

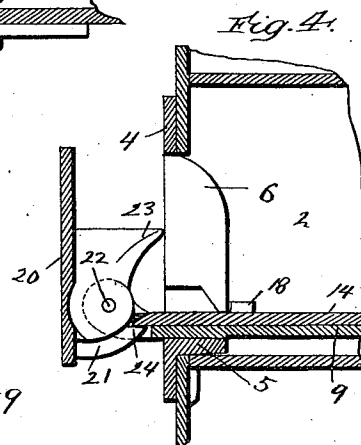
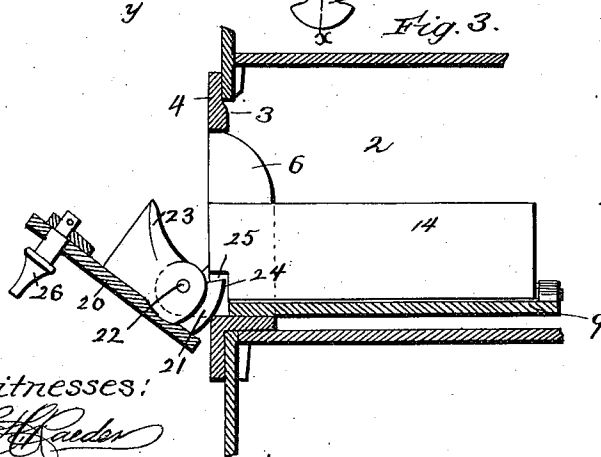
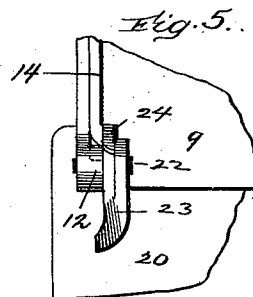
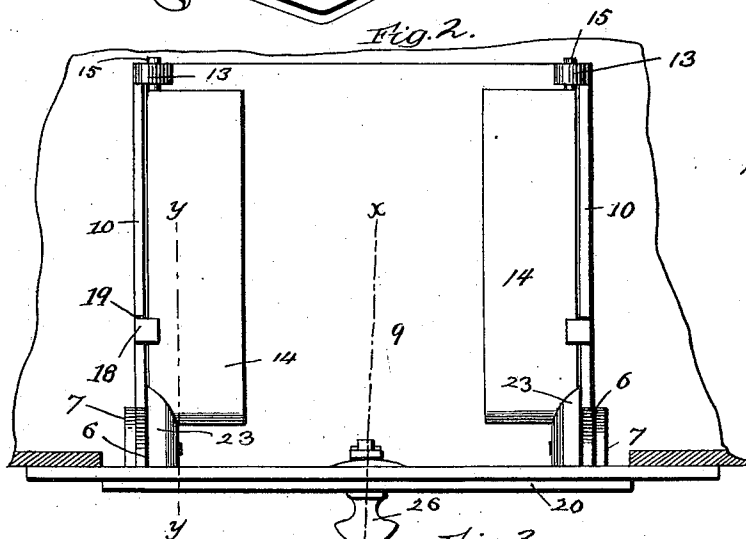
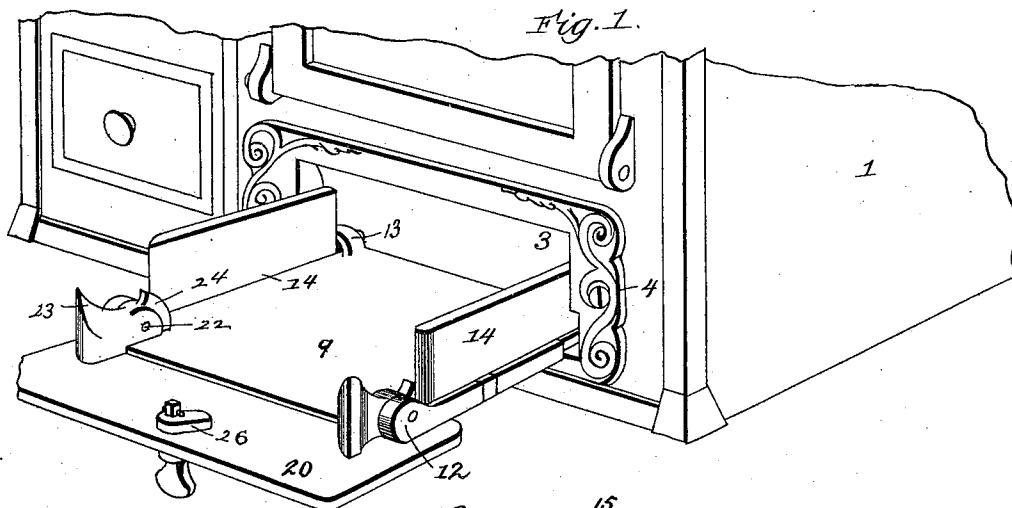
(No Model.)

