and a central passage 16, in communication with passage 12, and with passages 14 and 15, substantially as set forth.

3. In a gas-stove, the combination with the body portion, of a burner, a flame-plate, a hollow heating-base having a top plate partially covering the hollow base, said base struck up or cast from a single piece of metal and provided with means for causing a circulation of the heated air and products of combustion throughout the base, a downtake flue or passage formed by the flame-plate and a partition-plate located between the flame-plate and the back of the body portion, an uptake flue or passage formed by the back of the body portion and the partition-plate, said downtake flue or passage in communication with passages in the hollow base and a passage leading from the hollow base to the uptake flue or passage, substantially as set forth.

4. In a gas-stove, the combination with the body portion, of a burner, a flame-plate, a hollow heating-base, a partition-plate between the flame-plate and the back of the body portion, a downtake flue or passage in communication with the hollow base and formed by the flame-plate and the partition-plate, and an uptake flue or passage in communication with the base and formed by the partition-plate and the back of the body portion, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY PRESCOTT SIMPSON.

Witnesses:

EDWARD B. VAILL,

W. G. DOOLITTLE.