(No Model.) 3 Sheets—Sheet 1.

H. LINDAS.

STOVE.

No. 385,938. Patented July 10, 1888.

Fig. 2.

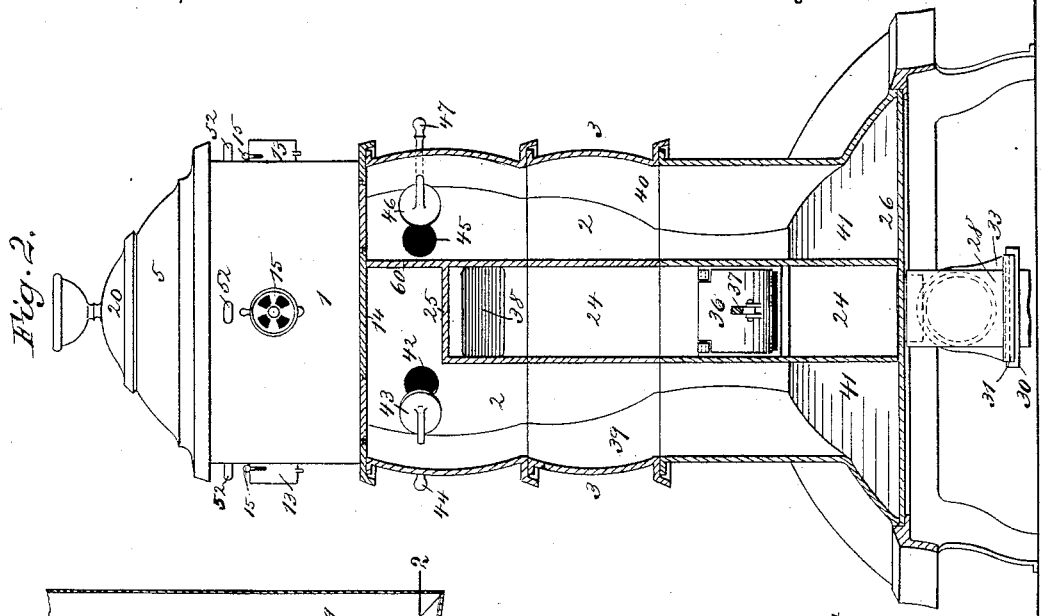
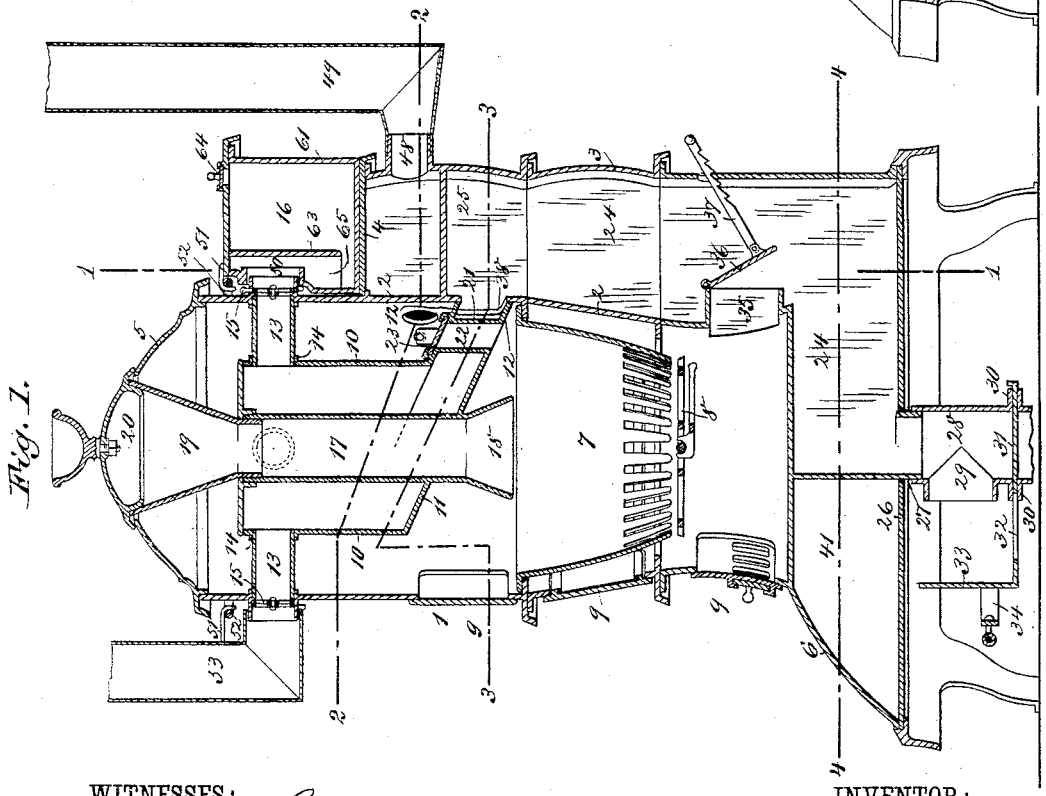


Fig. 1.



