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E. Nott,
Cook Stove.

Patented Jan. 2, 1834.

Fig. 1.

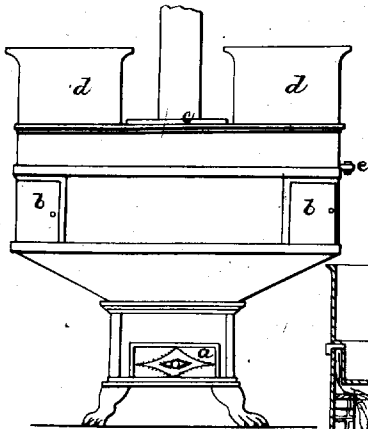


Fig. 2.

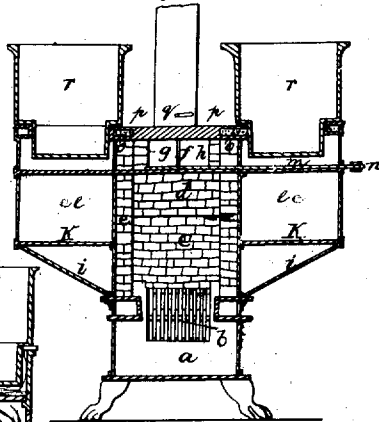


Fig. 7.

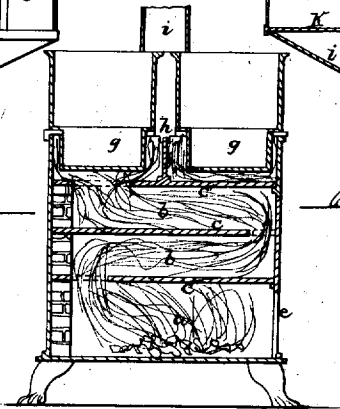


Fig. 3.

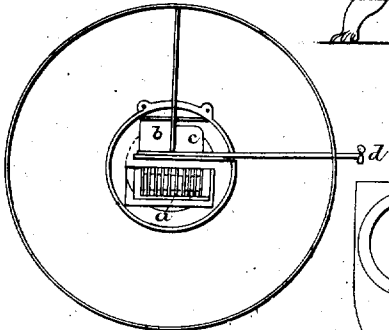


Fig. 4.

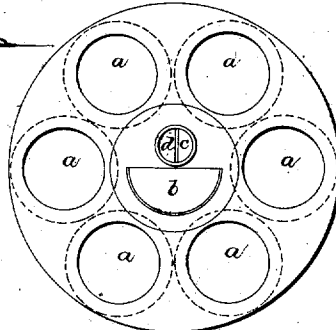


Fig. 8.

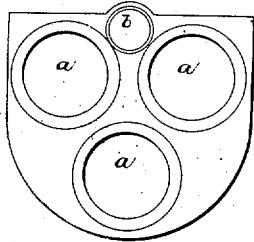


Fig. 5.

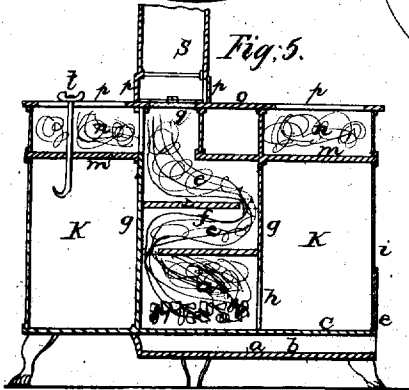
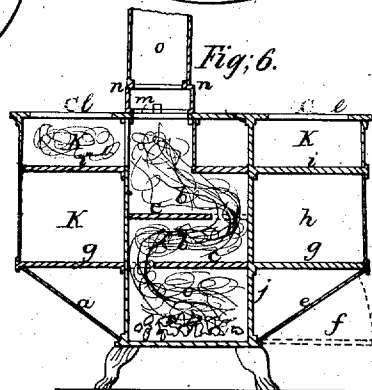


Fig. 6.



Elihu S. West

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 Elihu S. West, himself of his improvement for preventing the waste of heat in cooking stoves, applicable to other furnaces.

Specification of improvements made for preventing the waste of heat in cook stoves; applicable to other furnaces. Whereas in our cook stoves having burners under or around which the flame passes, much heat escapes to the room without producing any useful effect, therefore, an improvement has been introduced which consists in such an adjustment of the chambers of combustion and treatment that the heat in escaping from the former must pass through the latter, and be in passing reflected back by an exterior coat of sheet tin or some material suited to that purpose - which may be effected by making use of a vertical hollow cylinder for the chamber of combustion and by enclosing the same to nearly one third of its height with an envelope of sheet tin, or other good reflector in the form of a hollow truncated cone inverted, the diameter of the upper base of which is about three times that of its lower base, and the diameter of its lower base about equal to that of the cylinder which it encloses; and, by placing over this first cavity containing between the mouth of the interior cylinder, and the exterior cone, a circular horizontal flat plate pierced by a central opening corresponding in size to the size of the cylinder occupying the same - said flat plate constituting at once the ceiling of the cavity beneath, and the floor of the cone above it, and

