May 11, 1926. 1,584,707

A. HEDEEN

FUME AND HEAT REMOVING DEVICE

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Fig. 1.

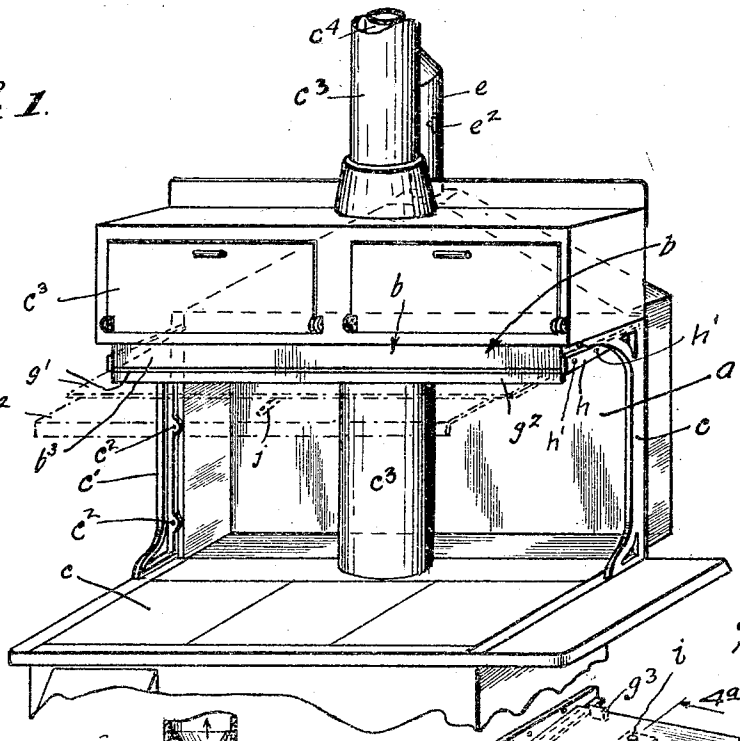


Fig. 4.

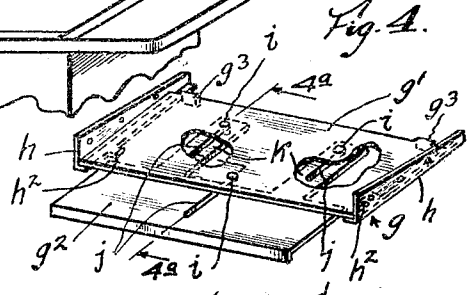


Fig. 2.

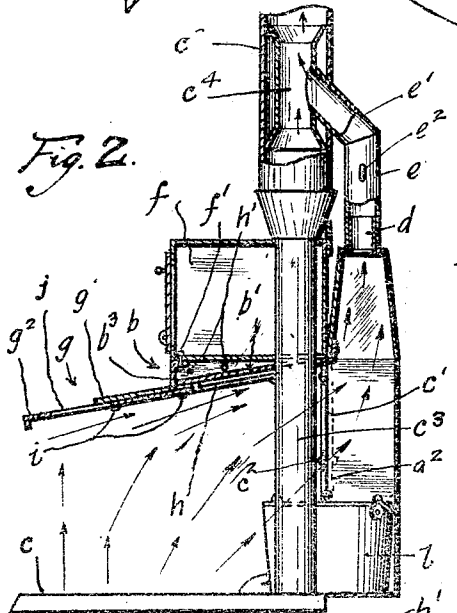
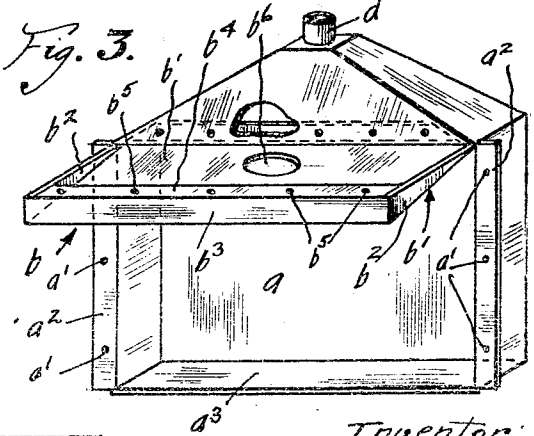


Fig. 3.



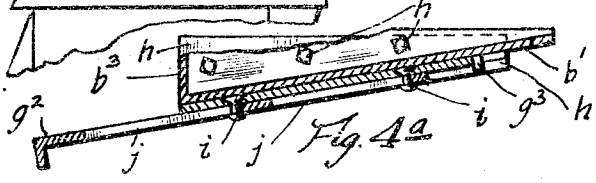


Fig. 4a.