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(No Model.)

3 Sheets—Sheet 2.

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STOVE.

No. 385,938. Patented July 10, 1888.

Fig. 3.

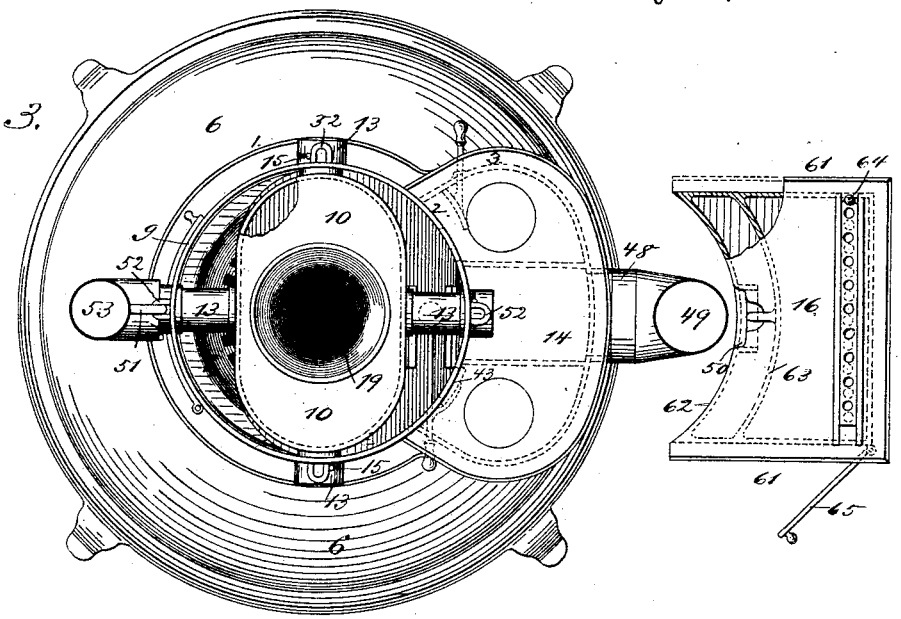


Fig. 4.

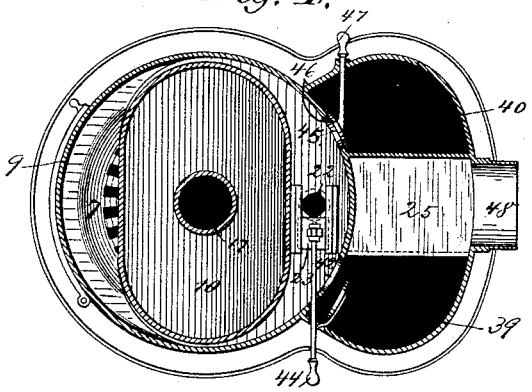
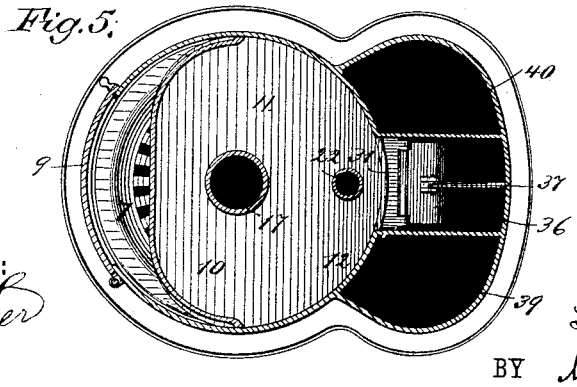


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

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STOVE.

No. 385,938. Patented July 10, 1888.

Fig. 6.

