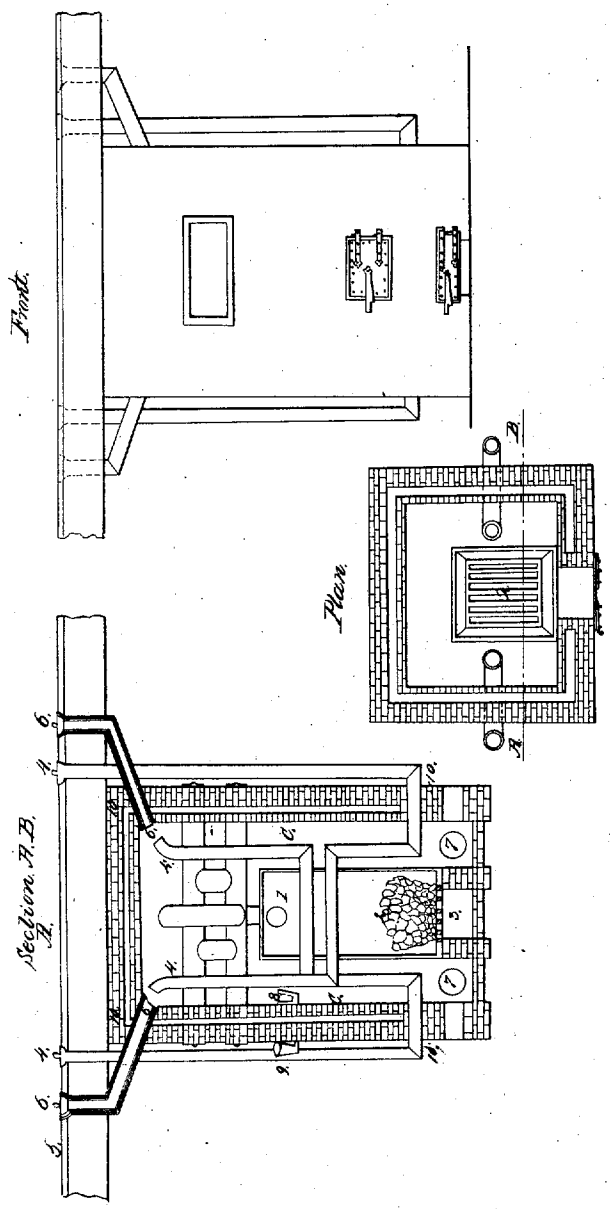
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J. Bouis.

Hot-Air Furnace.

Patented Mar. 29, 1834.



THE NORRIS PETERS CO., WASHINGTON, D. C.

3/29/1834 8720X

March 29 - 1834 537.

John Davis Baltimore Maryland

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same Containing a description in the words of the said John Davis himself of said improvement being a hot air furnace or apparatus for warming rooms with rarefied or heated air and expelling the cold air which the room is also heated...

Be it known that I John Davis of the City & County of Baltimore and State of Maryland have made an improvement in the description of a hot air furnace or apparatus for warming rooms with rarefied or heated air and expelling the cold air which the room is also heated described as follows reference being had to the annexed drawings

A represents the entire apparatus of which No 1 is the receiver & the furnace or grate in which the anthracite or stone coal may be used and B is an opening or draft flue to cause speedy and continued combustion the door or B is for the purpose of cleaning the grate or burning fuel. From the back of the upper part of the receiver No 1 a pipe projects which an elbow leading up to and communicating with the horizontal connected pipes B into which the smoke is discharged passing from one to the other until its heat is exhausted thence descending to the receiver by an additional pipe it is discharged into the chimney.

C C C C C is a double wall of brick between which the apparatus is erected or placed the outer one being 9 inches the inner one 4½ inches thick with a space between them of 2 inches filled in with pulverized charcoal to act as a non conductor both of heat and cold Within the receiver No 1 there are horizontal pipes equal in number to the apartments which may be desired to be warmed these pipes are heated as well from the fire of the grate as by the hot air furnace within the receiver D D are pipes that receive the cold air from the apartments intended to be heated through the line E E in the floor through these pipes the cold air being much heavier than the hot air ascends

to a level with the top of the pipe 2. passing thro the wall A and entering through the gate the air being rarefied ascends again by a continuation of the pipe to a level with the lower part of the ceiling and by one of the ranks of the flame from the gate passing thro the ceiling and thro the pipe being further extended by any other convenient means the hot air passing through it is conveyed to the pipes No 6. which lead to and supply the apartments therewith. These latter pipes 6. are to be constructed being a double, within a larger one, having a space between them filled with pulverized charcoal, ashes or stone not only to preserve the internal air but prevent any heat escaping from them otherwise their utility would be rendered of great measure abortive 7th Are also to admit the atmospheric or cold air from without or rather the circulating air of the apartment before the apparatus is erected, which passing into the chamber C. is to be propelling the rarefied air that has been generated up to the concluding pipes 6. thus as pipe 6 discharges its rarefied or hot air into the apartment it being lighter than the cold air rises above and forces the cold air into the pipes 4. this in descending becomes rarefied and rises again as before noted it is discharged into the conducting pipe 6. & is a perfect of a capacity similar to the size & dimensions of the apparatus which is kept filled with water within the chamber C by means of a funnel J and is distended by the steam or vapour produced from it which rising and mixing with the rarefied air passes with it through the pipes 6 into the apartments thereby preserving the great rarefication of the hot air and renders it as near as possible to the elasticity of atmospheric air.

The whole apparatus may be put up in the cellar or basement story of a house from which the hot or cold air pipes may be carried or extended to any apartment whether in the first second or third floors passing within the walls or encased by casings should an apartment become too much heated it can be promptly prevented by closing the valve at the upper end of the pipe 6. The air can be examined and cleaned by the

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Second by Seller Patent Consists in the Combination Arrangement and adaptation of the several parts of the before described Apparatus for Warming rooms: particularly the double Walled Chamber containing the perforated Char Coal Stove under which the Apparatus and Boxes as a Conductor for Warm & Cold air the receiver with the pipes Connected with it the Continuous pipes that receive the Cold air from the Apartments to be heated, the double pipes with perforated Stoves and the Receiver for Containing Water for Supplying the heated air And it is here declared that the Subscriber does not confine himself to the particular dimensions of the parts and Quantity of pipes used as herein set forth but intends to vary them according to Circumstances and the Situation in which the Apparatus is to be erected)

Witnesses Wm S Elliot
James H Scott

John Bonis

Drawing

Torpo
Hyde

962 words