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Fig. 5.

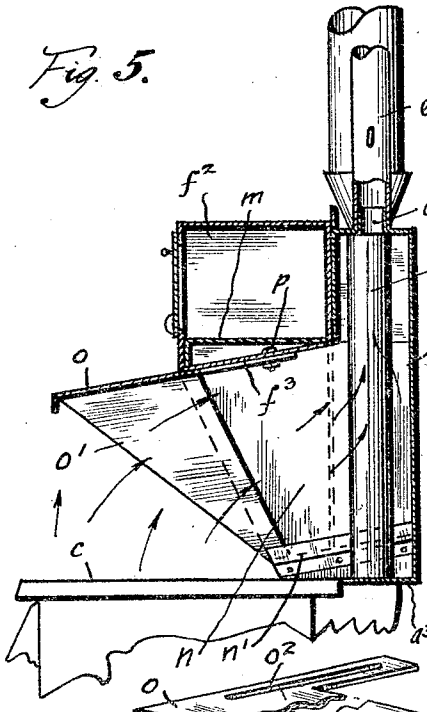
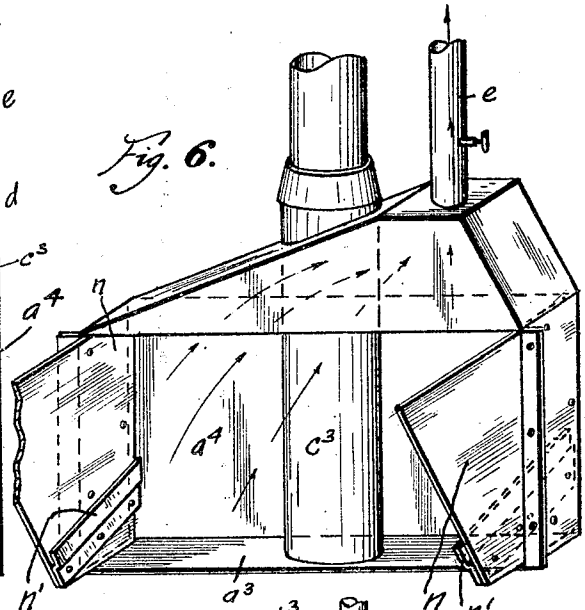


Fig. 6.



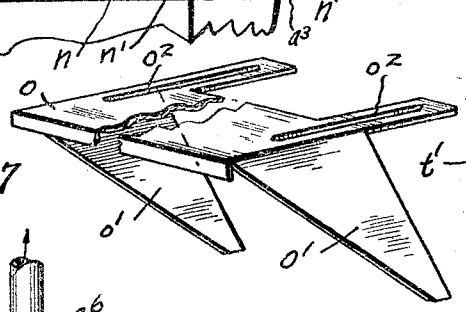


Fig. 7

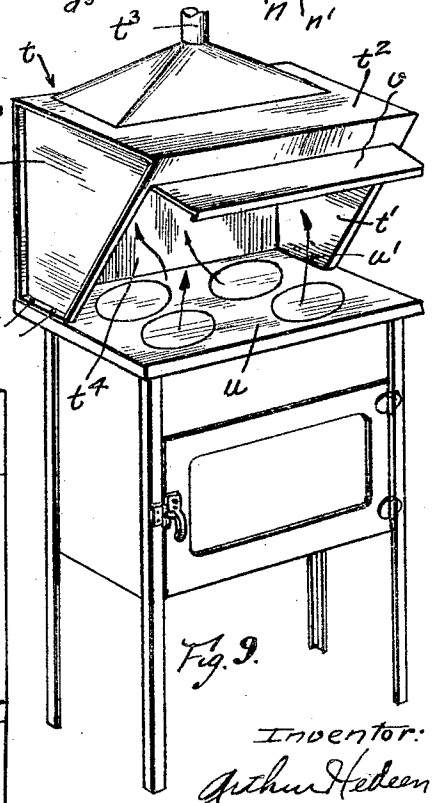


Fig. 9.

