(No Model.)

3 Sheets—Sheet 1.

J. M. KELLY.

COOKING STOVE.

No. 510,797.

Patented Dec. 12, 1893.

Fig. 1.

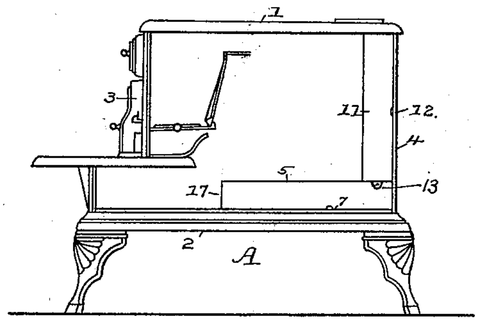
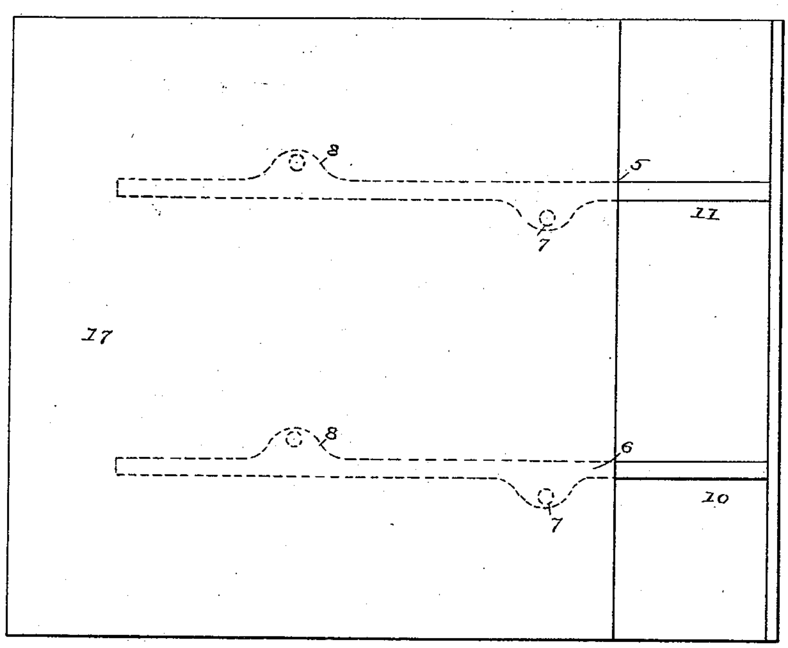


Fig. 2.



Witnesses

Inventor

John M. Kelly

by Hosmer & Heylmun

Attorneys.

THE NATIONAL LITHOGRAPHING COMPANY, WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

J. M. KELLY.

COOKING STOVE.

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Fig. 5.

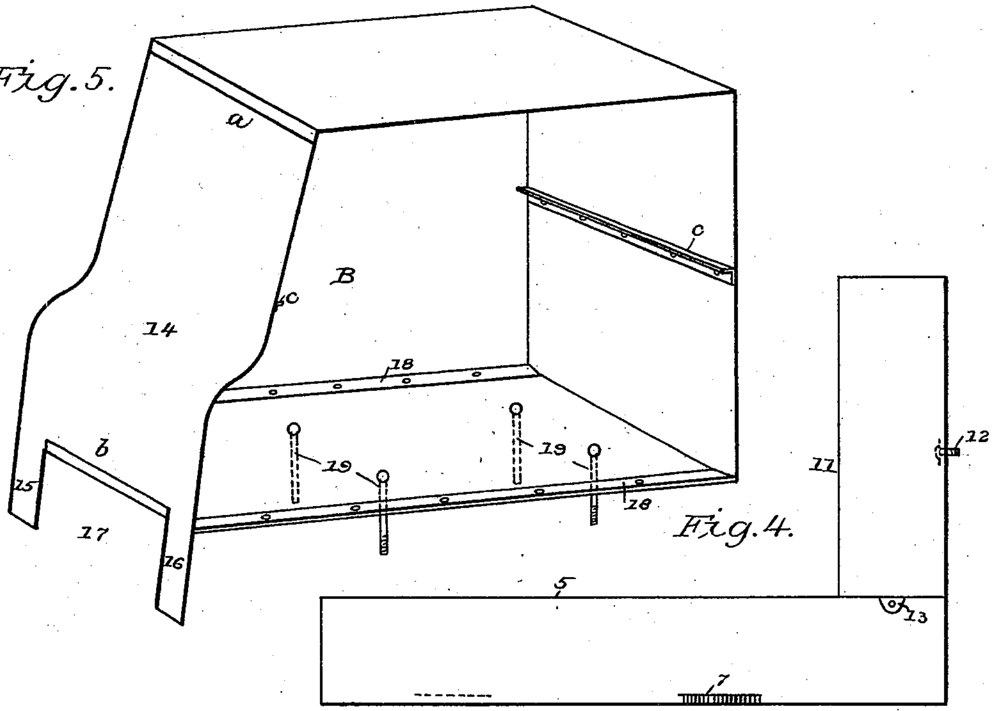


Fig. 4.