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and, by raising on the outer margin of said floor a concentric hollow cylinder in sheet tin or other reflector furnished with doors and having an elevation somewhat greater than one third of the elevation of the central cylinder it encloses, — and by placing over this second contained cavity, or over, a second and similar circular flat; and by raising on the outer margin of said second circular flat a second concentric cylinder in sheet tin quite to the top of the central cylinder, the same to be lined with brick or other non conducting material. — and, by placing over this third contained cavity which is the chamber for boilers a third circular flat pierced not only centrally, for the contained cylinder, but, but also for kettles occupying the space exterior thereto, and having a rim or margin raised from one to two inches high, around each contained aperture and also around the periphery of the flat itself and, by placing over this covering of the chamber, for boilers a second one pierced in the same manner (the two being stayed apart by the ribs aforesaid in such manner that a space is left between them; the same to be filled with sand or other non conducting material unless the upper flat be of sheet tin, zinc, or other polished metallic substance; and, by throwing a partition across the circular chamber for boilers surrounding the chamber of combustion: and by opening a passage from the chamber of combustion to the chamber for boilers on the one side of said partition and from the chamber for boilers to the pipe or flue on the other side of said partition, or, if passages be opened on both sides of said partition to and from said chamber, the same to be so governed, by valves, that the flame can be passed at pleasure through said chambers in the one, or in the other direction. or which may be effected by making use of two concentric hollow cylinders or prisms, both resting on the hearth or bottom. The calibre of the

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of the interior one constituting the chamber of combustion and flue for flame to pass off in, either direct, or by con-
bination; as preferred, the end of the exterior one, con-
stituting the end of the oven, and the space between the
two, the oven itself; The requisite apertures for ingress and
egress being provided in each, and both being surrounded
by a horizontal flue or chamber for containing boilers or
pipes &c. It is to be understood that a second exterior
lamina may, if necessary, be added, and the space between
the two filled with sand or left vacant as preferred. and
it is, also, to be understood that the exterior, from which
prisms, are employed, may, if desired, be so constructed,
towards its lower extremity as to close around the interior
prism. Or, which may be more or less perfectly effected,
by adjusting in like manner, especially if wood be the fuel
in use, separate ovens on the sides of a chamber of combus-
tion; Or, even a single oven on a single side; provision being
made in such case for the ingress of fuel, laterally at the
end, and the egress of flame, vertically, at the other; the
same to be passed horizontally over the ceiling of said
chamber, to the end at which the fuel enters, and thence
upward; into the chamber for boilers which rests thereon,
and provision being also made for preventing the escape
of heat, from the side on which there is no oven, by the
interposition of a brick wall, along the same; or by any
other manner of adjustment preferred; Provided, only,
an oven, heated by radiation and reflection, and the outer
crust of which is a sheet tin reflector, or a reflector of
any other material, be so combined with a chamber of
combustion, in a cook stove, as to form an integral part
thereof. For further information, reference must be
had to the drawings and explanations connected herewith.

Summary. The invention and improvement is
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herein contemplated consists, in preventing the waste of
 heat in cook stoves. By adjusting the chamber of combustion
 centrally, and surrounding the same, as far as may be by
 the chamber or chambers of heatment, in such manner that
 the heat, in escaping to the room from the former, must pass
 through the latter, and be, in passing, either reflected by an
 exterior coat that is a reflector, or arrested by one that
 is a nonconductor—either in single or double laminae;
 and, if double, with an empty space, or a stratum of non-
 conducting material between the two— which may be
 effected by a combination of concentric hollow cylinders
 or piers of the kind, and in the manner aforesaid, or
 by any other combination preferred,— also, by combining
 separate boxes, having an exterior coat of hammered sheet
 tin, common sheet tin, polished iron, or other metallic re-
 flector, with a central chamber of combustion and flue
 for flame, either reverberated or not, in such manner
 that the former shall be heated by a radiation and reflec-
 tion from the latter, and each form an integral part of
 the same instrument. Or, by combining in a similar man-
 ner a single similar box to be heated as aforesaid, with an
 adjoining chamber of combustion, and flue for flame, in
 whether reverberated or not; from the opposite side of
 which chamber of combustion and flue, the escape of
 heat is prevented by a lining of brick or other nonconduct-
 ing material.— By adding a second covering to the upper sur-
 face of the chamber for boilers, and to such other parts of the
 stove as will diffuse heat, unnecessarily, without such
 covering.— And unless such second covering be a good re-
 flector, by filling the space between the two, which should
 be from one to two inches with sand, or other nonconduct-
 ing material,— and,— In preventing the unnecessary diffu-
 sion of heat and steam,— By suspending over the interior
 stove

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those, especially in summer, a sheet tin, or other metallic canopy, with an outlet at the apex, connecting with the chimney. I therefore claim as my invention and improvement, the preventing of the waste of heat in cook stoves, by adjusting the chamber of combustion centrally, and surrounding the same as far as may be, by the chamber or chambers of treatment, in such manner, that the heat, in escaping from the former, must pass through the latter; and being passing either reflected by an exterior must, that is a reflector, or arrested by one that is a nonconductor; either in single laminae, or double laminae, with an intermediate stratum of air, or other nonconducting material. whether the same be effected by a combination of concentric hollow cylinders or pipes as aforesaid, or by any other combination preferred. and also—By combining separate ovens having an exterior crust of hammered sheet tin, common sheet tin, polished iron, zinc, copper, brass, or other reflector, with a central chamber of combustion, and flue for flame, whether reverberated or not, in such manner that the former shall be heated, from the latter by radiation and reflection, and each form an integral part of the same instrument. Or, by combining in a similar manner, a single similar oven, to be heated as aforesaid, with a similar adjoining chamber, and flue for flame, from the opposite side of which the escape of heat is prevented, by a lining of brick or other nonconducting material. and—By adding in combination a second upper covering to the chamber, for boilers, and such other parts of the stove as will diffuse heat, unnecessarily, without such second covering, and interposing sand or other nonconducting material between the two, unless the same be a good reflector, and—By preventing in like manner, the diffusion of heat and steam through the room, by suspending over the whole

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whole canopy pierced and connected at the apex as
aforesaid - together with the uses to which the same has
been or may hereafter be applied.

Wt. Witnesses

W. D. Martin.

Alexander Holland.

Elephalob Nott

Drawing

(Granted 9th January 1834)

(1782 serial)