

No. 627,643.

Patented June 27, 1899.

J. A. JENSEN.
STOVE OR HEATING APPARATUS, &c.

(Application filed Apr. 22, 1898.)

(No Model.)

Fig. II.
x - x.

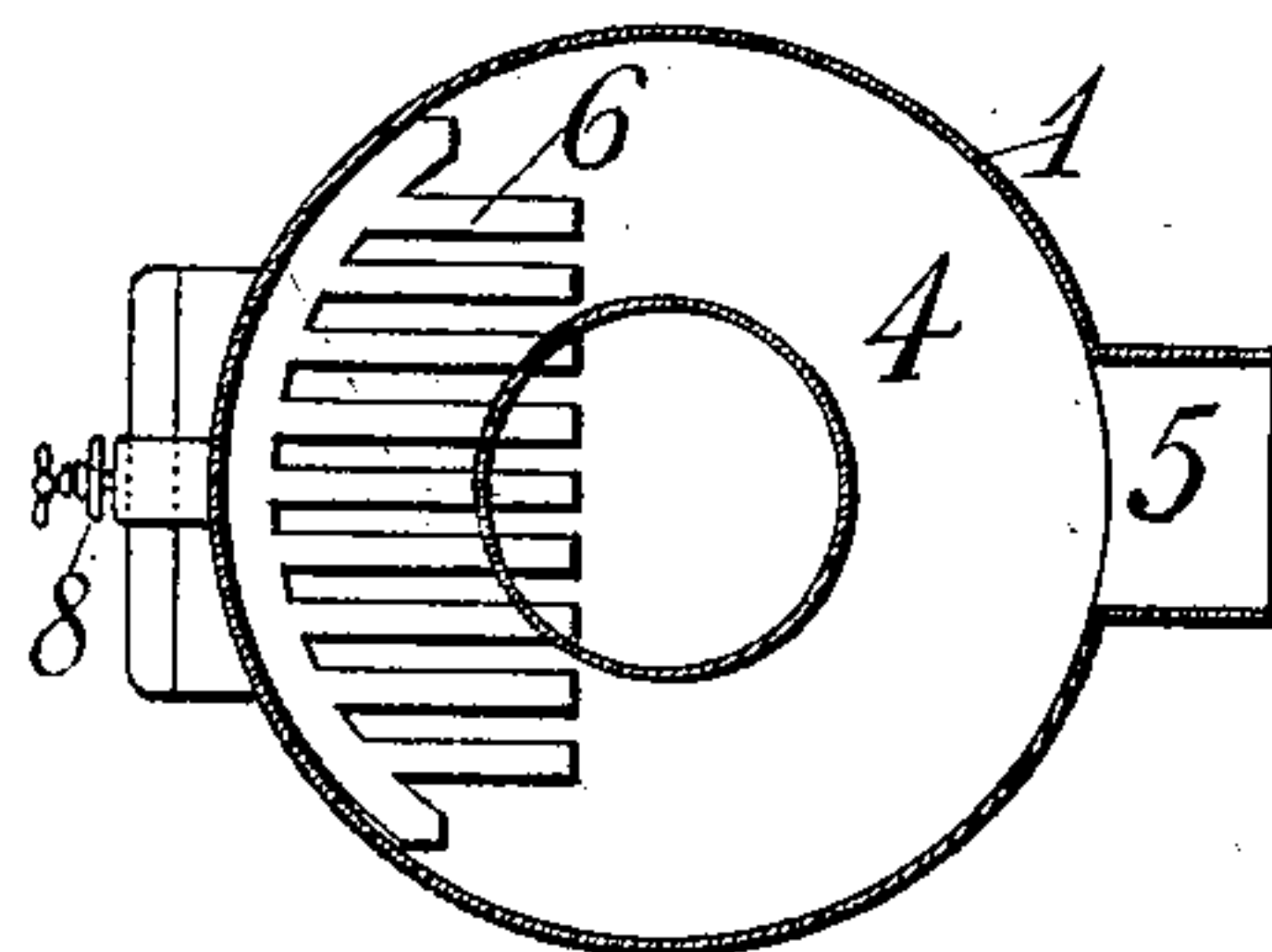


Fig. I.

