(No Model.)

L. S. N. WRIGHT & C. S. BAILEY.

HEATING STOVE.

No. 519,011. Patented May 1, 1894.

Fig. 1.

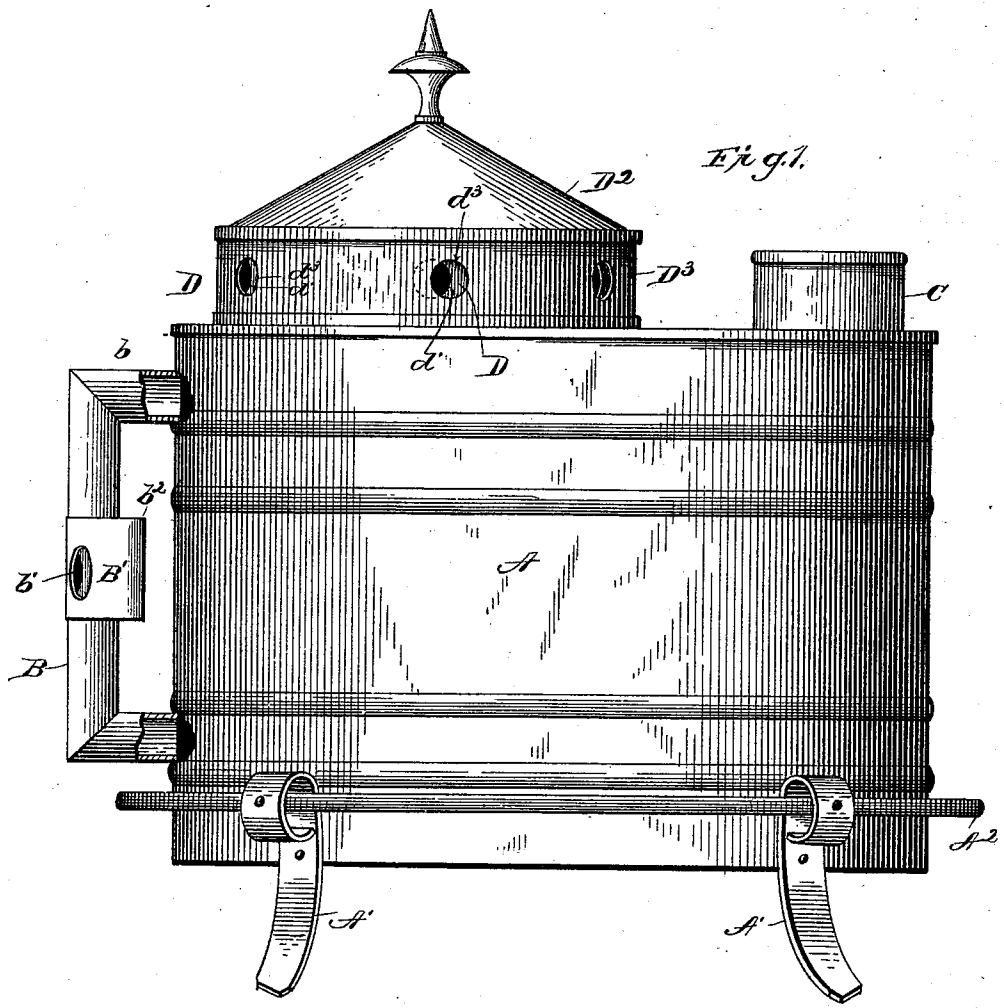
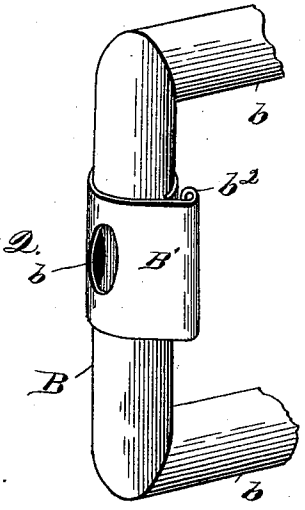


Fig. 2.



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UNITED STATES PATENT OFFICE.

LEWIS S. N. WRIGHT AND CHARLES S. BAILEY, OF PRINCETON, MISSOURI.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 519,011, dated May 1, 1894.

Application filed December 27, 1893. Serial No. 494,857. (No model.)

To all whom it may concern:

Be it known that we, LEWIS S. N. WRIGHT and CHARLES S. BAILEY, citizens of the United States, and residents of Princeton, in the county of Mercer and State of Missouri, have invented certain new and useful Improvements in Heating-Stoves, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1, is a side elevation of our improved stove; portions being broken away. Fig. 2, is a detail view of the air supply tube and its damper or valve.