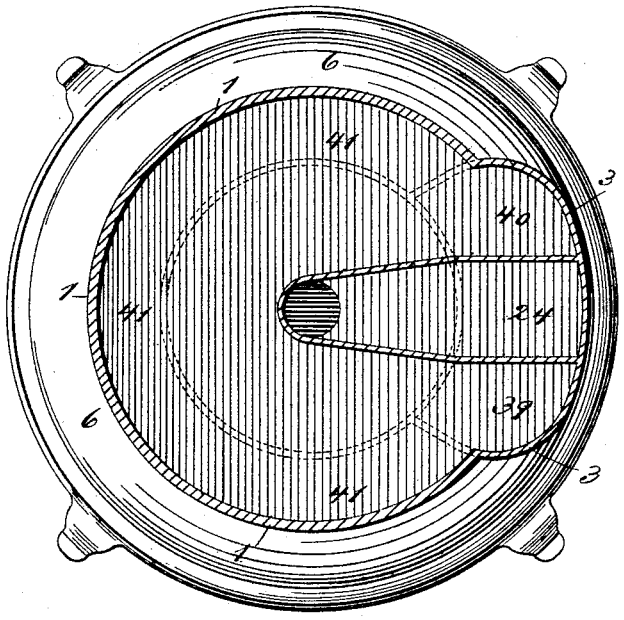


Fig. 7.

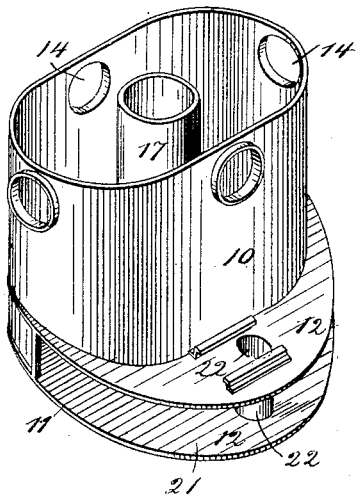


Fig. 8.

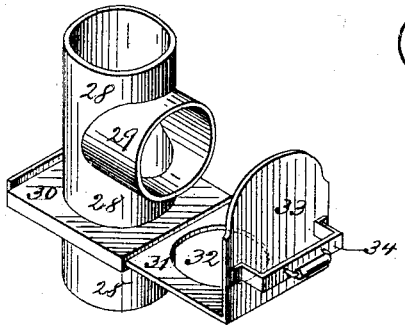
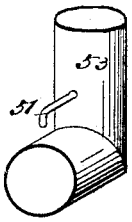


Fig. 9.



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UNITED STATES PATENT OFFICE.

HANS LINDAS, OF STOUGHTON, WISCONSIN.

STOVE.

SPECIFICATION forming part of Letters Patent No. 385,938, dated July 10, 1888.

Application filed October 30, 1886. Serial No. 217,576. (No model.)

To all whom it may concern:

Be it known that I, HANS LINDAS, of Stoughton, in the county of Dane and State of Wisconsin, have invented a new and Improved Stove, of which the following is a full, clear, and exact description.

My invention relates to parlor-stoves adapted for heating separate rooms, and wherein provision is made for cooking or baking; and it has for its object to effect certain improvements in the general construction of that class of stoves whereby the smoke is utilized as a heating factor.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a central vertical section of my stove. Fig. 2 is a rear vertical section through line 1 1 of Fig. 1. Fig. 3 is a plan view with top removed. Fig. 4 is a horizontal section through line 2 2 of Fig. 1, and Fig. 5 also a horizontal section taken through line 3 3 of Fig. 1. Fig. 6 is a horizontal section of the stove through line 4 4 of Fig. 1; Fig. 7, a perspective view of the drum thereof. Fig. 8 is a detail perspective view of the apparatus used to regulate the introduction of air, and Fig. 9 is a perspective view of the hot-air conducting pipe.

The stove is provided with an outer casing, 1, an inner casing, 2, said inner casing forming the rear wall of the stove proper, and also a rear projecting casing, 3, having a suitable apertured and plated top, 4, together with a top, 5, for the upper cylindrical portion of the stove, and a base, 6. The stove is further provided with an ordinary fire-pot, 7, furnished with a suitable grate, 8, and the usual number of doors, 9, ordinarily employed in the construction of parlor-stoves.