2 Sheets—Sheet 1.

M. M. KOCH.
STOVE OR RANGE.

No. 574,336.

Patented Dec. 29, 1896.



Witnesses:

E. H. Rader
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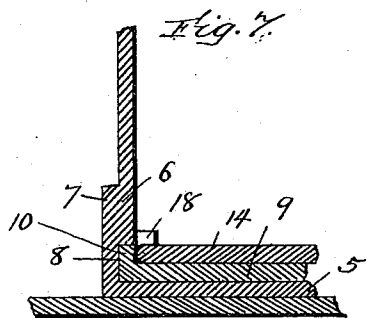
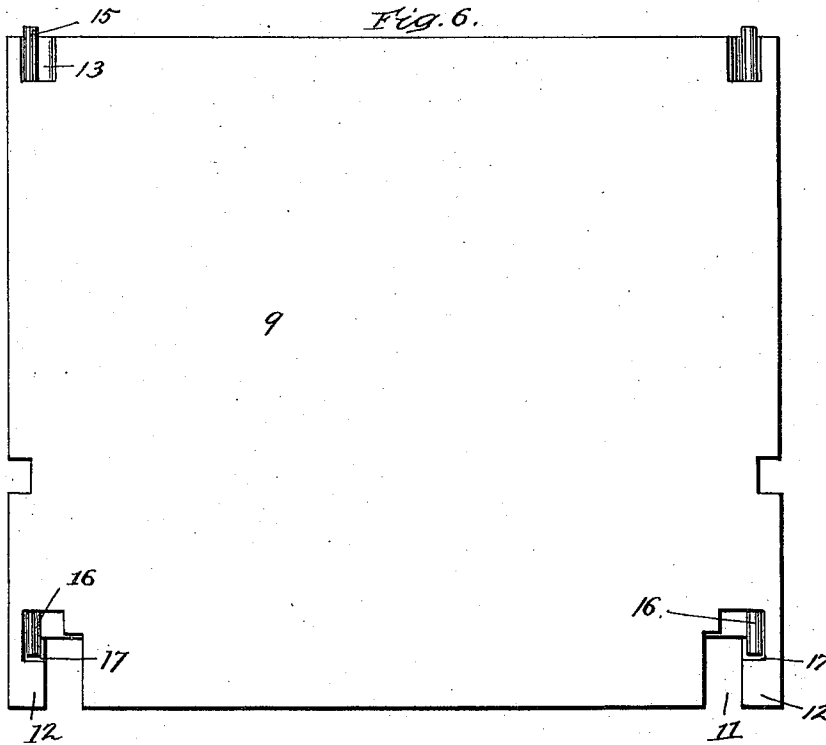
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2 Sheets—Sheet 2.

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Witnesses.

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Inventor

M. M. Koch

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UNITED STATES PATENT OFFICE.

MAX M. KOCH, OF CLEVELAND, OHIO.

STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 574,336, dated December 29, 1896.

Application filed June 3, 1896. Serial No. 594,134. (No model.)

To all whom it may concern:

Be it known that I, MAX M. KOCH, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stoves or Ranges; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in stoves and ranges; and it contemplates providing a stove or range with a door which controls communication with a flue or other space where soot is deposited and means for preventing the soot from falling upon the floor when the door is opened and for facilitating its removal from the flue or space within the stove or range to the receptacle placed to receive it.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a stove or range body provided with my improvements, the parts being shown in their open positions. Fig. 2 is a horizontal section taken in a plane above the door-opening with the door in its closed position. Fig. 3 is a detail section taken in the plane indicated by the line *x x* of Fig. 2 with the door partly open. Fig. 4 is a detail section taken in the plane indicated by the line *y y* of Fig. 2 with the door drawn outwardly away from the door-opening, but not swung down. Fig. 5 is a detail plan view illustrating the mechanism through the medium of which the guards are raised when the door is swung down to a horizontal position. Fig. 6 is a detail enlarged section taken in the plane indicated by line *x x* of Fig. 4; and Fig. 7 is an enlarged plan view of the apron, showing the recesses at the outer end thereof.