Our invention relates to that class of stoves known as wood-burning heating stoves and has for its object the improvement of the draft so as to promote combustion and effect a saving of fuel thereby.

The invention will be first described and then specifically pointed out in the claims.

In the drawings, A, represents the body of the stove supported upon legs A′ having their upper ends curved outwardly in the form of scrolls and to each pair of these scrolls on the inner faces of the outermost portions is secured a foot-rail A^2. The legs A′ may be either cast or formed of heavy sheet metal and are riveted, bolted or otherwise secured to the stove A.

B, is the vertical draft pipe which supplies the stove with air. This pipe is wholly exterior to the front end of the stove and is connected with the interior thereof near the top and bottom by means of horizontal elbows *b*. The pipe B, is provided midway its end with an air inlet *b′* controlled by a sleeve-like damper B′ which turns freely on the pipe and is provided with an aperture adapted to register with that in the pipe B. The damper B′ is formed by bending a strip of sheet metal into tubular form and extending one of its ends to form the scroll like handle b^2.

C, is the smoke outlet in the rear end of the top of the stove.

D, is the filling or fuel opening in the front of the top of the stove and is surrounded by the collar D′ provided with a series of apertures *d′*.

D^2 is the cover provided with a depending flange D^3 to fit the collar D′ and having a series of apertures d^3 to register with the apertures *d′*. It will be seen that as the air inlet *b′* is midway the ends of the pipe B, an equal amount of air will be admitted through said pipe into the top and bottom of the stove and this will effect a perfect combustion of the fuel and gases arising therefrom. The amount of air entering the aperture *b′* may be regulated by the damper and may be shut off altogether after the fire has gotten well under way. When the damper is so closed on the pipe B the air and the gases in the stove will be caused to circulate therethrough from the top to the bottom. The air and gases at the top of the stove will enter the upper end of the draft pipe and be cooled which will cause the same to pass downwardly into the fire space among the fuel which will cause complete combustion and thus the full amount of heat is gotten from the fuel.

We have found in practice that the effectiveness of the stove as a heater is greatly enhanced by the pipe B and that less fuel is required. Moreover the external pipe adds considerably to the radiating surface of the stove which is a very important feature.

By having the cover or cap serve the double purpose of a cover and a damper we do away with a separate damper in the top of the forward portion of the stove, and we find that by admitting air at this point at certain times, and when certain kinds of fuel are employed all danger of an explosion of gases accumulating in the top of the stove is avoided. This is especially the case where damp refuse or trash or straw is thrown into the stove. By closing the damper B′ and turning the cover to bring its apertures into register with those in the collar the stove may be "cooled off."

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A stove of the character described provided with a vertical air-supply and gas-circulating pipe opening at its ends into the upper and lower ends respectively of the stove, and having a valved air inlet between its ends to permit air to enter and pass in opposite directions simultaneously into the fuel, and into the combustion space in the top of the stove, to support and promote combustion, whereby

when said opening is closed, the air supply will be shut off, and a circulation of gases from the top of the stove and through the fuel will be effected, substantially as herein described.

2. A stove of the character described provided with a vertical air-supply and gas-circulating pipe opening at its ends into the upper and lower ends respectively of the stove, and having a valved air inlet between its ends to permit air to enter and pass simultaneously in opposite directions to the combustion space at the top of the stove, and in the fuel space at the bottom of the stove, and a valved air inlet in the top of the stove above the upper end of said air supply pipe; whereby when the inlet in the said pipe is closed to permit circulation of gases therethrough into the fuel, fresh air may be admitted at the top of the stove to mix with the gases passing down through the said pipe, and also prevent accumulation of gases in the top of the stove, substantially as herein described.

3. The combination with a wood or straw burner and its external vertical air inlet pipe provided between its ends with an aperture and connected at its ends with the interior of the stove; of the apertured sleeve-like damper having one end extended and forming an integral handle, substantially as herein described.

4. A stove of the character described provided with a vertical air and gas circulating pipe B on its outer side, and opening at its ends into the interior of the stove at top and bottom thereof; said pipe having a valved air inlet between its ends to permit air to enter and pass simultaneously in opposite directions into the combustion space and to the fuel space, and a combined filling opening and air inlet in the top of the stove adjacent to the upper end of the said air inlet pipe, and having a removable rotary cap or cover to permit the entrance of fuel, and regulate the admission of air, substantially as herein described.

5. A stove of the character described having its legs formed at their upper ends with outwardly extending scroll-like extensions and a foot rail connecting the outer portions of each pair of scrolls, substantially as herein described.

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