A drum, 10, (shown in detail in Fig. 7,) usually made oval in form, with a downward-inclined bottom, 11, and a rear integral projection, 12, is suspended within the upper cylindrical portion of the stove, over and above the fire-pot 7, by means of pipes 13, which, engaging flanged apertures 14 in the sides of said drum 10, are extended horizontally through similar apertures in the outer casing, 1, of the said upper cylindrical portion of the stove. These pipes are each provided with a register or a damper, 15, and are purposed to convey the heat to the room in which the stove is placed, or partially or entirely to a room above, an adjoining chamber, or to an oven, 16, as hereinafter described, said oven being adapted to rest upon the top 4 of the rear extension of said stove. The drum 10 is also provided with a tubular conductor, 17, having an outwardly-flaring lower end, 18, extending centrally through it, to which tubular conductor 17 is united a funnel-shaped hopper, 19, connected with the stationary top 5 of the stove, and provided with an ornamental lid, 20, which lid constitutes the crown of said stove. The object of the conductor and funnel is to feed the fire. When, however, it is desired to use the fire-door exclusively to introduce fuel, the funnel 19 is removed and the conducting-tube 17 used as a flue to conduct additional heat through the drum—that is to say, the removal of the funnel will afford the drum a larger heating-surface, as the heat will not only pass around it, but through it by means of the magazine.

The rearward projection, 12, of the drum is provided with a continuous opening, 21, whose edges are fitted to the contour of the inner rear wall, 2, and a vertical central incased opening, 22, extending through said projection, controlled by a damper, 23, sliding in ways therefor, as shown in Figs. 1 and 4.

The space between the inner rear wall, 2, and the rear projecting casing, 3, is provided with a central vertical incased air-chamber, 24, which, extending upward nearly to the top plate, 4, of the projecting casing 3, is capped by a horizontal plate, 25, while at the base the said chamber extends at right angles under the ash-pit of the stove to the center of the base-plate 26 thereof, as shown in Figs. 1, 4, and 6. The tubular projection 27, integral with the walls of said air-chamber, is projected through a central aperture in the base-plate 26 under the same and above the floor, as shown in Fig. 1.

A section of pipe, 28, having an elbow, 29, adapted for attachment to the tubular projection 27 of the air-chamber 24, (shown connected in Fig. 1,) is provided with a projecting car-

rier, 30, adapted to receive a slide, 31, having an aperture, 32, cut therein the diameter of said pipe 28, and an integral upwardly-projecting end, 33, at right angles thereto, provided with a handle, 34, as shown in detail in Fig. 8. Through the vertical pipe 28 air is admitted to the chamber 24. When the supply is taken from the room, the slide 31 is in the position shown in the drawings, and air can enter through the elbow 29, the passage through the vertical pipe being cut off below the elbow. When it is desired to introduce air from outside the room, the slide is pushed in so that its aperture 32 registers with the pipe 28; the vertical projection 33 of said slide then forming a seal for the elbow 29. Suitable connections from the pipe 28 to the outer air are to be provided. The air is passed under the fire-box, when desired, through an opening, 35, in the inner rear wall, 2, into the ash-pit, and is controlled by a hinged damper, 36, operated by means of a pivoted racked rod, 37, from the rear of the stove. The body of the air is conducted through an opening, 38, in the upper portion of the air-chamber, which registers with the open sides 21 of the inclined projection 12 of the drum 10, into said drum, to be distributed through the horizontal pipes 13, as desired.

The spaces within the rear projection of the stove upon each side of the air-chamber 24 constitute smoke-flues 39 and 40, which are divided one from the other in said rear projecting portion by the extension 60 of one wall of the air-chamber to a connection with the top plate, 4, and are united at the bottom of the stove through the base-chamber 41, as shown in Fig. 6.

The smoke-flue 39 is connected with the body of the stove by means of an aperture, 42, made in the rear inner wall, 2, immediately over the inclined projection 12 of the drum 10, the said aperture 42 being governed by a damper, 43, which is worked by the same rod, 44, and simultaneously with damper 23 of the incased opening 22 of said drum 10, as illustrated in Fig. 4. A similar aperture, 45, is provided the smoke-flue 40, which enters the body of the stove also immediately over the projecting portion of the drum 10, in line with aperture 42, operated from the rear through a damper, 46, having a rod, 47, also shown in Fig. 4.

Between the top plate, 14, of the rear projecting portion of the stove and the upper cap-plate, 25, of the air-chamber 24 within the smoke-flue 39 an aperture is provided in the casing 3 of said projecting portion, surrounded by a collar, 48, adapted to receive a suitable pipe, 49, through which the smoke is conducted to the chimney.

The oven 16, adapted to be placed upon the top plate, 14, of the rear projection, provided with an opening, 50, purposed to receive the rear hot-air pipe, 13, is retained in position by means of a hook, 51, entering a proper staple, 52, secured to casing 1 of the upper cylindrical portion of the stove. The attached conducting-pipes 53 are also supported in position upon the hot-air pipes through the medium of like hooks 51 and staples 52. The said oven 16 receives heat from the rear hot-air pipe, 13, and also from the smoke passing up flue 39. By drawing out the damper-rod 44 the united dampers 43 and 23 uncover their respective openings and a direct draft is obtained to the smoke-pipe 48 through the opening 22 of the drum and the aperture 42 in the inside rear casing, 2.