In the said drawings similar numerals designate corresponding parts in all of the views, referring to which—

1 indicates the body of a stove or range, which may be of the ordinary or any suitable general construction. This body 1 is provided

with a flue 2 or other space where soot is deposited, and is also provided with a door-opening 3, which communicates with the flue or space 2 and is designed for the removal of soot therefrom, as will be presently described.

The door-opening 3 is surrounded by a frame 4, which is shown as attached to the body 1, but which, if desired, may be formed integral with the same. This frame 4 is provided with the horizontal inwardly-extending flange 5, which rests at the bottom of the opening 3, and the vertical inwardly-extending side flanges 6, which rest at the ends of said opening 3, and these side flanges, which are preferably increased in thickness at their lower ends, as indicated by 7 in Fig. 2, are provided in their inner sides adjacent to their lower ends with guideways 8, the purpose of which will be presently explained.

9 indicates the apron, which has its side edges arranged and adapted to slide in the guideways 8 of the frame-flanges 6, and is preferably provided at such edges with the low upwardly-extending flanges 10, as better shown in Figs. 1 and 2. This apron 9 is recessed at its forward end, as indicated by 11, for a purpose presently described, and it is also provided at its outer end with the lug-ears 12 and at its inner end with the journal-bearings 13, which latter are disposed in the direction of the length of the apron, as shown.

14 indicate the side guards of the apron. These side guards have trunnions 15 at their inner ends, which are journaled in the bearings 13 of the apron, and they also have trunnions 16 at their forward ends, which are journaled in bearings 17 at the under side of the lug-ears 12, as better shown in Fig. 7, whereby it will be seen that the guards are enabled to be flat upon the apron, as shown in Fig. 2, and are also capable of being raised to the upright position shown in Fig. 1. Said guards 14 are further provided at their connected edges with projections 18. (See Figs. 2 and 4.) These projections 18, when the guards 14 are in their horizontal position, will extend above the flanges 10 of the apron and will, in case it is attempted to draw the apron out without raising the guards, engage the inner edges of the flanges 6 and prevent such withdrawal of the apron. When, however, the

guards are raised, said projections 18 will take into recesses 19, formed in the flanges 10 to receive them, and when the apron is drawn outwardly will move freely with the flanges 10 through the guideways 8 in flanges 6. In virtue of this construction it will be readily observed that the apron 9 cannot be drawn outwardly to the position shown in Fig. 1 without the guards 14 being raised so as to prevent soot from falling off the sides of the apron when the same is extended.

It will also be observed that in virtue of the guards 14 being raised to their vertical position prior to the outward movement of the apron 9 the flanges 6 are enabled to scrape the soot from the outer sides of the guards, so as to prevent such soot from falling on the floor when the guards are outside the stove or range, as shown in Fig. 1.

20 indicates the door for closing the opening 3. This door is provided with lugs 21, which are connected in a hinged manner by pintles 22 with the lug-ears 12 of the apron 9, and it has the said lugs 21 shaped to form the beveled cams 23, designed to engage the beveled forward ends of the guards 14, and the cams 24 shaped to engage the inner sides of the guards 14, at the forward ends thereof. The lugs 21 are designed to play or move in the recesses 11 of the apron, and they are so arranged upon the door as to enable said door when in its open horizontal position to rest beneath and entirely close the recesses 11, so as to prevent any soot from sifting through the same and onto the floor.

In virtue of the door 20 being provided with the cams 24 and 23 it will be observed that when said door is opened or swung down into a horizontal position said cams 24 will engage the inner sides of the guards 14, which are preferably recessed, as indicated by 25, and will raise said guards to an upright position, as shown in Fig. 1, and will hold said guards in such position, and when the door is closed or raised to a vertical position the beveled cams 23 will engage the beveled ends of the guards and will swing the same inwardly and down upon the apron 9. The door 20 is further provided with a suitable latch 26, which is designed to engage the frame 4 and hold the door in its closed position.

