

(No Model.)

A. SAUNDERS.
HOT WATER GENERATOR FOR STOVES.

No. 514,732.

Patented Feb. 13, 1894.

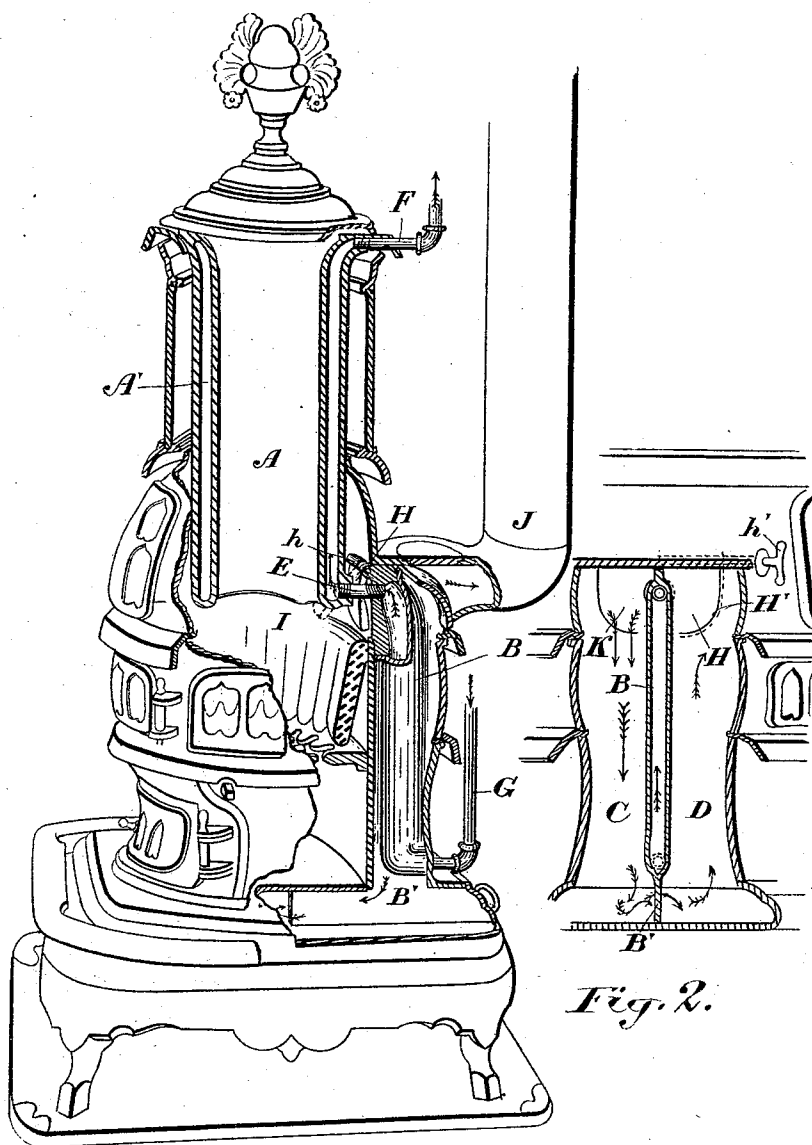


Fig. 1.

Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALECK SAUNDERS, OF GODERICH, CANADA.

HOT-WATER GENERATOR FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 514,732, dated February 13, 1894.

Application filed May 27, 1893. Serial No. 475,723. (No model.)

To all whom it may concern:

Be it known that I, ALECK SAUNDERS, manufacturer, of the town of Goderich, in the county of Huron, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Hot-Water Generators for Stoves, of which the following is a specification.

My invention relates to improvements in hot water generators for self-feeding base-burner stoves and the object of the invention is to provide a hot water generator for stoves of this class, which will serve to supply hot water for radiator coils in one or more rooms and without interfering with the radiation of heat from such stove and it consists essentially of forming a magazine in the form of a water-jacket and furthermore in preferably connecting the base of the water-jacket by a pipe to a water-leg formed in the central partition of the double return flue extending down beneath the ash pit, the water-jacket having connected to it at the top and the water leg having connected to it at the bottom the flow and return pipes respectively, which extend to a radiator or coil.