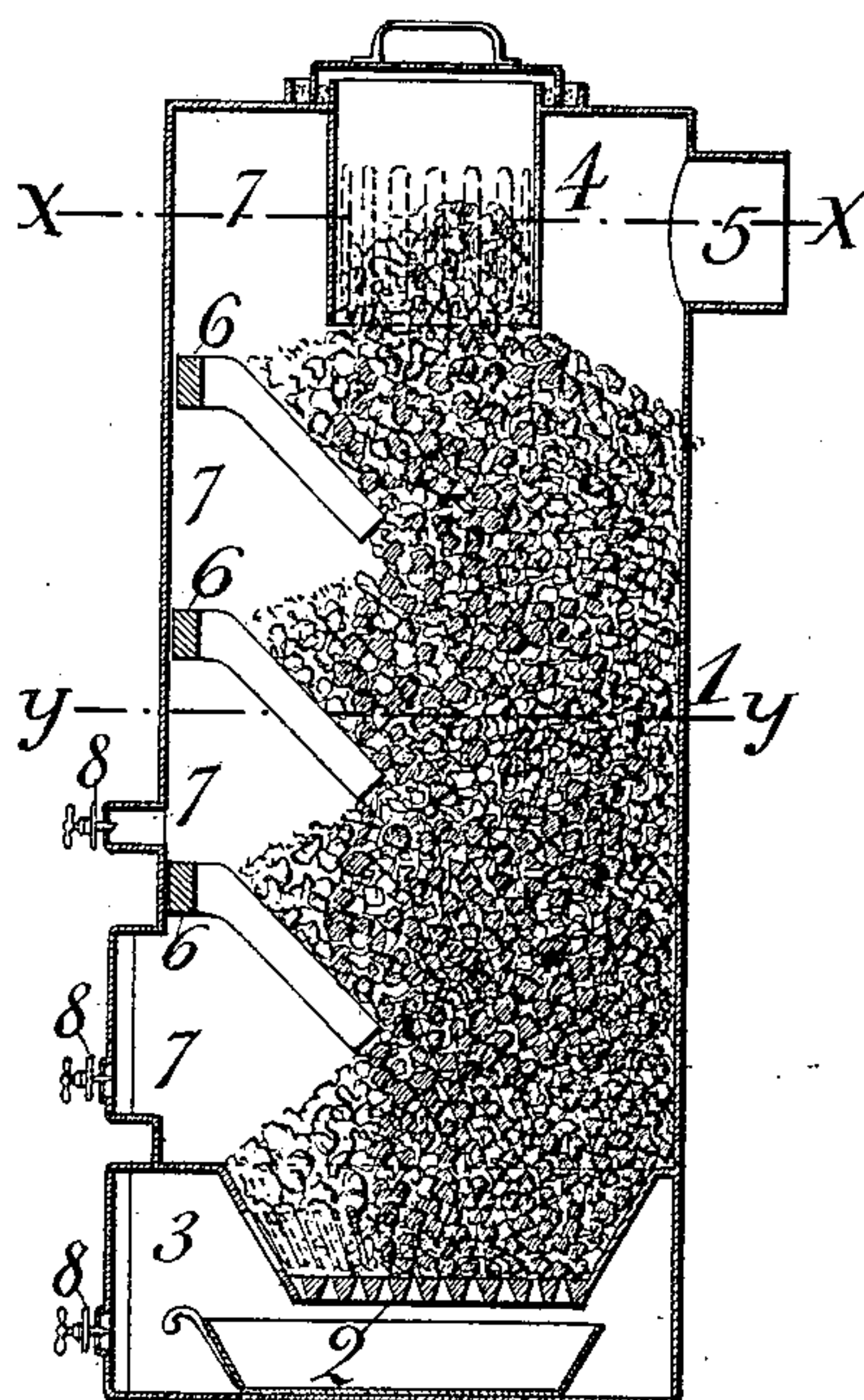


Fig. III.
y - y.