Fig. 8.

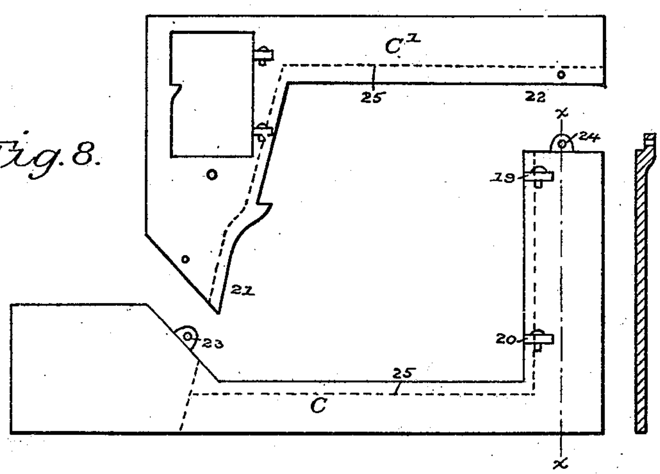


Fig. 7.

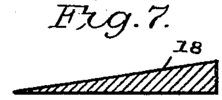


Fig. 6.

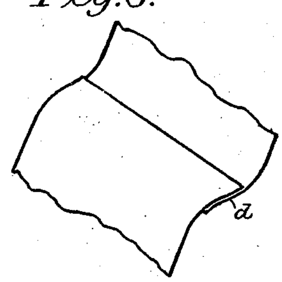
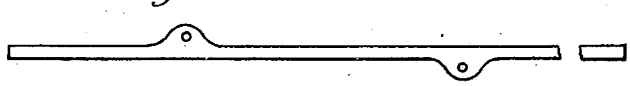


Fig. 3.



Witnesses

Inventor

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(No Model.) 3 Sheets—Sheet 3.

J. M. KELLY.

COOKING STOVE.

No. 510,797. Patented Dec. 12, 1893.

fig. 9

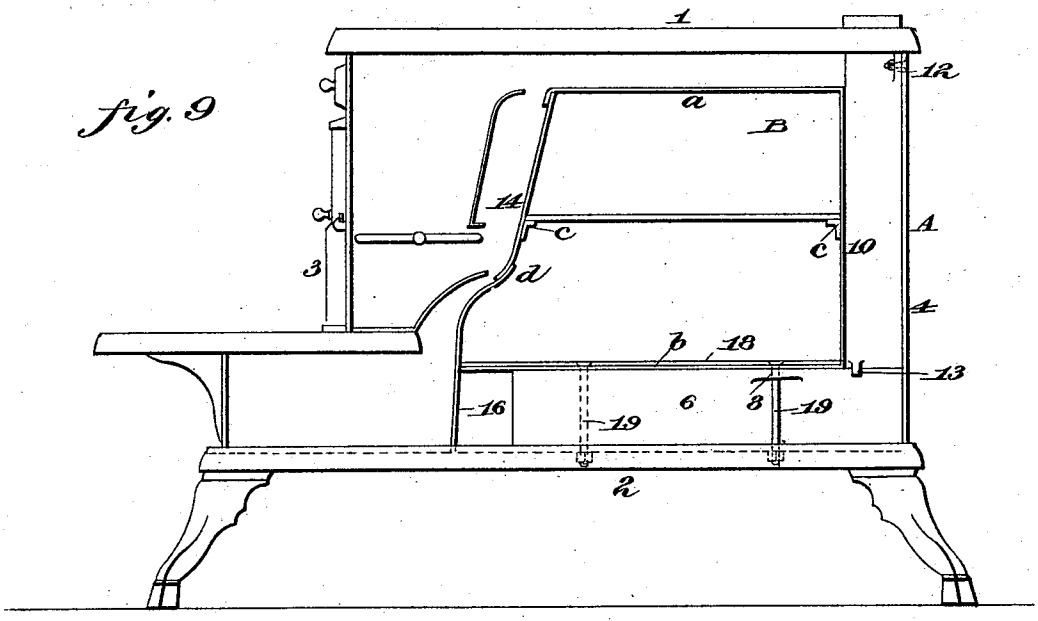
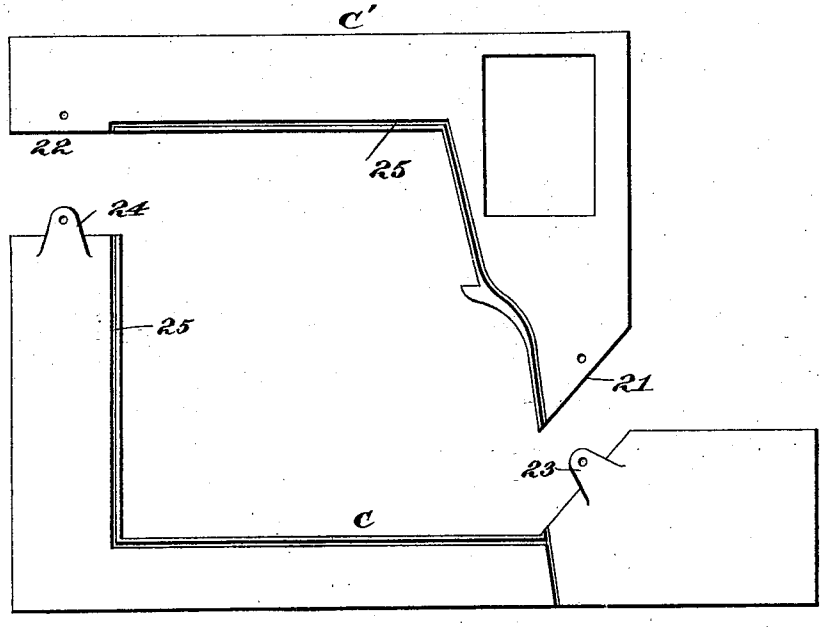