In practice when the door 20 is secured in its closed position the guards 14 on the apron will rest flat upon the said apron and consequently will not in any manner interfere with the draft in the flue 2. Now if it is desired to remove soot from the flue the operator unlatches the door and lowers it to the horizontal position shown in Fig. 1. This movement of the door raises the guards 14 to their upright position, and the door and apron may then be drawn outwardly to the extent shown in Fig. 1, the journals 13, by engaging the inner edges of the flanges 6, serving to prevent a further withdrawal of the apron.

With the parts in the position shown in Fig. 1 it will be seen that soot may be conveniently scraped from the flue 2 onto the apron and from said apron and the door into a receptacle placed beneath the same to receive the soot without likelihood of any of the soot falling upon the floor, which is an important advantage and a desideratum in this class of devices. When the withdrawal of the soot is completed, it is simply necessary for the operator to shove the parts inwardly until the lower edge of the door 20 impinges against the frame 4 and then raise said door, when, by reason of the ends of the guards 14, said guards will be lowered to a horizontal position flat upon the apron, so as not to obstruct the draft in the flue. The door may then be latched to secure the parts in their closed position.

In the illustrated embodiment of my invention the cams 21, when the door is in its vertical position, depend slightly below the apron 9, and consequently the frame 4 is provided with recesses 27 to receive such depending portions of the cams.

Having described my invention, what I claim is—

1. In a stove or range, the combination of a body having a flue or space where soot is deposited and an opening in one of its walls communicating with such space, a door for closing said opening and an imperforate apron connected with said door and adapted when the door is opened to receive soot from the space in the body and facilitate the discharge of the same into a receptacle, substantially as specified.

2. In a stove or range, the combination of a body having a flue or space where soot is deposited and an opening in one of its walls communicating with such space, a door for closing said opening, and an apron connected with said door and having guards; said apron being adapted when the door is opened to receive soot from the space in the body and facilitate the discharge of the same into a receptacle, substantially as specified.

3. In a stove or range, the combination of a body having an opening in one of its walls, an apron arranged and adapted to be moved in said opening, and a door connected at an intermediate point of its width in a hinged manner with the outer end of the apron so as to enable it to assume and remain in a horizontal position; said door being also adapted to close the opening in the wall of the body, substantially as specified.

4. In a stove or range, the combination of a body having an opening in one of its walls, a movable apron arranged in said opening and guards connected in a hinged manner with the apron, substantially as specified.

5. In a stove or range, the combination of a body having an opening in one of its walls, a movable apron arranged in said opening, guards connected in a hinged manner with

the apron, and a door connected with the apron and equipped with devices for raising the guards, said door being also adapted to close the opening in the body, substantially as specified.

6. In a stove or range, the combination of a body having an opening in one of its walls, a movable apron arranged in said opening, guards connected in a hinged manner with the apron, and a door connected with the apron and equipped with devices for raising the guards, and devices for lowering the guards; said door being also adapted to close the opening in the body, substantially as specified.

7. In a stove or range, the combination of a body having an opening in one of its walls, an apron, guards connected in a hinged manner with the apron, and a device connected in a hinged manner with the apron and engaging the guards, substantially as and for the purpose set forth.

8. In a stove or range, the combination of a body having an opening in one of its walls and also having guideways, an apron movable in said guideways and having a recess 19, guards connected in a hinged manner with the apron, one of said guards having a projection 18, and a door connected with the apron and equipped with devices for raising

the guards when the door is opened, substantially as and for the purpose set forth.

9. In a stove or range, the combination of a body having an opening in one of its walls and inwardly-extending flanges at opposite ends of the opening provided with guideways, an apron movable in said guideways and having a recess 19, guards connected in a hinged manner with the apron, one of said guards having a projection 18, and a door connected with the apron and equipped with devices for raising the guards when the door is lowered, substantially as specified.

10. In a stove or range, the combination of a body having an opening in one of its walls, an apron, guards connected in a hinged manner with the apron and having their outer ends beveled, and a door also connected in a hinged manner with the apron and having cam portions adapted to engage and raise the guards and cam portions adapted to engage and lower the guards, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MAX M. KOCH.

Witnesses:

LENA ERBEN,

JARVIS A. SLATER.