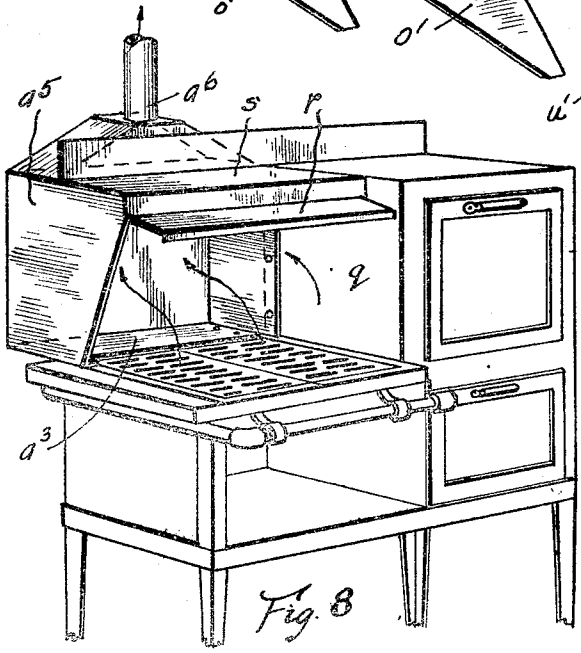


Fig. 8

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Fig. 10.

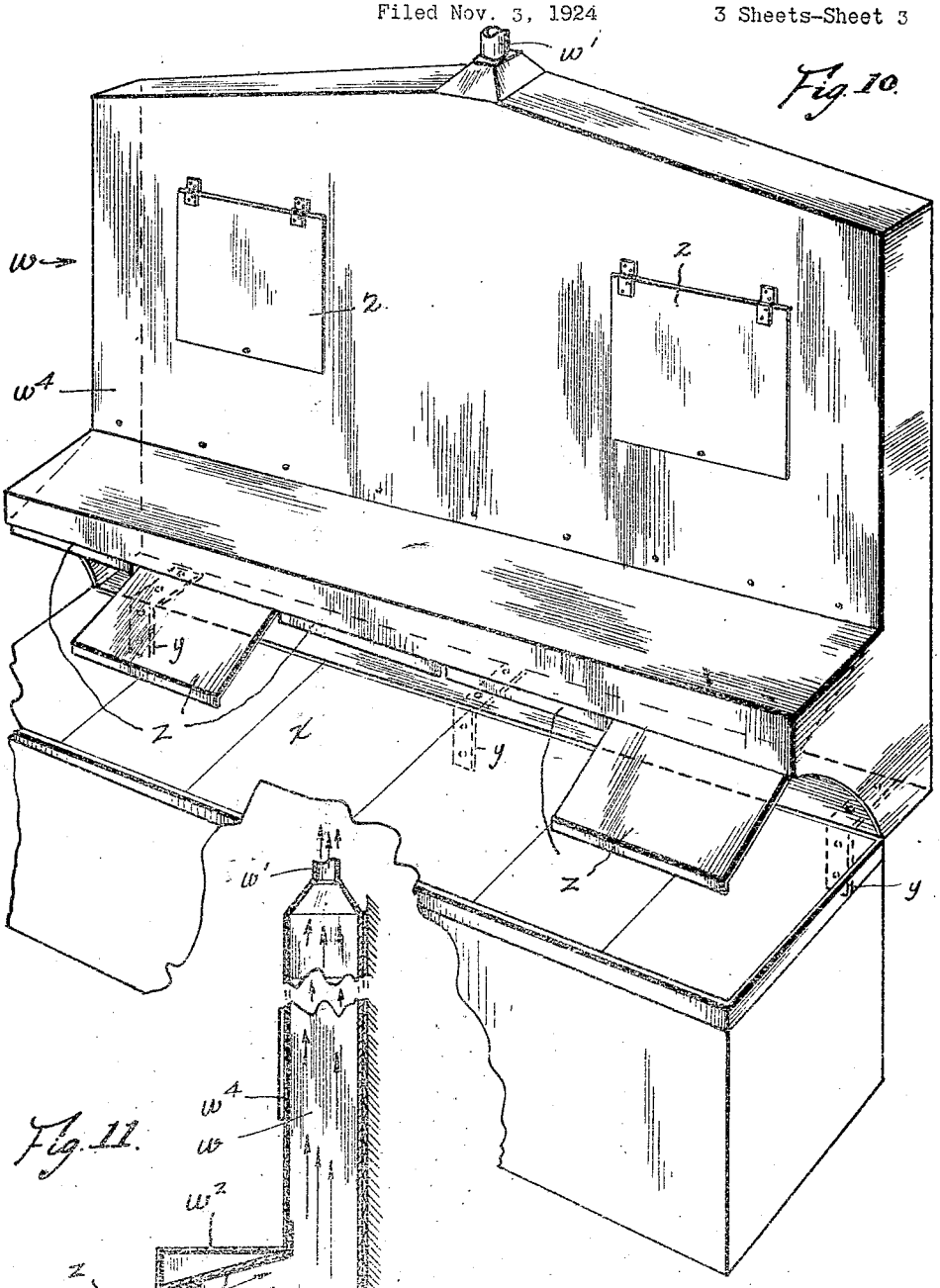
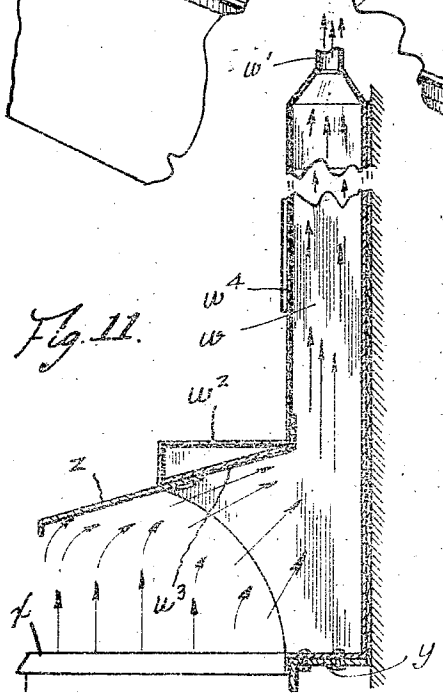