Figure 1, is a perspective sectional view of a self feeding base-burner stove, portion of the body of the stove being broken away to exhibit the peculiar construction and arrangement of my water jacket and water leg. Fig. 2, is a sectional elevation from the back of the stove through the back flue and water leg.

In the drawings like letters of reference indicate corresponding parts in each figure.

A, is the magazine of the stove, which extends down to within a short distance from the top of the fire-pot. The magazine, A, has formed around it a water-jacket, A', which extends throughout the length of the magazine.

B, is a water leg which is preferably cast or formed one with the partition, B', dividing the flues C, and D. The partition, B', extends beneath the bottom of the ash-pit as shown.

E, is a pipe which connects the top of the water leg, B, with the bottom of the water jacket, A'.

F, is a flow pipe leading from the top of the water-jacket to the coils and, G, is a return

pipe leading from the coils to the bottom of the water-leg B, through the back of the stove.

H, is the damper pivoted at the top on the spindle, h, above the fire pot, I, to the back of the stove and designed to close the hole, H', at the top of the flue, D. The spindle, h, is provided with a handle, h', by which the damper may be manipulated. This damper, H, is the damper usually provided in self-feeders of the class described. The opening, H', leads to the smoke pipe, J.

K, is an opening on the opposite side of the partition, B, to that in which the opening, H', is made, that is to say the opening, K, is situated on the top of the flue, C, above the top of the fire-box.

Ordinarily the damper, H, is situated in the position shown in Fig. 1, except when it is desired to make the fire burn up when it is placed in the position shown by dotted lines in this figure. When the damper, H, is in the position shown in Fig. 1, the heat and smoke from the fire pass out through the opening, K, down through the flue, C, around the front of the partition, B', and up through the flue, D, out by the smoke pipe as indicated by the arrows in the drawings. It will thus be seen that the water in the water leg, B, formed by the partition, B', will be heated. As the bottom of the magazine water jacket, A', extends down into proximity with the fire it will be seen that the water in the jacket, A', will also be heated and that the heated water in the leg, B, will pass through the pipe, E, into the water jacket, A', and the heated water will pass to the top of the water jacket where it will flow outwardly through the pipe, F, to the coil and complete the circulation through the pipe, G, back to the bottom of the water leg, B.

By the moist condition of the lower portion of the magazine, A caused by the surrounding water jacket the coal at the bottom of the magazine is kept cool and prevented from being ignited so that all the gas formed below the bottom of the magazine will be directed into the draft flues and smoke-pipe. In a magazine as ordinarily made without a water jacket the coal became ignited for some distance up in the magazine and the gas which came from such coal had no other exit than through the top of the magazine. By form-

ing a water jacket around the magazine as shown all danger of the escape of the gas through the top of the magazine is completely avoided.

- 5 Should it not be desired to use the hot water for heating the house the water leg might be dispensed with and the jacket provided with an opening at the top through which it might be filled and kept full of water in order to prevent the coal at the bottom of the magazine becoming ignited thereby preventing the escape of the gas and also serving to keep the air of the room moistened. It will also be understood that the water leg, B, might in any case be dispensed with and the return pipe, G, connected to the bottom of the water jacket.

From this description it will be seen that the ordinary self-feeding base-burner may be utilized as a hot water heater to warm one or more rooms in the house and that any danger of the escape of the gas from the stove will be prevented by the water jacket around the magazine, A.

25 What I claim as my invention is—

1. The combination with the water jacket

A', formed around the magazine A, a flue chamber, a division partition therein, a water leg B, formed in said partition, a pipe E, leading to the water jacket A', the flow pipe F, connected to the top of the water jacket and the return pipe, G, connected to the bottom of the water leg, as and for the purpose specified.

2. The combination with the water jacket, A', formed around the magazine, A, of the water leg, B, formed in the partition, B', and connected by the pipe, E, to the water jacket, A', the damper H, designed to close the opening, H', so as to direct the heat from the fire down through the opening, K, on the opposite side of the water leg through the flue, C, down around the partition, B', and up through the flue, D, to the smoke pipe and the flow pipe F, connected to the top of the water jacket and the return pipe, G, connected to the bottom of the water leg as and for the purpose specified.

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Witnesses:

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