fig. 10



Witnesses;

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UNITED STATES PATENT OFFICE.

JOHN M. KELLY, OF LEXINGTON, KENTUCKY.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 510,797, dated December 12, 1893.

Application filed May 3, 1893. Serial No. 472,830. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. KELLY, a citizen of the United States of America, residing in Lexington, in the county of Fayette, in the State of Kentucky, have invented new and useful Improvements in Cooking-Stoves, of which the following is a specification.

My invention has relation to cooking stoves, and the object is to provide a cooking stove with an improved sheet-metal oven which may be removable, by means of separable side-plates on the stove, whereby the side plates or plate may be detached and the oven then withdrawn and free access be had to the interior to remove accumulations of ashes or soot from the oven flues, much more thoroughly and completely than when the clearing is accomplished by a scraper through the opening in the front of the stove under the fire box or hearth; another object is to construct and combine with the stove a sheet-metal oven so arranged and secured in position that it will be held against bending, warping or buckling, as hereinafter set forth.

In the accompanying drawings—Figure 1 is a side view of a cooking stove with the side plate removed to show the flue strips arranged in the stove. Fig. 2 is a bottom plan view of the stove and oven bottom showing the relative arrangement of the flue strips. Fig. 3 is a detail of one of the flue strips. Fig. 4 is a side elevation of one of the flue strips. Fig. 5 is a perspective of the sheet metal oven showing the bolts in the bottom which hold the bottom from displacement. Fig. 6 is a detail view of the front of the oven showing the lapped joint. Fig. 7 is a transverse section of one of the strengthening-strips of the oven. Fig. 8 is a detail side view of the separable parts of the side plate of the stove, a sectional view on line *x*—*x* being shown at the right. Fig. 9 is a side view of the stove with the side pieces removed, showing the oven in place. Fig. 10 is a detail view of the separable side pieces taken on the reverse of Fig. 8, showing the grooves to take the end of the oven.

A designates the stove composed of top and bottom plates 1, 2, front and back plates 3, 4, and side plates of particular construction as hereinafter specified. In the bottom of the stove are arranged flue-strips 5, 6, having their bottom edges set in grooves or slits in the bottom of the stove to hold them in position, and formed with oppositely arranged side lugs or ears 7, 8, which have holes through them to permit the passage of the bolts which hold the bottom of the oven from displacement. At the rear of the stove are the vertically arranged back flue-plates 10, 11, secured to the back plate of the stove by a bolt 12. These flue strips are formed of suitable metal, and since it may be necessary to take the oven out of the stove for repairs or replacement, or renewal, it is essential that the flue-strips be secured in their places. Ordinarily these strips are placed in a groove or slot, and the cast plates arranged on and against them; but to prevent their displacement in removal of the oven, it becomes necessary to secure both bottom and back flue-strips in fixed position; and hence I secure the bottom strips by fitting them in a groove or slot in bottom of stove and additionally fastening them by the bolts through the bottom and ears of the strips, and fastening the back strips by fitting their lower ends close against the rear portions of the bottom strips and holding the two together by a lug or flange 13 on one engaging the other. These means hold both plates or strips firm and stationary.