Fig. 11.



Inventor:
Arthur Hedeen

Patented May 11, 1926. 1,584,707

UNITED STATES PATENT OFFICE.

ARTHUR HEDEEN, OF PORTLAND, OREGON.

FUME AND HEAT REMOVING DEVICE.

Application filed November 3, 1924. Serial No. 747,475.

My invention relates to stoves of all descriptions especially of the types in use at the present time. Stoves as at present constructed sometimes have no means provided for removing the fumes of cooking foods or the poisonous fumes that are caused by imperfect combustion.

Most of the stoves of the gas-electric and coal and wood type are provided with either a warming closet or a shelf and an enclosure at the back. These cause the fumes that rise under the former to be forced towards the front of the stove and up into the room. Naturally these fumes will strike into the face of the person tending to the cooking.

Many devices have been invented to remedy this condition but they have been either too large, and thus a hindrance or they cannot be applied to the modern type of stove.

Another fault with many of these devices is that they function only at certain times such as when the hoods are pulled over the stoves.

The object of my invention, therefore, is to provide means that will remove these fumes by providing at the under side of the warming closet or shelf an inclined plane that will direct said fumes to a chamber at the back of the stove.

Another object of my invention is to provide means that can readily be made a standard part of any stove.

I attain my object by providing a chamber that is attached to the rear of the stove and has an outlet at the top. Together with this I provide at the under side of the warming closet or shelf, a rearwardly inclined surface that will cause the fumes to enter the chamber and then be carried away.

To accommodate the complete area of the stove I provide a sliding member that can be pulled forward in the same plane as the incline above mentioned.

Thus my device is operable at all times either in part or in whole, as the heated fumes will always follow the inclined plane.

I also provide means for preventing side drafts from carrying the fumes to the side of the stove and into the room.

I carry my invention into practice in the manner illustrated by the accompanying drawings constituting a part of this specification:

In said drawings:

Fig. 1 is a perspective view of a standard range showing my invention as a part of the same and the connection of the chamber to the flue;

Fig. 2 is a section taken along the center line of the flue, thus showing the auxiliary sliding member pulled out to its full length; this view also shows how the chamber increases the area of the stove surface, and also shows means within the flue for aiding the fumes to escape due to the suction created by the fire in the stove;

Fig. 3 is a perspective view of my chamber;

Fig. 4 is a perspective view of the construction of the auxiliary sliding member and the means for attaching the same to the under side of the inclined attachment to the warming closet;

Fig. 4^a is a section taken on the line 4^a—4^a of Fig. 3, showing details of construction;

Fig. 5 is a similar section to Fig. 2 showing a range with the flue in a more rearward position, also anti-draft devices;

Fig. 6 is perspective view of my chamber with the outlet at the side of the flue, and also shows side plates that extend under the warming closet to eliminate side draft;

Fig. 7 is a perspective view of the auxiliary sliding member having side wings as shown;

Fig. 8 is a perspective view showing my invention in relation to a gas or electric stove with side oven;

Fig. 9 is a perspective view showing my invention in relation to a gas or electric stove with bottom oven and no shelf;

Fig. 10 is a perspective view of my device on an enlarged scale in relation to a restaurant range showing the auxiliary slides made in a number of units; and

Fig. 11 is a vertical section of Fig. 10.

To the chamber a is attached the member b having an inclined surface b', sides b^2 and a front part b^3 provided with an over turned lip b^4. The back plate of the stove is removed and thus is not shown. The chamber is attached to the stove brackets c' by means of bolts c^2 through holes a' provided in the side flanges a^2 of the chamber a. The upper part of the chamber a is tapered to an outlet d to which is attached the pipe e. A hole b^6 is provided for the flue c^2 to pass through surface b'.