To obtain an indirect draft and utilize the heat of the smoke, the dampers 43 and 23 are closed, thereby shutting off all direct communication between the smoke-pipe and the fire-pot, and the damper 46 of flue 40 is opened. The smoke now passes up around and over the drum 10, through the aperture 45 of flue 40 and down flue 40 around in the connecting base-flue 41, from thence up the flue 39 over the cap-plate 25 of the air-chamber, and out through the aperture surrounded by collar 48 in the rear casing, 3, into the smoke-pipe 49. When the smoke enters in this manner the smoke-pipe 49, it is comparatively cooled.

The oven 16, adapted to rest upon the rear extension of the stove, is usually made with three straight sides, 61, and one concaved side, 62. This concaved side 62 is provided with an opening, 50, as aforesaid, to receive the hot-air pipe 13 of the drum 10, and slightly to the rear of the said opening a concaved or semicircular partition, 63, is extended from the top longitudinally the oven within a short distance of the bottom, leaving a space, 65, between. The object of the semicircular partition 63 is to conduct the heat downward and distribute it over the lower portion of the oven. The heat in said oven is regulated by means of a perforated slide, 64, of the top thereof, and a door, 65, is provided at one end, through which the article to be cooked is introduced. When the oven is removed, the apertured top plate, 14, may be used to boil or fry upon. In that event a direct draft is necessary.

The oven is preferably made of light sheet-iron, and may be, if desired, readily removed and attached at the other side of the stove.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a stove having an air-supplying passage, of a drum suspended within the stove below its top, and having a rear projection opening through the casing of the stove into the said passage, and provided with hot-air pipes leading outward through the stove-casing, whereby the entire surface of the drum and the pipes will be exposed to the heat, substantially as set forth.

2. The combination, with the stove having an air-passage, 24, and a smoke-outlet above and independent thereof, of a drum, 10, suspended within the stove, and having a rear projection, 12, opening into the said air-passage, hot-air pipes leading outward through the casing of the stove, vertical incased opening 22

through the projection 12 adjacent to the smoke-outlet, and a damper therefor, substantially as set forth.

3. The combination, with a stove having a drum suspended therein below the top, provided with an air-supply passage and hot-air pipes, of the fuel-magazine extending down through the drum, and a removable funnel or chute and cover therefor, whereby by removing the said funnel or chute the heating-surface of the drum will be increased, substantially as set forth.

4. The combination, with the stove having a drum suspended within its upper end, provided with outward-extending hot-air pipes, of an air-passage leading upward from the base of the stove, communicating at or near its lower end with the rear end of the ash pit or chamber and opening at its upper end into the said drum, and a damper for the air-passage at the ash-pit, whereby the air supplied the drum for heating purposes may be drawn through the ash-pit, substantially as set forth.

5. In a stove constructed as herein described, the combination, with the air-chamber 24, provided with a lower tubular inlet, 27, of the vertical air-pipe 28, provided with an attached horizontal pipe, 29, and a projecting carrier, 30, together with an apertured slide, 31, adapted to move in said carrier, having one end, 33, turned up at right angles thereto and provided with a handle, 34, substantially as shown and described, and for the purpose herein set forth.

6. The combination, with the stove having a heating-drum, of an air-supply passage leading from the base to the said drum, a cold-air pipe communicating with the lower end of said passage, and having also an outlet or branch opening into the room, and a damper constructed to close the cold-air pipe and open its said outlet or branch, or vice versa, according to the direction in which it is moved, substantially as set forth.

7. The combination, with the stove, its suspended heating-drum, and hot-air pipes, of an air-passage communicating with the drum, leading to the base and having a cold-air inlet, an outlet or branch opening into the room, an opening communicating with the ash-pit, and dampers for the three sources of air-supply, substantially as set forth.

8. The combination, with the stove, the rear extension, flues connected at the base and separated at the upper end of the extension, an air-passage between said flues, openings leading into the stove from the upper ends of the flues, and a smoke-outlet between the flues, of the drum within the stove, having an extension opening into the air-passage, a vertical incased opening through said extension and connected dampers for the said incased opening, and the opening leading directly to the smoke-outlet and a damper for the indirect or return flue opening, substantially as set forth.

HANS LINDAS.

Witnesses:
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