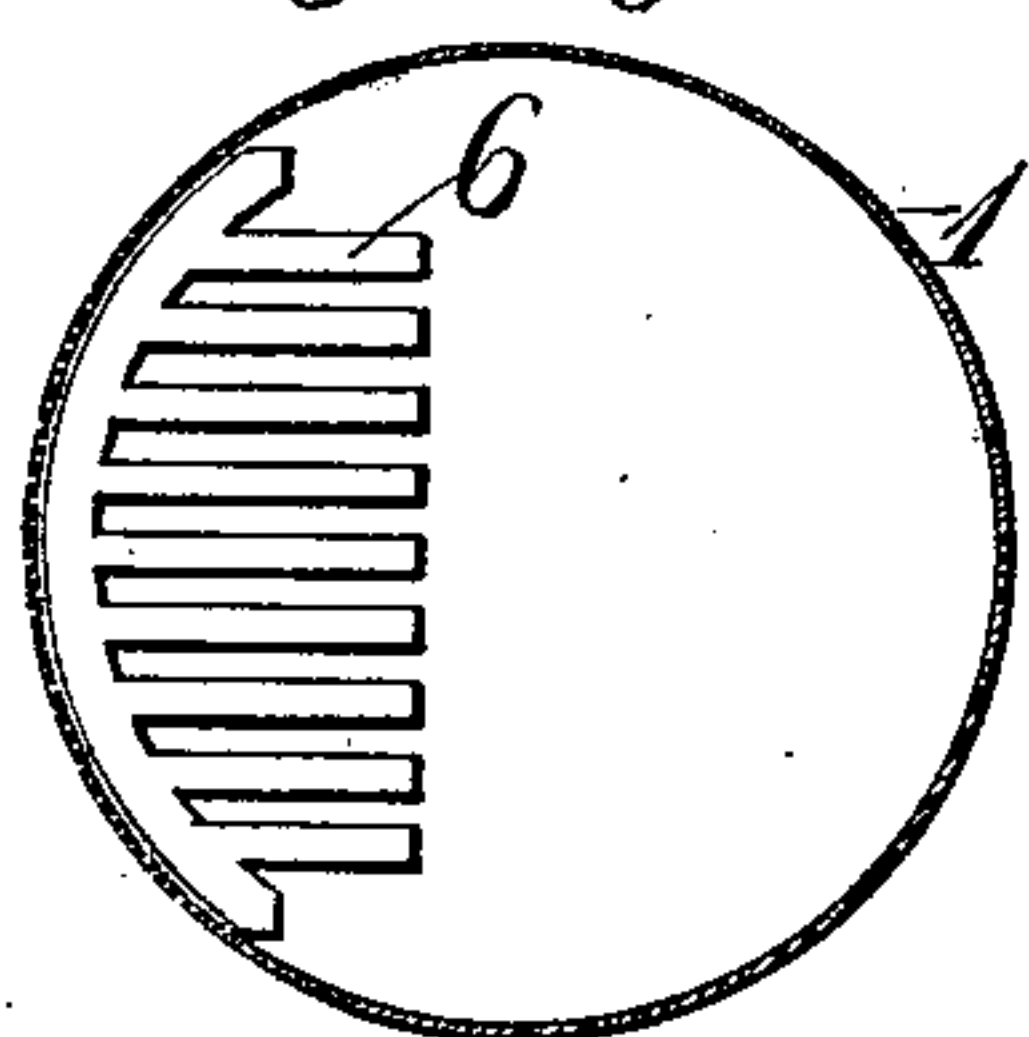


Fig. IV.



Witnesses.

Albert Jones.
Samuel Percival

Inventor.

Jess Adolph Jensen
By his Attorneys.
Wheatley & MacKenzie

UNITED STATES PATENT OFFICE.

JESS ADOLPH JENSEN, OF COPENHAGEN, DENMARK.

STOVE OR HEATING APPARATUS, &c.

SPECIFICATION forming part of Letters Patent No. 627,643, dated June 27, 1899.

Application filed April 22, 1898. Serial No. 678,479. (No model.)

To all whom it may concern:

Be it known that I, JESS ADOLPH JENSEN, a subject of the King of Denmark, residing at 3 Colbjørnsensgade, Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Stoves or Heating Apparatus with Superposed Fire-Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Heating apparatus, and more especially heating-stoves, are frequently required to consume on occasion from five to ten times as large an amount of fuel as at other times. At the same time such apparatus are expected to admit of being easily attended to without requiring any special skill on the part of the attendant.

This invention has for its object to meet the above requirements, and is hereinafter described with reference to the accompanying drawings, in which—

Figure 1 is a vertical section of a stove constructed according to this invention; Fig. 2, a horizontal section on line *xx* of Fig. 1; Fig. 3, a horizontal section on the line *yy* of Fig. 1. Fig. 4 is a plan view of one of the grates.

The heating apparatus comprises a fuel-receiver 1, provided with the usual bottom grate 2, ash-pit 3, feed-tube 4, and flue 5. Upon one portion of the fuel-receiver gratings 6, usually inclined, are so arranged that a continuous row of hollow spaces 7 is formed, which spaces are separated from one another, partly or entirely, by thin layers of fuel. The number of these hollow spaces or combustion-chambers is equal to that of the gratings plus one. The first space or chamber is formed between the lowermost inclined grate 6 and the bottom grate 2, while the last space or chamber is formed above the topmost grate 6. The feed-tube 4 may be constructed in the form of a cylindrical grate, as shown in Fig. 1 in dotted lines. The remaining part of the fuel-receiver is constructed as smoothly as possible, so as to enable the coals to easily descend and so that, apart from the hollow spaces above referred to, no further spaces or chambers are formed.

According to Fig. 1 each combustion-chamber 7 may be provided with an air-valve 8. When the coal or fuel is kindled upon the bottom grate, the gases are caused to traverse all the hollow spaces, thus heating the fuel within or in contact therewith, so that on subsequently opening the air-valves the fuel becomes ignited, whereby, if so desired, its combustion may be obtained throughout the hollow spaces or chambers. The heating-gases will always travel through the gratings instead of passing through the intermediate spaces formed between the fuel accumulated in the fuel-receiver. Consequently the combustion will not materially extend into the fuel-column, so that the fuel serves as an efficient medium for preventing the walls of the receiver from being burned. By means of the air-valves the heating capacity of the stove admits of being varied within very wide limits, and the temperature can be easily so regulated that the walls forming the combustion-chambers are likewise prevented from overheating.

The heating apparatus is especially suitable for burning fuel which is poor in gas, in which case the produced gases are instantly consumed by the flames in the chamber 7, while the temperature, without attaining a degree such as to injure the walls of the apparatus, can be exactly so adjusted that a complete combustion is obtained.

What I claim, and desire to secure by Letters Patent, is—

A stove or heating apparatus comprising the fuel-receiver 1, a bottom grate 2, and a series of inclined gratings 6 arranged toward the periphery of the receiver and forming a series of superposed hollow spaces or combustion-chambers 7 whereby the products of combustion from one chamber will pass through all the upper combustion-chambers, and means for supplying air to said combustion-chambers, for the purpose set forth.

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

JESS ADOLPH JENSEN.

Witnesses:

C. MENGELBERG,
JULES BLOM.