The member b is attached to the under side of the warming closet f by bolts f'

through holes b^5 in the lip b^4. The bottom side a^3 of the chamber becomes a continuation of the surface of the stove c.

Thus, instead of a pocket being formed under the warming closet, an avenue of escape is provided for the fumes in the rearward direction.

To accommodate the complete area of the stove heating surface I provide a member g which slides forward in the same inclined plane with the surface b'.

Owing to the fact that the warming closets are relatively narrow, I find it preferable to construct the member g of units g' and g^2. The unit g' slides in brackets h which are held to member b by rivets h'. The lips g^3 of units g' strike against the stops h^2 of brackets h and limit the forward movement of the unit g'.

Countersunk bolts i set in the unit g', work in slots j in the unit g^2, and the extensions k of the unit g^2 and limit the forward movement of the unit g^2.

In Fig. 3 it will be noted that a kettle l can be set on the bottom surface a^3 of the chamber and thus added space is left for other kettles.

In Fig. 5 the bottom f^3 of the warming closet f^2 is at an incline and a false bottom m is inserted into the closet.

The chamber a^4 is provided with extensions n. The sliding member o having downwardly extending portions o' is mounted to the underside of the closet f^2 by rivets p sliding in slots o^2 in member o.

In Fig. 8 the chamber a^5 provided with an outlet a^6 is shown attached to the stove q and the slide r is suitably mounted to the under side of the shelf s, which is inclined.

In Fig. 9 the chamber t having sides t', top t^2 outlet t^3, and back t^4, is attached to the top of the stove u by rivets u'. The slide v is mounted to the inclined under side of the top t^2.

In Figs. 10 and 11 the chamber w is attached to the stove x by brackets y and is provided with outlet w' and shelf w^2 having an inclined under surface w^3 to which are suitably mounted sliding units z.

Doors 2 are provided in the upper side of the front wall w^3 of the chamber w for readily cleaning out the chamber.

In Fig. 1 I show means for aiding in withdrawing the fumes from chamber a in the form of a Venturi tube c^4. The portion c' of the pipe c connects to the flue at an angle. A damper c^2 is added to shut off the chamber from the flue.

I claim:

1. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove, with a bottom part forming an added area to the surface of the stove, in combination with an inclined surface extending part way over the stove, and a pipe attached to the outlet of the chamber and extending in a suitable manner to the atmosphere.

2. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove with bottom part forming an added area to surface of the stove, in combination with a member having an inclined surface extending part way over the stove and means for attaching to the under side of warming closet or shelf, and a pipe attached to the outlet of the chamber, and connected with the flue of the stove.

3. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove with bottom part forming an added area to surface of the stove, in combination with a member having an inclined surface extending part way over the stove and means for attaching to the under side of warming closet or shelf, a pipe attached to the outlet of the chamber and connected with the flue of the stove and means provided for aiding in the forced drawing away of the fumes.

4. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove with bottom part forming an added area to surface of stove, in combination with a member having an inclined surface extending part way over the stove and means for attaching to under side of warming closet or shelf, a pipe attached to the outlet of the chamber and connected with the flue of the stove, and a sliding member mounted to under side of inclined surface by suitable means and operating in plane below the inclined surface and stops provided for limiting forward movement of slide.

5. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove and provided with side extensions with bottom part forming an added area to surface of stove in combination with a member having an inclined surface extending part way over the stove and means for attaching to under side of warming closet or shelf, a pipe attached to the outlet of the chamber, and a sliding member mounted to the under side of inclined surface by suitable means and operating in plane below the inclined surface, and stops provided for limiting forward movement of slide.

6. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove, and provided with side extensions with bottom part forming an added area to the surface of the stove, in combination with an inclined surface extending part way over the stove and a pipe attached to the outlet of

the chamber, and a sliding member mounted to the under side of the inclined surface by suitable means and operating in the plane below the inclined surface, and stops provided for limiting forward movement of the sliding member.

7. In a device of the character described, a chamber having an outlet at the top and provided with means for attaching to a stove, and provided with side extensions, with bottom part forming an added area to surface of stove, in combination with a member having an inclined surface extending part way over the stove and means for attaching to under side of warming closet, or shelf, a pipe attached to the outlet of the chamber, a sliding member mounted to under side of inclined surface by suitable means and operating in the plane below the inclined surface, and stops provided for limiting forward movement of slide, said sliding member also provided with downwardly extending portions.

ARTHUR HEDEEN.