B designates the sheet metal oven, which may be made of one piece, or it may be made with the front 14, jointed to the top and bottom plates at *a*, *b* substantially as shown in the drawings; thus enabling the front oven plate to be made of correct form to fit with its ends in the groove in the side plates of the stove at the curved portion of the front. At the front of the oven the metal is carried down at each side at 15, 16 forming supports at the front of the oven; the opening 17, between them being an entrance to the flue $17^{\times}$, under the oven for cleaning, &c. The opening 17, may be closed by any suitable damper. Along each edge of the bottom of the oven is riveted a cast metal strip 18, extending the length of the oven, and serving to prevent the bottom of the oven from sagging, buckling or warping along the edges. The strips 18 are beveled or tapered in cross-section, as shown

in the drawings, and are arranged along the edges of the oven with the edge of the oven projecting to engage in the grooves in the side pieces of the stove. Through the bottom of the oven are projected a sufficient number of bolts 19, which extend down through the bottom plate of the stove and are secured by nuts on their threaded ends, substantially as shown in the drawings. These bolts support and sustain the sheet metal bottom of the oven, and prevent it from bending down by any weight set in it; or from buckling or warping by the variations or other action of the heat. In the oven may be the usual shelf supports *c*. The bolts also prevent the bottom flue-strips from becoming displaced, because they are projected through the ears as shown.

C, C′, designate the sections or pieces making up, or forming the side plates of the stove. The lower section C, is formed to extend along the lower portion of the stove to close the ash-pit and space at the under side of the oven, and has the vertical end-piece at right angles to the lower and horizontal part. The hinge-lugs 19, 20, are formed on the vertical portion to which the door is hung as usual. The upper section C′ is angular as shown, and fits on or joints with the section C by the incline 21, and end portion 22, which are secured to the ears 23, 24, on the sections, respectively, as indicated in the drawings. In the inner faces of these plates C, C′, are formed grooves 25, which take and hold the end-edges of the oven and sustain it in connection with the plates C, C′.

Ovens of sheet metal being of uniform thickness require less fuel to heat them to baking utility, and in general uses act more satisfactory than cast-plate ovens. My improved construction is a material saving of labor in molding and in fitting castings; and a sheet metal oven demands less repairing than the cast oven.

By my improved two-part side-plates, the oven may be removed from the stove by loosening the tie-rods at the corners of the stove sufficiently to relieve the bottom section of the side from the groove in the bottom of the stove and then by lifting or removing the top section, and releasing the bolts holding in the oven, it may be removed, for repairs or replacement, and the interior readily cleaned as heretofore mentioned.

In Figs. 6 and 9 of the drawings I have shown the front of the oven with a loosely lapped joint *d*, the ends of the sheet metal plate being laid against each other so that the curve at this portion of the oven may be readily made to conform to the desired shape.

Having described my invention, as required by the statute, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a cooking stove, of a sheet metal oven, and sustaining-bolts projected through the bottom of the oven and through the bottom plate of the stove.

2. The combination with a cooking stove, of a sheet metal oven having the front provided with a loosely lapped joint whereby the front may readily conform to the shape of the stove, and having the metal at the front extended to form front flue plates, and strengthening-strips beveled or tapered in cross-section secured to the edges of the bottom of the oven, and bolts through the bottom of the oven whereby the oven may be secured in the stove and the bottom sustained as specified.

3. The combination with a cooking stove, of a sheet metal oven, flue-strips under the oven, vertical flue-strips at the back of the stove and the oven secured to the strips under the oven and to the back of the stove, and a side plate consisting of two parts having a groove in their inner faces to take and hold the edge of the oven.

4. The combination with a cooking stove, of a sheet metal oven, flue-strips under the oven formed with lateral lugs having bolt-holes, vertical flue-strips at the back of the stove and the oven secured to the strips under the oven and to the back of the stove, bolts projected through the bottom of the oven, the lugs of the flue-strips under the oven and the bottom plate of the stove, and separable side plates on the stove, as described.

In witness whereof I have hereto set my hand in the presence of two attesting witnesses.

JOHN M. KELLY.

Attest:

JOHN J. MCGUFF,
JAMES A. FISHER.